



Publishing and Education Council (PEC)

Tuesday, February 4, 2020

Hilton Hotel, Orlando, FL

Voting Members

| | | | |
|------------------|----------|---------------------------|--------|
| Farooq | Mehboob | Chair | |
| William | Dean | Vice Chair | |
| Kelley | Cramm | Member | |
| Katherine | Hammack | Member/Director | |
| Ahmed Alaa Eldin | Mohammed | Member/Director | |
| Chandra | Sekhar | Member/Director | |
| Jonathan | Symko | Member/Director | |
| Cameron | Labunski | Member/Past Certification | |
| Lawrence | Markel | Member/Past ECC | absent |
| Daniel | Dettmers | Member/Past Handbook | |
| Larry | Fisher | Member/Past PDC | |
| Jin Jin | Huang | Member/Past Publications | |
| Douglas | Fick | Member-at-Large | |
| Ginger | Scoggins | Member-at-Large | |

Non-Voting Members

| | | | |
|------------|----------|---------------------------|--------|
| Mark | Bettin | Certification Chair | |
| Kurt | Monteiro | Certification Vice Chair | |
| Suzanne | Leviser | HB Chair | |
| Michael | Patton | HB Vice Chair | absent |
| Stanley | Westhoff | Historical Chair | |
| Dean | Borges | Historical Vice Chair | absent |
| Charles | Henck | PDC Chair | |
| Jeremy | Smith | PDC Vice Chair/Planning | |
| Keith | Reihl | PDC Vice Chair/Operations | |
| Chee Sheng | Ow | Publications Chair | |
| Hugh | McMillan | Publications Vice Chair | absent |
| Mark | Owen | Staff Liaison | |

Visitors

Jeff Littleton
 Eunice Njeru
 David Soltis
 Tim Kline
 Heather Kennedy
 Emily Sigman
 Karen Murray
 Cindy Michaels
 Jay Scott
 Steve Comstock
 Julia Keen
 Jay Scott
 Sarah Foster
 Tim McGinn
 Adeeba
 Mehboob
 Ayah Said
 Doug Zentz
 Sherif Omran
 Maria Todorovic
 Kelly Gunn
 Mehmet Poyz
 Atilla Biyikogh

Additional Distribution:

Jeff Littleton, Executive Vice President, Candace DeVaughn,
 ASHRAE Staff Directors, Publications & Education Managers

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Motions

Meeting of February 4, 2020

| No. | Page | Motion |
|-----|------|---|
| 1 | 6 | <p>Approved the draft minutes as distributed for the June 25, 2019 Kansas City, MO.</p> <p>Approved 12-0-0, CNV</p> |
| 2 | 9 | <p>Rejected Membership Promotion Committee’s <u>Motion 11 (01/15/2019)</u>: That e-learning courses be translated to major non-English languages based on membership demographics.</p> <p><u>Background</u>: ASHRAE’s vision is to be a global leader and foremost source of technical and educational information. Based on membership demographics, the top eight non-English speaking countries include: Canada (French), India (Urdo), Hong Kong (Chinese), Philippines (Tagalog), UAE (Arabic), Malaysia (Malay), Brazil (Portuguese), and Mexico (Spanish). Voice-over audio recording of the e-learning materials will provide greater global membership value. Translations can be completed by volunteer members with peer review.</p> <p><u>Fiscal Impact</u>: Recommend \$0 fiscal impact. Generate income with new e-learning benefit and increase use of e-learning.</p> <p>Approved 10-1-1, CNV</p> |
| 3 | 10 | <p>Approved the following changes to ROB as follows:</p> <p>2.101.007.3 ASHRAE shall publish and distribute on-line an electronic newsletter to its members. The name of the e-Newsletter shall be Society Connections, and it shall be an "official publication of the Society." (SBL 10.2) (06-03-20-01)</p> <p>2.101.007.4 (15-01-25/14-07-02-17) ASHRAE shall publish and distribute to subscribers a journal of archival-quality research. The name of the publication shall be HVAC&R Research to Science and Technology for the Built Environment, and it shall be an "official publication of the Society."</p> <p><u>Background</u>: These changes simply correct inaccuracies in (1) the mode of delivery (email, not "on-line") and (2) the names of the referenced publications ("eSociety" has supplanted "<i>Society Connections</i>" for some time; the "HVAC&R Research" is a remnant typo from the previous revision). (<i>Functional Planning Subcommittee Approved 5-0-0</i>)</p> <p><u>Fiscal Impact</u>: None.</p> <p>Approved 12-0-0, CNV</p> |

- 4 11 Approved changes to the Publications Committee MOP as shown in *Attachment A* of the of the Functional Planning Subcommittee Report to PEC.

Background: These changes will reflect the reporting and procedural changes that will happen with the new PEC restructure plan to be implemented July 1, 2020. Additional editorial and clean up changes to these documents were also made. *(Functional Planning Subcommittee Approved 5-0-0)*

Fiscal Impact: None.

Approved 12-0-0, CNV

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Action Items

Meeting of February 4, 2020

| No. | Responsible | Page | Action |
|-----|-------------|------|---|
| 1 | Staff | 6 | Post approved minutes of the June 25, 2019 Kansas City, MO on the PEC page of the ASHRAE website and the PEC Basecamp. Complete. (February 4, 2020) |
| 2 | Staff | 7 | Provide information concerning remuneration of PDC instructors. |
| 3 | Staff | 7 | Make a final selection of datapoints for a PEC Dashboard available for Chair council review and finalize dashboard by the Austin meeting in June. |
| 4 | Staff | 9 | Include a data point indicating when an eLearning course is launched, when it is updated and how often each reiteration is downloaded. |
| 5 | Staff | 9 | Create a procedure to coordinate new eLearning courses with new “hot topic” publications. |
| 6 | Staff | 9 | Coordinate with CTTC to include marketing for eLearning with marketing of the Tech Hour. |
| 7 | Staff | 10 | Send referral response to Membership Promotion Committee’s <u>Motion 11 (01/15/2019): That e-learning courses be translated to major non-English languages based on membership demographics.</u> (Attachment B) |
| 8 | Staff | 10 | Investigate the feasibility and cost to have subtitles included on eLearning courses. |
| 9 | Staff | 10 | Report to Fiscal Planning subcommittee expense savings on off-site saving after ASHRAE moves Headquarters to the new building. |
| 10 | Staff | 12 | Investigate applying to include ASHRAE Handbook in UNESCO’s Memory of the World archive. |
| 11 | Staff | 15 | Develop a survey tool that collects feedback from our grassroots levels, including our international membership, with respect to their product needs (books, ASHRAE Journal articles, apps, and other tools) and to link this information back to TAC council and other relevant sections for their further actions |

1. Call to Order

Mr. Mehboob called the meeting to order at 8:01 a.m.

2. ASHRAE Code of Ethics Commitment

Mr. Mehboob reviewed with the council the ASHRAE Code of Ethics.

In this and all other ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, integrity and respect for others, and we shall avoid all real or perceived conflicts of interests. (See full Code of Ethics: <https://www.ashrae.org/about-ashrae/ashrae-code-of-ethics>.)

3. Introduction of Members and Visitors

Members of the council roll call was conducted with an introduction of staff and other visitors.

4. Review of Agenda

Mr. Mehboob reviewed the agenda with the council.

5. Approval of Meeting Minutes - Meeting of June 25, 2019 Kansas City, MO

It was moved and seconded:

(1) Approve the draft minutes as distributed for the June 25, 2019 Kansas City, MO.

MOTION (1) Approved 12-0-0, CNV

An action was assigned to staff to post the approved minutes on the PEC page of the ASHRAE website and the PEC Basecamp website. **(ACTION ITEM 1) Complete.** (February 4, 2020)

6. Review of Action Items - Meeting of June 25, 2019 Kansas City, MO

Mr. Owen reviewed actions items from the previous meeting with council members.

| No | Responsible | Page | Action |
|------------------|-------------|------|---|
| 1 | Staff | 5 | Post approved minutes of the April 18, 2019 GoToMeeting on the PEC page of the ASHRAE website and the PEC Basecamp. |
| Complete. | | | |

7. Items Referred from Other Groups to PEC

None.

8. Review of PEC MBOs

Mr. Mehboob reviewed the PEC MBOs with the council. Updates included on MBO List shown in **Attachment A**.

PEC MBO #1 - Appoint PEC Ad Hoc to address Strategic Business Development for potential new revenue streams.

Mr. Mehboob reported on the makeup of this ad hoc committee. Ad Hoc Members: Tim Wentz – Chair, Megan Tosh, Ebrahim S Al-Hajri, Jon Symco, Hugh Crowther, Farooq Mehboob, Steve Comstock, Alice Yates, Mark Owen - Staff Liaison

PEC MBO #2 - Develop Strategy for expanding ALI Instructor core and establish procedures and criteria for instructor appointment and remuneration.

PDC is currently working to develop the criteria for instructors and staff will provide information concerning remuneration of instructors. An action was signed to Mr. Owen to have an explanation prepared for the Austin meeting in June 2020. **(ACTION ITEM 2)**

PEC MBO #3 - Analyze Certification Program and develop metrics for evaluating potential for new certifications aligned with Strategic Plan initiatives 1 & 2 after surveying members to establish interest and demand.

Certification Committee will report with a final report at the Austin Meeting in June.

PEC MBO #4 - Analyze performance of special publications over the past three years and develop criteria for evaluating and approving special publication requests on a business case basis aligned with strategic plan initiative 3.

Functional Planning Subcommittee has created a drafted an evaluation form and will have a conference call before the Austin meeting to finalize their recommendations to PEC.

PEC MBO #5 - Develop PEC 'Dashboard' showing relevant data pertaining to operations of PEC committees. This aligns with strategic plan initiative 3.

Staff has compiled a list of possible data points for a dashboard of PEC activities. An action item was assigned to Mr. Owen make a final selection of datapoints and have a PEC Dashboard available for council review by the Austin meeting. **(ACTION ITEM 3)**

9. Items Referred by PEC to Other Groups

One item was covered in the attached eLearning Subcommittee report to PEC. **(Attachment B)**

10. Subcommittee Reports

10.1 Journal Advertising Sales

Mr. Owen gave the subcommittee report. **(Attachment C)**

ASHRAE Journal's paid advertising share of market (SOM) is 66% of all pages sold during the first 6 months of FY2019-20, compared to the same 66% SOM in July 2018-December 2019. At the same time, a net loss of 44 paid pages impacted ASHRAE Journal revenue. For the calendar year 2019, total advertising pages declined 75 pages for HVACR Engineering publications, with 39 pages less in ASHRAE Journal. Increased market competition for advertising dollars, and advertiser interest in new media channels account for much of the decline. The Journal remains advertisers' No. 1 choice for the past ten years. SOM has risen from 47% in 2009 to 62% for 2019 calendar year. Journal rates per page have been steadily increasing since greater rates and an expanded integration program were implemented.

Online-only advertising for ASHRAE Journal is forecast to be less than FY19-20 budget amount of \$875,000. Staff is developing new opportunities to accelerate online advertising revenue growth for the Society. Mr. Owen presented a list of completed advertising programs along with those in development, along with projected potentials for FY20. The estimated fiscal impact of these new programs for FY19-20 exceeds \$100,000 in additional revenue.

HPB magazine advertising revenue is projected to finish at \$110,000 for the magazine and \$115,000 for online-only advertising sales. Staff was assigned an action item to produce a proposal for adapting High Performing Buildings for maximizing revenue while reducing expenses.

Ms. Hammack referenced the CHP technical article within the December issue of ASHRAE Journal that did not have a corresponding advertisement. She said the impression with December is that technical editorial content is in front of the magazine while advertisements are placed in back. Mr. Owen said a policy change in advertising placement will result in more even distribution of advertising in future issues. Advertising staff was assigned an action item to analyze and report to the subcommittee on advertising trends within recent ASHRAE Journal issues for advertising placed within or near technical features covering technology applicable to the advertised product.

Mr. Owen informed PEC that Mr. Jay Scott, our current Editor of ASHRAE Journal will be retiring and the new ASHRAE Journal Editor will be Ms. Sarah Foster.

10.2 eLearning

Mr. Owen gave the subcommittee report. **(Attachment D)**

Subscription revenue for ASHRAE eLearning is on track to make the 2019-2020 forecast with a very aggressive marketing effort. Using the November 2019 financials, the cumulative subscription revenue for the fiscal year to date is 74.3K on a forecast of 230K with most revenue from individual subscriptions. eLearning is expecting a 60K transfer from the Foundation to fund two new courses and course updating to achieve an interactive learning experience for the learner. Additional UNEP activities are forecasted to bring in 166K.

ASHRAE eLearning is updating its courses to meet the demand of interactive learning in the marketplace. Current demand for courses was used to evaluate course updating and retirement. Fundamental courses have proven to be the most popular with corporate customers. In 2019-

2020, the goal is to update 10 courses. *Attachment A* of the eLearning Subcommittee Report has more details.

An action item was assigned to staff to include when a course was launched, when it has been updated and how often each reiteration is downloaded. **(ACTION ITEM 4)**

To broaden and diversify the eLearning course catalog as well as meet member learning needs, eLearning continues to work with member volunteers to design and develop new courses as shown in *Attachment B* of the eLearning Subcommittee Report.

An action item was assigned to staff to create a procedure to coordinate new eLearning courses with new “hot topic” publications. **(ACTION ITEM 5)**

An action item was assigned to staff to coordinate with CTTC to include marketing for eLearning with marketing of the Tech Hour. **(ACTION ITEM 6)**

The subcommittee discussed a systematic approach of developing courses including synergy between eLearning. and ASHRAE Learning Institute (ALI) for decisions about new course development.

Attachment C of the eLearning Subcommittee Report shows UNEP activities including a new Energy Efficiency Literacy course, the translation of the Refrigerants Literacy course from English to French and the launch of the ASHRAE-UNEP portal, where all ASHRAE-UNEP partnership resources are housed. These projects are funded under the ASHRAE-UNEP contracts.

eLearning received the following a referral from Membership Promotion Committee. (*Attachment C* of the eLearning Subcommittee Report)

Ms. Hammack moved and Ms. Cramm seconded:

- (2) That PEC reject Membership Promotion Committee’s Motion 11 (01/15/2019): That e-learning courses be translated to major non-English languages based on membership demographics.**

Background: ASHRAE’s vision is to be a global leader and foremost source of technical and educational information. Based on membership demographics, the top eight non-English speaking countries include: Canada (French), India (Urdo), Hong Kong (Chinese), Philippines (Tagalog), UAE (Arabic), Malaysia (Malay), Brazil (Portuguese), and Mexico (Spanish). Voice-over audio recording of the e-learning materials will provide greater global membership value. Translations can be completed by volunteer members with peer review.

Fiscal Impact: Recommend \$0 fiscal impact. Generate income with new e-learning benefit and increase use of e-learning.

MOTION (2) Approved 10-1-1, CNV

The eLearning Subcommittee reviewed the cost associated with translation per course and the fiscal impact is estimated to be 30K-35K per course.

After PEC discussion, the council will make a motion to reject the referred motion with suggestions that RVC's survey interest in a title and a language before PEC take on this expensive procedure. Historically ASHRAE documents published in other titles have not sold well so with the additional costs of the eLearning platform the motion is too board and unaware of the fiscal costs.

An action Item to staff to send a referral response to Membership Promotion Committee.

(ACTION ITEM 7) An action Item to staff to investigate the feasibility and cost to have subtitles included on eLearning courses. **(ACTION ITEM 8)**

10.3 Fiscal Planning

Ms. Hammack gave the subcommittee report. **(Attachment E)**

The subcommittee reviewed the Publishing and Education Council December 2019 Financials.

The subcommittee discussed future elimination for off-site storage expenses after ASHRAE Headquarters moves into the larger building in October 2020. An action item was assigned to staff to report back to the subcommittee the amount of savings. **(ACTION ITEM 9)**

The subcommittee discussed the value of developing training opportunities to work in conjunction with ASHRAE Certification. Staff reported that steps are being taken to implement this combination as soon as possible.

10.4 Functional Planning

Mr. Symko gave the subcommittee report. **(Attachment F)**

(3) Approve and recommend to the Board of Directors (BOD) the following changes to the Rule of the Board (ROB):

2.101.007.3

ASHRAE shall publish and distribute ~~on-line~~ an electronic newsletter to its members. The ~~name-of-the~~ e-Newsletter ~~shall be Society Connections, and it~~ shall be an "official publication of the Society."

(SBL 10.2) (06-03-20-01)

2.101.007.4

(15-01-25/14-07-02-17)

ASHRAE shall publish and distribute to subscribers a journal of archival-quality research. The name of the publication shall be ~~HVAC&R Research to~~ *Science and Technology for the Built Environment*, and it shall be an "official publication of the Society."

Background: These changes simply correct inaccuracies in (1) the mode of delivery (email, not "on-line") and (2) the names of the referenced publications ("eSociety" has supplanted "*Society Connections*" for some time; the "HVAC&R Research" is a remnant typo from the previous revision). *(Functional Planning Subcommittee Approved 5-0-0)*

Fiscal Impact: None.

MOTION (3) Approved 12-0-0, CNV

(4) Approve changes to the Publications Committee MOP as shown in Attachment A.

Background: These changes will reflect the reporting and procedural changes that will happen with the new PEC restructure plan to be implemented July 1, 2020. Additional editorial and clean up changes to these documents were also made. (*Functional Planning Subcommittee Approved 5-0-0*)

Fiscal Impact: None.

MOTION (4) Approved 12-0-0, CNV

Functional Planning Subcommittee will have a conference call before the annual meeting in Austin to review proposed changes to PDC MOP to reflect alignment with the new PEC restructure that goes in to effect July 1, 2020, as well as, MBOs assigned to the subcommittee for oversight. *Attachment B* of the Functional Planning Subcommittee report is an example of a possible publication ns evaluation.

10.5 Research Journal

Mr. Owen gave the subcommittee report. (**Attachment G**)

STBE received 69,751 article downloads in 2019, an increase of 43% over 2018. 129 papers were published in 2019, with 10 of them open access (OA). The journal's 2018 impact factor is 1.199, ranking 42/63 in the construction and building technology category of Journal Citation Reports (JCR). Additional detailed information is contained in the Publisher's Report from Taylor & Francis shown in *Attachment A* of the Research Journal Subcommittee Report.

STBE's editor, Dr. Jeff Spitler, discussed with the subcommittee developing a presentation or article with guidance on submitting papers to STBE for authors and the idea of an expanded review board for the review of STBE papers.

The subcommittee has selected a paper for the 2019 STBE Best Paper Award and sent their nomination to the Honors and Awards Committee. The award will be presented at the annual meeting in Austin.

11. Committee Reports

11.1 Certification

Mr. Bettin gave the committee's report. (**Attachment H**)

Certification Committee has received 20% more certification applications Through January 31, 2020, (292) over the previous SYTD (244). This is primarily due to Certified HVAC Design (CHD) application.

Certification Committee reported nearly at budget for revenue through December 2019 with a for expense anticipating a \$20,000 decrease.

The committee reported that PEC MBO assignments are in progress with details list on *Attachment A* of the committee's report.

Currently, four (BCxP, BEAP, BEMP and HBDP) of ASHRAE's seven certification programs are ANSI-accredited. The Certification Committee is continuing to pursue ANSI accreditation for all ASHRAE certification programs, in order to avoid confusion in the marketplace and add value. Staff reminded the committee accreditation application fees are a onetime expense and likely would be fall within currently budgeted expense.

Certification Committee reported completing the ANSI annual Management System Review, evaluating the results of internal and external audits, feedback from applicants and candidates, assessment of ASHRAE's exam development and delivery contractor, an impartiality threat analysis, the status of preventive and corrective actions, follow-up actions from previous management reviews, and the 2019 complaints log.

The committee reported Certification Digital Badging launched. A total of 542 (70%) of 773 badges issued have been accepted by certificants. There have been over 5,300 badge views in various electronic media. As examinees continue to pass their exam and certificants continue to renew their certification, more badges will be issued.

As part of its oversight role, the Certification Committee is working with the Marketing Department to develop a marketing plan to improve performance of underperforming certification programs. Possible root causes and potential corrective marketing activities have been identified. A meeting is scheduled for February 2020.

Certification Committee reported on exam development activities in 2019-20 to ensure the continued relevancy and validity of ASHRAE's certification programs:

- BCxP: New exam form scheduled to launch March 2020.
- BEMP: New exam form scheduled to launch March 2020.
- HBDP: New form to launch July 1, 2020.
- HFDP: New form to launch in February 2020.

Certification Committee's 2019-20 MBOs Status are shown in *Attachment B*.

11.2 Handbook

Ms. Levisur gave the committee's report. (**Attachment I**)

Handbook Committee would like ASHRAE staff investigate further the possibility of applying to include ASHRAE Handbook in UNESCO's Memory of the World archive. An action Item was assigned to staff to report back to the committee by the Austin 2020 annual meeting.

(ACTION ITEM 10)

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Handbook Committee plans revisions to the committee MOP and ROB to be presented at the Austin meeting June 2020 which will align the committee documents with the planned PEC restructure.

Handbook Committee is evaluating meeting room requirements for the Austin annual meeting to consolidate spaces where available.

ASHRAE staff will pursue a solution to allow other internet browsers besides Explorer to be used with the ASHRAE Authoring Portal. This limitation has historically derived from SharePoint limitations, but new software versions may allow more flexibility.

The committee continues to seek cost-efficient ways to reward contributors on the TCs, including “HB contributor” stickers for future meetings on attendee badges.

The updated Handbook Committee 2019-2020 MBOs are shown in *Attachment A* of their report.

11.3 Historical

Mr. Westoff gave the committee’s report. (**Attachment J**)

Historical Committee were updated on the progress of all projects for 125th anniversary. All projects have been completed or will be complete by the 2020 Annual Conference in Austin.

Historical Committee discussed the pilot plaque project that will be installed in Orange, Texas after the Region VIII CRC. The Committee agreed that for the foreseeable future, plaques will continue to be self-funded. The Committee discussed the use of virtual plaques in lieu of physical plaques.

Historical Committee reviewed names for the next two Leadership Voices interviews to be filmed in Austin and discussed the importance of including not just Presidential members but also industry innovators and leaders.

Historical Committee acknowledged that although they do not endorse candidates for either Hall of Fame or Pioneers of the Industry, they as a Committee can nominate someone.

Historical Committee discussed the necessity of continuity of communication, to keep Regional and Chapter Historians involved in history at the Society level.

Historical Committee reviewed a report on the status of PAOE points on the part of chapters by regions and approved suggested changes to PAOE for fiscal year 2020-21 with the goal of continuing to encourage non-participating chapters to reach minimum or par.

Historical Committee 2019-2020 MBOs are shown in *Attachment A* of the committee’s report to PEC.

11.4 Professional Development (PDC)

Mr. Henck gave the committee’s report. (**Attachment K**)

PDC edited, reviewed and approved the MOP for the new Training and Education Committee (TEC) and submitted it to the Functional Planning Subcommittee.

In response to PEC MBO #2: - ***Develop Strategy for expanding ALL Instructor core and establish procedures and criteria for instructor appointment and remuneration.*** - the committee drafted a report with recommendations on the criteria for selection of course instructors as shown in *Attachment A* of the PDC report.

PDC reported discussions are underway with instructors to create exam prep courses for the Building Commissioning Professional BCxP, Building Energy Assessment Professional (BEAP), and new HVAC Design (CHD) certification exams.

PDC reported five (5) new courses were presented in conjunction with the Orlando conference. Of those, the *V in HVAC - What, Why, Where, How and How Much* drew the highest number of registrants with the hands-on *Best Practices for Installing DDC Systems* course not far behind.

PDC reported the combined total of all course registrants was 1,123, which was the 2nd highest number of attendees in the past 10 years, close behind Vegas 2017 with 1,161 registrants.

Courses with the five highest registrations were:

- 122 - Guideline 36: Best in Class HVAC Control Sequences
- 76 - Designing and Operating High-Performing Healthcare HVAC Systems
- 82 - Variable Refrigerant Flow Systems: Design and Applications
- 68 - V in HVAC - What, Why, Where, How and How Much (New!)
- 67 - Humidity Control II: Real-World Problems and Solutions

PDC 2019-2020 MBOs are included as *Attachment B* of the report to PEC.

11.5 Publications

Mr. Ow gave the committee's report. (**Attachment L**)

Publications Committee voted in executive session to select the winner for the 2019 Journal Paper Award, the title and author(s) of which Jay Scott will forward to the Honors and Awards Committee for award presentation to the author(s) at the 2020 ASHRAE Annual Conference.

Publications Committee voted to support development and publication of the proposed book *ASHRAE Design Guide for Kitchen Ventilation Systems*.

Publications Committee finalized the process for committee participation in RAC's new PTAR process (wherein those submitting a proposal to receive RAC funding specifically earmarked for a publication as a deliverable will go through submission and approval procedures with RAC and Publications Committee) and is participating in a guinea pig project with RAC.

Publications Committee discussed PEC MBOD #4 and the publications performance data they need from ASHRAE staff that will enable them to determine the criteria for evaluating and approving special publication requests on a business case basis.

The committee will hold a conference call before the 2020 ASHRAE Annual Conference to complete their work on this MBO.

Publications Committee discussed PEC MBO #5 and the data they need from ASHRAE staff that will enable them to determine the publications data appropriate for the PEC Publications Committee created a subcommittee that will finalize their results for a PEC Dashboard before the 2020 the ASHRAE Annual Conference.

Updates on the Publications Committee MBOs for the 2019-2020 Society year are included in *Attachment A* of their report.

In line with Goal 3 of the 2019-2024 ASHRAE Strategic Plan, Publications Committee recommends that ASHRAE develop a survey tool that collects feedback from our grassroots levels, including our international membership, with respect to their product needs (books, *ASHRAE Journal* articles, apps, and other tools) and to link this information back to TAC council and other relevant sections for their further actions. An action item was assigned to staff to develop this tool. **ACTION ITEM 11**

12. Ad Hoc Committee Reports

12.1 Strategic Business Development

Mr. Wentz gave the ad hoc report. (**Attachment M**)

Ad Hoc Members: Tim Wentz – Chair, Megan Tosh, Ebrahim S Al-Hajri, Jon Symco, Hugh Crowther, Farooq Mehboob, Steve Comstock, Alice Yates, Mark Owen - Staff Liaison
PEC Strategic Business Development Ad Hoc Committee gave the council a presentation on the analysis and recommendations for future opportunities of business development.

12.2 Volunteer Oversight for Global Training Center (GTC)

Mr. Mohamed gave the ad hoc report. (**Attachment N**)

Ad Hoc Members: Ahmed Alaa Eldin Mohamed – Chair, Ginger Scoggins, Larry Fisher, Steve Comstock, Ayah Said, Mark Owen - Staff Liaison

PEC Volunteer Oversight for GTC Ad Hoc Committee gave a report to the council with analysis details of performance of the GTC.

13. Old Business

Mr. Mehboob reported no old business items.

14. New Business

Mr. Arnold made a brief presentation to the council concerning PEC reporting to Planning Committee and BOD on Strategic Plan Initiatives by the council.

15. Adjourn

Mr. Mehboob adjourned the meeting at 11:58 a.m.

Attachment List

Pages

| | |
|---------------------|---|
| Attachment A | PEC MOBs 2019-2020 - Update Feb 04 2020 |
| Attachment B | Members Council Referral to eLearning |
| Attachment C | Journal Advertising Sales SC Report |
| Attachment D | eLearning SC Report |
| | <i>Attachment A Course Updates Progress Report</i> |
| | <i>Attachment B New/In-Progress/Proposed</i> |
| | <i>Attachment C ASHRAE-UNEP Projects</i> |
| | <i>Attachment D Members Council Referral to eLearning</i> |
| Attachment E | Fiscal Planning SC Report |
| Attachment F | Functional Planning SC Report |
| | <i>Attachment A Publications Committee MOP</i> |
| | <i>Attachment B ASHRAE New Special Publications Evaluation Criteria</i> |
| Attachment G | Research Journal SC Report |
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| Attachment H | Certification Committee Report |
| | <i>Attachment A PEC MBO #3 - Certification Response</i> |
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| Attachment I | Handbook Committee Report |
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| Attachment J | Historical Committee Report |
| | <i>Attachment A Historical Committee 2019-2020 MBOs</i> |
| Attachment K | PDC Report |
| | <i>Attachment A Instructor Qualifications</i> |
| | <i>Attachment B PDC 2019-2020 MBOs</i> |
| Attachment L | Publications Committee Report |
| | <i>Attachment A Publications Committee 2019-2020 MBOs</i> |
| Attachment M | Strategic Business Development Ad Hoc Report |
| Attachment N | GTC Report |
| Attachment O | PEC Report to BOD - Nov 15 2019 |
| | <i>Attachment A PEC Fiscal Performance</i> |
| | <i>Attachment B PEC MBOs 2019-2020 - update Nov 15 2019</i> |
| Attachment P | PEC Report to BOD - Feb 04 2020 |
| | <i>Attachment A Strategic Business Development Ad Hoc Report</i> |
| Attachment Q | PEC Report to BOD - Feb 04 2020 - after Orlando conference |

PUBLISHING & EDUCATION COUNCIL - MBOs 2019-2020 SY - Farooq Mehboob, Chair

RESPONSIBILITY

Attachment A - PEC Minutes - Orlando Jan 2020

| | | Committees | | | | Subcommittees | | | | Other | | | Attachment A - PEC Minutes - Orlando Jan 2020 | | | | |
|-----|--|---------------|----------|------------|-----|---------------|------------|--------|-----------|-----------------|------------------|--------|---|-----------|-------|-------------|---|
| NO. | DESCRIPTION | Certification | Handbook | Historical | PDC | Publications | Functional | Fiscal | eLearning | Journal Advert. | Research Journal | Ad-hoc | PEC V Chair | PEC Chair | Staff | STATUS | COMMENTS |
| 1 | Appoint PEC Adhoc to address Strategic Business Development for potential new revenue streams. | - | - | - | - | - | - | - | - | - | - | X | - | - | X | In Progress | |
| 2 | Develop Strategy for expanding ALI Instructor core and establish proceedings and criteria for instructor appointment and remuneration. | - | - | - | X | - | X | - | - | - | - | - | X | X | X | | Oversight by Functional Planning Subcommittee of PEC. PDC will have a report concerning instructure qualifications for PEC in Austin. In- |
| 3 | Analyse Certification Program and develop metrics for evaluating potential for new certifications aligned with Strategic Plan initiatives 1 & 2 after surveying members to establish interest and demand. | X | - | - | - | - | X | - | - | - | - | - | X | X | X | | Oversight by Functional Planning Subcommittee of PEC. In-Progress. |
| 4 | Analyse performance of special publications over the past three years and develop criteria for evaluating and approving special publication requests on a business case basis aligned with strategic plan initiative 3 | | | | | X | X | | | | | | X | X | X | | Oversight by Functional Planning Subcommittee of PEC. In-Progress. |
| 5 | Develop PEC 'Dashboard' showing relevant data pertaining to operations of PEC committees. This aligns with strategic plan initiative 3. | X | X | X | X | X | | X | | | | | X | X | X | | Oversight by Fiscal Planning Subcommittee of PEC. In-Progress. |

TO: Julia A. Keen, Publishing and Education Council Chair
Mark Owen, Publishing and Education Council Staff Liaison

FROM: Joyce Abrams

DATE: February 27, 2019

SUBJECT: Members Council Referral – E-Learning Courses

During the Members Council 2019 winter meeting in Atlanta, the motion below was referred to Publishing and Education Council for consideration. I appreciate your keeping me advised of your actions. Let me know if you have any questions. Thank you.

Membership Promotion Committee – Motion 11 (01/15/2019):

That e-learning courses be translated to major non-English languages based on membership demographics.

Background: ASHRAE's vision is to be a global leader and foremost source of technical and educational information. Based on membership demographics, the top eight non-English speaking countries include: Canada (French), India (Urdo), Hong Kong (Chinese), Philippines (Tagalog), UAE (Arabic), Malaysia (Malay), Brazil (Portuguese), and Mexico (Spanish). Voice-over audio recording of the e-learning materials will provide greater global membership value. Translations can be completed by volunteer members with peer review.

Fiscal Impact: Recommend \$0 fiscal impact. Generate income with new e-learning benefit and increase use of e-learning.

cc: Michelle L. Swanson, Membership Promotion Committee Chair
Daniel B. Gurley, III, Membership Promotion Committee Staff Liaison

JOURNAL ADVERTISING SUBCOMMITTEE

Report to Publishing and Education Council (PEC)

February 4, 2020

Members Attending: Farooq Mehboob, Chair; William Dean, Vice Chair; Katherine Hammack, Member; C.S. Ow, Member; Mark Owen, Staff Liaison

Visitor: Greg Martin, Staff Manager of Advertising Sales

Action Items for PEC

None.

Information Items

1. ASHRAE Journal's paid advertising share of market (SOM) is 66% of all pages sold during the first 6 months of FY2019-20, compared to the same 66% SOM in July 2018-December 2019. At the same time, a net loss of 44 paid pages impacted ASHRAE Journal revenue. For the calendar year 2019, total advertising pages declined 75 pages for HVACR Engineering publications, with 39 pages less in ASHRAE Journal. Increased market competition for advertising dollars, and advertiser interest in new media channels account for much of the decline. The Journal remains advertisers' No. 1 choice for the past ten years. SOM has risen from 47% in 2009 to 62% for 2019 calendar year. Journal rates per page have been steadily increasing since greater rates and an expanded integration program were implemented.

2. Online-only advertising for ASHRAE Journal is forecast to be less than FY19-20 budget amount of \$875,000. Staff is developing new opportunities to accelerate online advertising revenue growth for the Society. Mr. Owen presented a list of completed advertising programs along with those in development, along with projected potentials for FY20. The estimated fiscal impact of these new programs for FY19-20 exceeds \$100,000 in additional revenue.

3. HPB magazine advertising revenue is projected to finish at \$110,000 for the magazine and \$115,000 for online-only advertising sales. A rate increase, more webinar and website opportunities, as well as improved circulation will support increased revenue and advertising for the next fiscal year. Staff was assigned an action item to produce a proposal for adapting High Performing Buildings for maximizing revenue while reducing expenses.

4. Ms. Hammack referenced the CHP technical article within the December issue of ASHRAE Journal that did not have a corresponding advertisement. She said the impression with December is that technical editorial content is in front of the magazine while advertisements are placed in back. Mr. Owen said a policy change in advertising placement will result in more even distribution of advertising in future issues. Staff was assigned an action item to analyze and report on advertising trends within recent ASHRAE Journal issues for advertising placed within or near technical features covering technology applicable to the advertised product.

Respectfully submitted,

Farooq Mehboob, Chair
Journal Advertising Sales Subcommittee
FM: gm/mso



**eLearning Subcommittee
Report to Publishing and Education Council (PEC)
Meeting of Tuesday, February 4, 2020**

Attendees

Farooq Mehboob — Chair (Present)
William Dean — Member (Present)
Charles Henck — Member (Present)
C S Ow — Member (Absent)
Chandra Sekhar — Member (Present)
Doug Fick — Member (Present)
Mark Owen — Staff Liaison
Eunice Njeru — Staff
David Soltis — Staff
Steve Comstock — Staff
Susan Polite — Staff

Action Items

None

Information Items

1. Financial Review

Subscription revenue for ASHRAE eLearning is on track to make the forecast for the 2019-2020 fiscal year, although a very aggressive marketing effort will be needed to achieve it. The cumulative subscription revenue for the fiscal year to date is 74.3K on a forecast of 230K (November Financials). Most of this revenue is from individual member and non-member subscriptions, with a few corporate subscriptions. eLearning is expecting a 60K transfer from Foundation to continue to fund both new courses and updating existing to achieve an interactive learning experience for the learner. UNEP activities are forecasted bring in 166K.

2. Course Updates Status

ASHRAE eLearning is updating its courses to meet the demand of interactive learning experience in the market place. The demand of the current courses was evaluated to determine which ones were worth updating and which ones were better off retired. The priority is Fundamental Courses, which have proven to be the most popular with corporate customers. For the Society Year 2019-2020, the goal is to update a total of 10 courses. See *Attachment A* for details.

3. New Course Development

To broaden and diversify the eLearning course catalog as well as meet member learning needs, eLearning continues to work with member volunteers to design and develop new courses (see *Attachment B*). A systematic approach of developing courses was discussed, including synergy between eLearning and ASHRAE Learning Institute (ALI) for decisions about new course development.

4. UNEP Activities

UNEP activities (see *Attachment C*) have included launching of the ASHRAE-UNEP portal where all ASHRAE-UNEP partnership resources are housed, translation of the Refrigerants Literacy course from English to French, and a new Energy Efficiency Literacy course. These projects are funded under the ASHRAE-UNEP contracts.

5. Translation

During the Members Council 2019 winter meeting in Atlanta, a motion to translate eLearning courses into several languages was put forward (see *Attachment D*). The eLearning Subcommittee reviewed the cost associated with translation per course. The fiscal impact per course is estimated at 30K-35K.

Respectfully submitted,

Farooq Mehboob, Chair
eLearning Subcommittee
4 February 2020
FM: en/mso

| Course Updates Progress Report | | |
|---------------------------------|--|---------------|
| Project Kickoff | March 2019 | |
| Goal | Update 10 Courses During SY 2019-2020 | |
| Completed | 1 | November 2019 |
| Scheduled to Launch | 1 | February 2020 |
| With Instructional Designers | 1 | March 2020 |
| Seeking Instructional Designers | 2 | April 2020 |
| With Subject Matter Experts | 5 | June 2020 |
| Seeking Subject Matter Experts | 6 | August 2020 |
| Proofing | 5 | December 2020 |
| With Content Organizers | 1 | December 2020 |
| Total | 22 | |
| | | |

eLearning Subcommittee Report to PEC
Attachment B

| NEW/IN-PROGRESS/PROPOSED | | | |
|--------------------------|---|----------------|-----------------|
| Category | Title | Status | Completion Date |
| New | Safe Handling of Refrigerants for Technicians | Launched | November 2019 |
| | | | |
| In-progress | Advanced Energy Design Guide for K-12 School Buildings—Achieving Zero Energy – NREL | Review | March 2020 |
| | Introduction to DOAS | Content Design | May 2020 |
| | Designing Toward Net-Zero Energy Commercial Buildings | Content Design | May 2020 |
| | Energy Efficiency Literacy (UNEP) | Content Design | March 2020 |
| | | | |

| ASHRAE-UNEP PROJECTS | | |
|-------------------------|--|------------------------------|
| Project | Description | Status |
| ASHRAE - UNEP Portal | Portal for all things ASHRAE-UNEP partnership. | Launched - November 2019 |
| Translation | Refrigerants Literacy translation to French | Launched - October 2019 |
| New Course | Energy Efficiency Literacy | Proposed Launch - March 2020 |
| | | |

eLearning Subcommittee Report to PEC
Attachment D

TO: Julia A. Keen, Publishing and Education Council Chair
Mark Owen, Publishing and Education Council Staff Liaison

FROM: Joyce Abrams

DATE: February 27, 2019

SUBJECT: Members Council Referral – E-Learning Courses

During the Members Council 2019 winter meeting in Atlanta, the motion below was referred to Publishing and Education Council for consideration. I appreciate your keeping me advised of your actions. Let me know if you have any questions. Thank you.

Membership Promotion Committee – Motion 11 (01/15/2019):

That e-learning courses be translated to major non-English languages based on membership demographics.

Background: ASHRAE's vision is to be a global leader and foremost source of technical and educational information. Based on membership demographics, the top eight non-English speaking countries include: Canada (French), India (Urdo), Hong Kong (Chinese), Philippines (Tagalog), UAE (Arabic), Malaysia (Malay), Brazil (Portuguese), and Mexico (Spanish). Voice-over audio recording of the e-learning materials will provide greater global membership value. Translations can be completed by volunteer members with peer review.

Fiscal Impact: Recommend \$0 fiscal impact. Generate income with new e-learning benefit and increase use of e-learning.

cc: Michelle L. Swanson, Membership Promotion Committee Chair
Daniel B. Gurley, III, Membership Promotion Committee Staff Liaison



**Fiscal Planning Subcommittee
Report to Publishing and Education Council
Meeting of Tuesday, February 4, 2020**

Motions for PEC

None.

Information Items

1. The subcommittee reviewed the Publishing and Education Council end December 2019 Financials.
2. The subcommittee discussed future elimination for off-site storage expenses after ASHRAE Headquarters moves into the larger building in October 2020. An action item was assigned to staff to report back to the subcommittee the amount of savings.
3. The subcommittee discussed the value of developing training opportunities to work in conjunction with ASHRAE Certification. Staff reported that steps are being taken to implement this combination as soon as possible.

Respectfully submitted,

Katherine Hammack, Chair
Fiscal Planning Subcommittee
4 February 2020
KH;jh/mso



**Functional Planning Subcommittee of PEC
Report to PEC
Meeting of Monday, February 3, 2020**

Motions for PEC

1. **Functional Planning Subcommittee recommends PEC approve the following changes to the ROB:**

2.101.007.3

ASHRAE shall publish and distribute ~~on-line~~ an electronic newsletter to its members. The ~~name of the~~ e-Newsletter ~~shall be Society Connections, and it~~ shall be an "official publication of the Society."

(SBL 10.2) (06-03-20-01)

2.101.007.4

(15-01-25/14-07-02-17)

ASHRAE shall publish and distribute to subscribers a journal of archival-quality research. The name of the publication shall be ~~HVAC&R Research to~~ *Science and Technology for the Built Environment*, and it shall be an "official publication of the Society."

Background: These changes simply correct inaccuracies in (1) the mode of delivery (email, not "on-line") and (2) the names of the referenced publications ("eSociety" has supplanted "Society Connections" for some time; the "HVAC&R Research" is a remnant typo from the previous revision. *(Functional Planning Subcommittee 5-0-0 CNV)*

Fiscal Impact: None.

2. **Functional Planning Subcommittee recommends PEC approve changes to the Publications Committee MOP as shown in Attachment A.**

Background: These changes will reflect the reporting and procedural changes that will happen with the new PEC restructure plan to be implemented July 1, 2020. Additional editorial and clean up changes to these documents were also made. *(Functional Planning Subcommittee 5-0-0 CNV)*

Fiscal Impact: None.

Information Items

The subcommittee was assigned oversight of the following three PEC MBOs:

- PEC MBO #2 - Develop Strategy for expanding ALI Instructor core and establish procedures and criteria for instructor appointment and remuneration.

- PEC MBO #3 - Analyze Certification Program and develop metrics for evaluating potential for new certifications aligned with Strategic Plan initiatives 1 & 2 after surveying members to establish interest and demand.
- PEC MBO #4 - Analyze performance of special publications over the past three years and develop criteria for evaluating and approving special publication requests on a business case basis aligned with strategic plan initiative 3.

The subcommittee will work with the involved standing committee and staff to develop metrics and evaluation plans. A conference call will be held before the annual conference in Austin for the subcommittee to finalize their recommendations to be presented to PEC. (*Attachment B*)

Respectfully submitted,

Jon Symko
PEC Fiscal Planning Subcommittee Chair
3 February 2020



Publications Committee MANUAL OF PROCEDURES

~~January 31, 2017~~

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Table of Abbreviations

| | |
|--------------------------------------|--|
| <u>Annual Conference</u> | <u>Meeting of the Society, generally in June</u> |
| BOD | Board of Directors (or Board) |
| <u>CO</u> | <u>Coordinating Officer</u> |
| <u>MBO</u> | <u>Management by Objectives</u> |
| DAL | Director-at-Large |
| MOP | Manual of Procedures |
| ROB | Rules of the Board |
| <u>TC</u> | <u>Technical Committee</u> |
| BAR | Board Approved Rules |
| BL | Bylaws |
| EXCOM | Executive Committee (of the BOD) |
| MBO | Management by Objectives |
| Annual Meeting | Meeting of the Society, generally in June |
| Winter Conference Meeting | Meeting of the Society, generally in January |
| TC | Technical Committee |

STRUCTURE

~~The **Scope and Purpose** This manual describes procedures for accomplishing the duties and responsibilities assigned by the Rules of the Board (ROBs) applicable to the Publications Committee. The Scope and Purpose of the Committee shall be:~~

- ~~1. _____ To formulate the editorial policies of ASHRAE periodicals, books, and software products in print and nonprint formats in accordance with the policies of the Board of Directors.~~
- ~~2. _____ To be responsible for the Rules of the Board as follows: *ASHRAE Journal* is to maintain and enhance its leadership role in the communication of HVAC&R information to and from the profession, industry, and related interests through its worldwide readership and editorial content.~~

~~*ASHRAE Insights* shall be the primary vehicle for intrasociety communications.~~

~~Publications that are not *ASHRAE Handbook*, *ASHRAE Journal*, and *Insights* shall be referred to as special publications, including nonprint formats.~~

I. _____ Committee Organization

- ~~A. _____ *Committee Structure*^{*}: The Committee shall comprise a chair~~Chair~~, a vice chair~~Vice Chair~~, and ten other voting members ~~appointed by the president elect. Service on this Committee is intended to be for a 3-year term. Appointments are made, however, each year by the president elect for the administrative year covered by his/her term as president. Service on this committee is for a three-year term.~~ A: CO, a BOD Ex-Officio, the *ASHRAE Journal* editor, and the Special Publications editor~~and Staff Liaison~~ complete the committee; one of these editors serves as the staff liaison for the committee. ~~The Committee shall include a Planning Subcommittee.~~~~
- ~~The committee~~B. _____ *Direction*: The Chair shall direct all Committee activities. In the absence of, or as directed by the Chair, the Vice Chair shall perform the duties of the Chair.
- ~~C. _____ *Committee/Council/Board of Directors Relationships*: The Committee reports to the Products Committee of the Publishing and Education Council. The Publications Chair is a member (non-voting) of the Publishing and Education Council, which makes policy determinations not requiring specific action by the BOD. The Publications Chair is the Committee's reporting channel to the Council and Board of Directors.~~

The ~~committee chair~~Committee Chair and vice chair~~Vice Chair~~ shall attend the Publishing and Education Council meetings to:

- ~~1. 1-~~ Transmit and explain recommendations of the ~~committee~~Committee to the council~~Council~~.
- ~~2. 2-~~ Bring recommendations and actions of the council~~Council~~ and BOD to the committee.

^{*}~~See the Reference Manual for specific details concerning Committee structure.~~

The BOD Ex-Officio is an advisor to the committee and an advocate for the committee on the Products Committee, on the Publishing and Education Council, and with the BOD. This individual shall receive agendas and minutes of all committee meetings and copies of all correspondence from and to the committee. -

The staff liaison shall carry out the requirements of the ROB and MOP and shall do the following

D. ~~Planning Subcommittee: A subcommittee may be appointed by the Chair.~~

E. ~~International Subcommittee: A subcommittee may be appointed by the Chair.~~

F. _____:

- ~~Attend all meetings of the committee.~~
- Advise the committee of plans and activities affecting publication and obtain committee input on planned programs and activities.
- Enlist committee assistance in obtaining articles, reviewing articles, and maintaining an editorial balance in the content of the material presented in the publication.
- Act as secretary to the committee in the preparation and distribution of the minutes.
- Distribute minutes of the past four committee meetings and the MOP to new committee members. This shall occur as new appointments are made by the president-elect.
- Distribute the agenda, reports, and other materials to members of the committee.
- Prepare a monthly *ASHRAE Journal* review form and send the form to members of the committee for them to rate each volume's technical articles.

SUBCOMMITTEES and LIAISONS

A Planning Subcommittee shall be appointed by the chair. This subcommittee shall consist of the chair and vice chair, the *ASHRAE Journal* editor, the Special Publications editor, the staff liaison, and other committee members who wish to attend. The vice chair will preside. The Planning Subcommittee shall meet prior to each meeting for the purposes of reviewing a list of objectives that will be reported with recommendations to the full committee.

Functional Subcommittee: The Vice Chair shall be responsible for enhancements and updates of the Committee's MOP and ROB and presentation of changes for approval at Publishing and Education Council.

G. _____ ~~TAC Liaison:~~ The ~~chair~~Chair shall appoint a member of the Publications Committee to be liaison with Research Administration Committee (RAC).

The chair shall appoint members of the Publications Committee to be ~~liaisons~~liaison to each section of the Technical Activities Committee (TAC).- TAC Section Liaisons shall contact the TC chairs in their assigned TAC section to communicate about upcoming Special Publications and/or the relevance of older Special Publications on the market. TAC Section liaisons shall also attend the TC/TG/MTG Chair's Breakfast meetings at the Annual and Winter Conferences to communicate with TC chairs and convey information to or from the chairs and Publications Committee.

On an ad hoc basis, the chair may appoint committee members to be liaisonsH. — ~~Liaison to Other Committees: Members may be appointed by the Chair as liaison~~ to other committees of the Society for the purpose of interchange of information of mutual value.

DUTIES

The Publications Committee identifies the technical information needs of the HVAC&R industry not met through the ASHRAE Handbook series, ASHRAE's research journal, standards, guidelines, or user's manuals and oversees editorial policies and delivery of products to the marketplace. This includes the editorial policies of ASHRAE's magazines (such as *ASHRAE Journal* and *High Performing Buildings*), ASHRAE's electronic newsletters, *ASHRAE Transactions* and other conference proceedings, and ASHRAE Special Publications, which are technical publications in print format, such as non-series books (including books resulting from ASHRAE Research Projects and Special Projects), books in the Advanced Energy Design Guide series and the ASHRAE Datacom Series, charts, and tools, as well as all technical publications in machine-readable format, such as audio and visual presentations, software, databases, apps, and online resources.

~~I. — *Journal Review Coordinator*: The Chair will appoint a Journal review coordinator.~~

~~J. — *Insights Review Coordinator*: The Chair will appoint an *Insights* review coordinator.~~

III. — Committee Assignments

Duties/Job descriptions for:

| | |
|-------------------------------|-------------------|
| <u>Publications Committee</u> | <u>Appendix A</u> |
| <u>Planning Subcommittee</u> | <u>Appendix B</u> |

The responsibilities of the individual committee members are as follows:

- Attend two to four committee meetings per year. The Publications Committee meets at the Annual and Winter Conferences of the Society.
- Provide suggestions, comments, or feedback on ASHRAE's magazines and ASHRAE's electronic newsletters.
 - Read other publications touching on the fields covered by ASHRAE's magazines for comparative purposes and for making constructive suggestions.
 - Generate topics suitable for ASHRAE's magazines and suggest potential authors.
 - Suggest qualified reviewers to assist the *ASHRAE Journal* editor in evaluating or technically editing articles.
- Nominate a candidate for the Journal Paper Award each Society year.
 - Each month committee members will be sent a review form for the current month's *ASHRAE Journal* technical features; committee members are to complete this form to rate the *ASHRAE Journal* technical features and submit it to the *ASHRAE Journal* editor.
 - One week prior to the Winter Conference, the *ASHRAE Journal* editor will provide the committee electronic access to the three to six top-scoring technical features as rated by the committee members on the monthly review form. The committee, using this information and its members' judgment, shall select and nominate a candidate for the Journal Paper Award.
 - The technical features considered and nominated shall have been published within a calendar year (January through December) preceding the Winter Conference.

- It is the responsibility of the *ASHRAE Journal* editor to report the nomination to the Honors and Awards Committee staff liaison before the end of the Winter Conference. Presentation of the award will occur at the following Annual Conference.
- Recommend to the Products Committee of the Publishing and Education Council those Special Publications that the committee feels should be published and their methods of publication.
 - Committee members evaluate the suitability of proposed Special Publications based on the value of a proposed publication to the membership, the size of the expected audience, and the potential to recover publishing costs through sales of the publication.
 - For a proposal to be considered, the committee shall require submission of a completed online Publication Request Form. The form will be submitted electronically to the Special Publications editor, who will coordinate a staff analysis of the publication and submit recommendations to the Publications Committee.
 - The committee reviews the recommendations and provides supporting data on the fiscal impact to the Products Committee, which will approve, reject, or defer the proposed publication. In the case it is approved, it will move to Publishing and Education Council for final approval for publication.
 - When reviewing unsolicited material, the committee shall endeavor to maintain confidentiality regarding the material submitted, if requested.
 - Following review and approval of the final technical content by the project's cognizant TC or Project Monitoring Subcommittee (PMS), Special Publications staff will edit and format the manuscript for publication.
- Ensure that all Special Publications are current and timely.
 - The staff liaison will maintain a list of Special Publications that have publication dates of the first printing or latest revision four or more years old.
 - The Special Publications editor or the committee liaison assigned to the specific TAC section of the cognizant TC for each publication shall correspond with the chair of the cognizant TC or the TAC section head to determine whether the publication is still current and valid, whether it should be revised or updated, or whether the topic is no longer of interest to HVAC&R engineers and should therefore be made obsolete.

OPERATION

| | | |
|-------|--|------------|
| _____ | MBO Fiscal Budget | |
| _____ | Editorial Calendar | |
| _____ | <i>ASHRAE Journal/Insights</i> Reviews | Appendix C |
| _____ | International Subcommittee | Appendix H |

IV.—Committee Operations

~~A. The Committee year ends with the conclusion of its meeting at the Society Annual Meeting.~~
At or before the Annual ~~Conference Meeting~~, the ~~committee chair~~~~Chair~~ for the succeeding year shall work with the outgoing ~~chair~~~~Chair~~ to understand the status and performance of ~~committee~~~~Committee~~ objectives, to plan the continuing and new programs for the following year, and to become the keeper of the ~~committee's~~~~Committee's~~ archives.

B.—Prior to the Annual ~~(Summer)~~ Conference, the staff liaison~~Society~~ shall contact new committee~~Committee~~ members and invite their attendance and participation as guests at the regular Publications Committee Meeting. New member orientation will be conducted via conference call or email within the first 30 days of the new member's appointment. ~~The meeting shall include orientation for new members.~~

C.—The chair will assign mentors to new members using guidelines in the Reference Manual.

D.—Prior to the ~~Society~~ Annual Conference~~Meeting~~, the committee~~Committee~~ vice chair or the individual who will be the next year's chair will prepare objectives (MBOs) for the committee~~Committee~~ for the next year and present these objectives to the committee~~Committee~~ for review at the committee~~Committee~~ meeting held during the ~~Society~~ Annual Conference. The preparer of the objectives has the option of proposing objectives that extend beyond one year as long as the first-year objectives are clear and measurable. The objectives will be included in the committee's~~Committee's~~ report to the Products Committee~~council~~ at the Annual Conference as an information item, ~~and a copy of the objectives will be sent to the Assistant to the Board of Directors.~~

E.—Motions and resolutions presented to the Products Committee with the potential to be forwarded to Publishing and Education Council and the BOD shall follow the approved guidelines. These guidelines apply to proposed changes and clarifications for ROB, ~~BAR~~ and other committee-~~Committee-~~approved items requiring council~~Council~~ and/or BOD~~Board~~ approval. Appendices are part of the MOP and therefore require approval by the reporting body (B-97-97-02-16).

F.—This committee shall develop procedures for recommending updates to the Society's strategic plan on a continuous basis. As a minimum, the committee shall submit a report to the Product~~council~~ at a time determined by the Board Planning Committee annually ~~that.~~ ~~The report~~ includes the current status of each activity that supports the fulfillment of the committee's assignments under the strategic plan. The committee shall report to the Products Committee~~council~~ all recommendations for changes to the strategic plan as provided by the committee's constituents before the Annual Conference.

V.—~~**BOD Ex-Officio (Director-at-Large)**~~ The BOD Ex-Officio is an advisor to the Committee and an advocate for the Committee on the council and the BOD. This individual shall receive agendas and minutes of all Committee meetings and copies of all correspondence from and to the Committee. ~~The BOD Ex-Officio is a voting member of the Publishing and Education Council and carries motions forward to the Publishing and Education Council.~~

VI. — Staff Liaison

~~One week prior to the Winter~~ The staff liaison shall carry out the requirements of the ROB and MOP and shall:

- ~~• Attend all meetings of the Committee.~~
- ~~• Advise the Committee of plans and activities affecting the publication and obtain Committee input on planned programs and activities.~~

- ~~Enlist Committee assistance in obtaining articles, reviewing articles, and maintaining an editorial balance in the content of the material presented in the publication.~~
- ~~Act as Secretary to the Committee in the preparation and distribution of the minutes.~~
- ~~Distribute minutes of the past four Committee meetings and the MOP to new Committee members. This shall occur as new appointments are made by the President-Elect.~~
- ~~Distribute the agenda, reports and other materials to members of the Publications Committee.~~
- ~~Prepare a monthly *ASHRAE Journal* review form and send the form to members of the Publications Committee and the Publishing and Education Council for their review.~~
- ~~Prepare editorial calendar materials and distribute to Publications Committee members for feedback and input.~~

~~VII. Procedures~~ The guidelines for operation and procedures for the Publications Committee are outlined as follows:

| | |
|---|------------|
| Best Article Review Procedure..... | Appendix D |
| <i>ASHRAE Journal</i> Guidelines..... | Appendix E |
| <i>Insights</i> Content and Procedures..... | Appendix F |
| Special Publications Procedures..... | Appendix G |

Appendix A

Publications Committee Duties

1. ~~Attend two to four Committee meetings per year. The Publications Committee meets at the Annual and Winter Meetings of the Society. The Committee sometimes schedules a meeting on the same weekend as the Publishing and Education Council spring and/or fall meeting.~~
2. ~~Read each issue of *ASHRAE Journal* and *Insights* thoroughly. The *Journal* Review Form is to be completed and submitted to the assigned *Journal* coordinator. The *Insights* Review Form is to be completed and submitted to the assigned *Insights* coordinator.~~
3. ~~Recommend Best *ASHRAE Journal* feature articles for awards.~~
4. ~~Read other publications covering parts of the *Journal's* field for comparative purposes and make constructive suggestions.~~
5. ~~Suggest qualified reviewers to assist the *Journal* Editor in evaluating or technically editing an article.~~
6. ~~Perform all tasks assigned by the Chair.~~
7. ~~Generate topics suitable for *ASHRAE Journal* and suggest potential authors.~~
8. ~~Review editorial calendar and provide feedback to the *Journal* editor.~~
9. ~~Recommend to the Publishing and Education Council special publication items that should be published and also the method of publication.~~

Appendix B

Planning Subcommittee Duties

- ~~1. *Organization:* The Planning Subcommittee shall consist of the Chair and Vice Chair of the Publications Committee, the *Journal* coordinator, the *Insights* coordinator, and other members who wish to attend. The Vice Chair will preside.~~
- ~~2. *Purpose:* The Planning Subcommittee shall meet prior to each meeting for the purpose of reviewing a list of objectives that will be reported with recommendations to the full Committee; for reviewing and reporting on the editorial features calendar; and for establishing the proposed budget for the Committee's expenses.~~

Appendix C

ASHRAE Journal/Insights Reviews

ASHRAE Journal Review:

~~Each member of the Publications Committee and Publishing and Education Council will be sent a review form for the current month's *Journal*. The Committee chair shall assign a person to collect *Journal* review forms.~~

Insights Review:

~~At least annually, each member of the Publications Committee will be sent a review form for an issue of *Insights*. The Committee chair shall assign a person to collect *Insights* review forms.~~

Appendix D

Best Article Review Procedure

~~One week prior to the Winter Meeting, the *Journal* Review coordinator will provide the Committee the three to six top scoring articles along with the Best Article recommendation. The Committee Chair will also bring three sets to the Winter Meeting. The Publications Committee, using this information and its members' judgment, shall select and nominate to the Honors and Awards Committee a candidate for the *Journal* Best Paper Award. The *Journal* articles considered and nominated shall be within a calendar year (January through December) and shall relate to the arts and sciences represented by ASHRAE.~~

~~*Timetable for Nomination:* The Publications Committee shall rate the articles throughout the year through the monthly review process conducted by the Publications Committee and the Publishing and Education Council. It will be the responsibility of the Publications Committee Chair to report the nomination to the Honors and Awards Committee staff liaison before the end of the Winter Meeting. Presentation of the award will occur at the following Annual Meeting.~~

Appendix E

ASHRAE Journal Guidelines

A. Feature Articles:

1. Sources of feature articles include but are not restricted to:

- Technical papers from any past meeting.
 - Symposia papers from any past meeting.
 - Seminar presentations from any past meeting.
 - Forum discussions, but only with the permission of each participant quoted or paraphrased.
 - Papers from ASHRAE sponsored or cosponsored conferences.
 - Information or articles developed around current and past Society level and regional level Technology Awards.
 - Extracts from Professional Development Seminar presentations.
 - Chapter meeting and/or chapter seminar presentations.
 - Extracts or papers and publications of ASHRAE.
 - International affiliates.
 - Feature articles from other magazines that reach only a small percentage of *ASHRAE Journal* readers.
 - Past articles from *ASHRAE Journal*, publications of predecessor societies or magazines no longer in publication.
2. Prior to publishing any articles in the *Journal*, the editor must have the author's written permission to publish or in the case of reprinted articles, a written release of copyright.
3. The editor shall select a balanced spectrum of feature articles for each issue considering the background, specialization and interests of the readers. The minimum is to have at least one feature article in every other issue for at least 90% of *ASHRAE Journal* subscribers.
4. Papers may be published in condensed or original form at the discretion of the editor. All papers shall be edited as required to optimize their readership and value to the *ASHRAE Journal* subscriber.
5. Manuscripts, when reviewed and approved for publication, will be published in the length and coverage agreed upon by the editor and author.
6. Abstracts or condensations of technical papers or manuscripts shall first be requested of the author, but may be prepared by the *Journal* staff or a suitable authority. The author's written approval is required prior to publication.

A. Authors:

Standard practice is that authors:

- a. Submit articles in conformance with the specifications in "Instructions to Authors" available from the *ASHRAE Journal* staff.
- b. Have their article peer reviewed.

- ~~• c. May be identified by name, title, company affiliation and a brief business/education biography.~~
- ~~• d. Conform to *ASHRAE Journal's* policy relating to commercialism in both text and illustrations.~~
- ~~• e. Submit original material and be required to sign the ASHRAE agreement for exclusive Permission to Publish prior to peer review.~~

~~B. Readership:~~

~~Readership breakdowns are a valuable instrument for the Editor and Committee for targeting feature articles that provide value to the *Journal* readers.~~

Appendix F

Insights Contents and Procedures

- ~~A. The monthly newspaper, *Insights*, shall publish available news of ASHRAE officers, staff, and the general membership, meeting programs, educational programs, standards, actions and publications available from and through the Society. Emphasis in each issue shall be placed on news from the chapters and regions, research & technology, and individual members.~~
- ~~B. The staff and Committee are to establish and maintain close liaison with departments and Committees of the Society in order to effectively serve the membership with information of value and interest.~~
- ~~C. A survey shall be distributed by the *Insights* editor to the Publications Committee for review of *Insights*. The results shall be collected by the *Insights* coordinator and brought to the full Committee.~~

Appendix G

Special Publications Procedures

A. ~~Special publications are technical publications other than ASHRAE Handbook and periodicals. They are grouped into the following categories:~~

- ~~1. *Winter/Annual Meeting Products*: Preprints of technical and symposium papers presented at Society Winter and Annual Meetings; Winter/Annual Meeting CD, which contains the papers from the current meeting and discussion from the previous meeting; and ASHRAE Transactions, a book that is the official proceedings of Society Winter and Annual Meetings.~~
- ~~2. *Nonseries Books*: Books that are complete in themselves, which are products of ASHRAE research, governmental research, ASHRAE Committee projects, expansion of Handbook materials and conference proceedings.~~
- ~~3. *Nonprint Products*: Primarily CDs and some software.~~

~~4. *Standards*: ASHRAE standards.~~

B. ~~The Publications Committee action on each of the special publications is as follows:~~

- ~~1. *Winter/Annual Meeting Products*: Publication is governed by ASHRAE Program Committee and Rules of the Board.~~
- ~~2. *Nonseries Books*: Publications Committee reviews data, then either approves, rejects, or defers recommendation to the Publishing and Education Council.~~
- ~~3. *Nonprint Products*: Publications Committee reviews data, then either approves, rejects, or defers Publications Committee recommendation to the Publishing and Education Council.~~
- ~~4. *Standards*: No action required by Publications Committee; governed by Standards Committee and Rules of the Board.~~

C. ~~Special Publications:~~

- ~~1. *Review of proposed topics*. Publications Committee evaluates the suitability of proposed topics based on the value of a proposed publication to the membership, the size of the expected audience, and the potential to recover publishing costs through sales of the publication. Topics for special publications may originate from ASHRAE research projects, from unsolicited proposals, or by referrals from Publishing and Education Council.~~

- a. ~~Topics originating from ASHRAE research projects. Publications Committee identifies proposed research projects that have special publications as deliverables through liaison with Research Administration Committee, Technical Activities Committee, and the technical committees.~~
- b. ~~When reviewing unsolicited material, the Committee shall endeavor to maintain confidentiality regarding the material submitted, if requested.~~
- c. ~~For a proposal to be considered, the Committee shall require submission of a completed online Publication Ideas form.~~
- 2. ~~For each accepted special publication topic, Publishing Committee identifies a cognizant committee to oversee production of the technical content.~~
 - a. ~~For publications originating from ASHRAE research projects, the technical committee responsible for managing the research project also manages the technical content.~~
 - b. ~~For publication topics that are clearly within the scope of a single technical committee or standing committee, Publishing Committee requests that committee to appoint a project monitoring committee.~~
 - c. ~~If the publication topic is of too broad a scope for a single technical committee, Publishing Committee refers it to the Technical Activities Committee for appointment of a project monitoring committee.~~
- 3. ~~Following review and approval of the final technical content by the cognizant committee, publications staff edits and formats the manuscript for publication. Publication proceeds only after recommendation by the project monitoring committee and approval by the Publications Committee and Publishing and Education Council.~~
- D. ~~The Publications Committee shall ensure that all special publications are current and timely by the following actions:~~
 - 1. ~~Maintain a list of all nonseries special publications with date of latest revision or publication.~~
 - 2. ~~For each nonseries publication, following four years of availability, the editor of special publications shall correspond with the cognizant technical committee or the Technical Activities Committee to determine whether the publication is still current and valid or whether it should be revised or updated.~~
 - 3. ~~If revision or update is required, Publishing Committee identifies the source of funding for the update.~~

Appendix H

International Subcommittee

~~1.—Organization: The International Subcommittee shall consist of three (3) members from the Publications Committee.~~

~~2.—Purpose: The International Subcommittee shall meet prior to the full committee meeting for the purpose of reviewing a list of objectives that will be reported with recommendations to the full committee. The subcommittee's activities will include reviewing and reporting on the committee's near and long term goals, publication activities and content, status, consumer acceptance and/or problems, technical values, market activities, and constraints.~~

ASHRAE New Special Publications Evaluation Criteria

Publication Name:

Publication Sponsor:

Point Threshold for Publication: (need to determine what this minimum is - 70 points?)

Evaluation:

| Criteria | Historical Performance of Similar Publications | Market and Industry Need | Projected Production Cost | Projected Revenue | Primary Buyer | Member Benefits | Current Hot Topic? | Total Points |
|-----------------|--|--------------------------|---------------------------|-------------------|---------------|-----------------|--------------------|--------------|
| Max Points | 15 | 20 | 15 | 15 | 10 | 15 | 10 | 100 |
| Points Assigned | | | | | | | | |

Notes:

Historical Performance of Similar Publications:

We should look at similar types of publications (Design Guides, User's Manuals, hands on guides, etc.) to help in estimating sales

**Projected
Margin**

PUBLISHING & EDUCATION COUNCIL - MBOs 2019-2020 SY - Farooq Mehboob, Chair

RESPONSIBILITY

Attachment A - PEC Minutes - Orlando Jan 2020

| | | Committees | | | | Subcommittees | | | | Other | | | Attachment A - PEC Minutes - Orlando Jan 2020 | | | | |
|-----|---|---------------|----------|------------|-----|---------------|------------|--------|-----------|-----------------|------------------|--------|---|-----------|-------|-------------|---|
| NO. | DESCRIPTION | Certification | Handbook | Historical | PDC | Publications | Functional | Fiscal | eLearning | Journal Advert. | Research Journal | Ad-hoc | PEC V Chair | PEC Chair | Staff | STATUS | COMMENTS |
| 1 | Appoint PEC Adhoc to address Strategic Business Development for potential new revenue streams. | - | - | - | - | - | - | - | - | - | - | X | - | - | X | In Progress | |
| 2 | Develop Strategy for expanding ALI Instructor core and establish proceedings and criteria for instructor appointment and remuneration. | - | - | - | X | - | X | - | - | - | - | - | X | X | X | | Oversight by Functional Planning Subcommittee of PEC. PDC will have a report concerning instructure qualifications for PEC in Austin. In- |
| 3 | Analyse Certification Program and develop metrics for evaluating potential for new certifications aligned with Strategic Plan initiatives 1 & 2 after surveying members to establish interest and demand. | X | - | - | - | - | X | - | - | - | - | - | X | X | X | | Oversight by Functional Planning Subcommittee of PEC. In-Progress. |
| 4 | Analyse performance of special publications over the past three years and develop criteria for evaluating and approving special publication requests on a business case basis aligned with strategic plan initiative 3. | | | | | X | X | | | | | | X | X | X | | Oversight by Functional Planning Subcommittee of PEC. In-Progress. |
| 5 | Develop PEC 'Dashboard' showing relevant data pertaining to operations of PEC committees. This aligns with strategic plan initiative 3. | X | X | X | X | X | | X | | | | | X | X | X | | Oversight by Fiscal Planning Subcommittee of PEC. In-Progress. |

TO: Julia A. Keen, Publishing and Education Council Chair
Mark Owen, Publishing and Education Council Staff Liaison

FROM: Joyce Abrams

DATE: February 27, 2019

SUBJECT: Members Council Referral – E-Learning Courses

During the Members Council 2019 winter meeting in Atlanta, the motion below was referred to Publishing and Education Council for consideration. I appreciate your keeping me advised of your actions. Let me know if you have any questions. Thank you.

Membership Promotion Committee – Motion 11 (01/15/2019):

That e-learning courses be translated to major non-English languages based on membership demographics.

Background: ASHRAE's vision is to be a global leader and foremost source of technical and educational information. Based on membership demographics, the top eight non-English speaking countries include: Canada (French), India (Urdo), Hong Kong (Chinese), Philippines (Tagalog), UAE (Arabic), Malaysia (Malay), Brazil (Portuguese), and Mexico (Spanish). Voice-over audio recording of the e-learning materials will provide greater global membership value. Translations can be completed by volunteer members with peer review.

Fiscal Impact: Recommend \$0 fiscal impact. Generate income with new e-learning benefit and increase use of e-learning.

cc: Michelle L. Swanson, Membership Promotion Committee Chair
Daniel B. Gurley, III, Membership Promotion Committee Staff Liaison

JOURNAL ADVERTISING SUBCOMMITTEE

Report to Publishing and Education Council (PEC)

February 4, 2020

Members Attending: Farooq Mehboob, Chair; William Dean, Vice Chair; Katherine Hammack, Member; C.S. Ow, Member; Mark Owen, Staff Liaison

Visitor: Greg Martin, Staff Manager of Advertising Sales

Action Items for PEC

None.

Information Items

1. ASHRAE Journal's paid advertising share of market (SOM) is 66% of all pages sold during the first 6 months of FY2019-20, compared to the same 66% SOM in July 2018-December 2019. At the same time, a net loss of 44 paid pages impacted ASHRAE Journal revenue. For the calendar year 2019, total advertising pages declined 75 pages for HVACR Engineering publications, with 39 pages less in ASHRAE Journal. Increased market competition for advertising dollars, and advertiser interest in new media channels account for much of the decline. The Journal remains advertisers' No. 1 choice for the past ten years. SOM has risen from 47% in 2009 to 62% for 2019 calendar year. Journal rates per page have been steadily increasing since greater rates and an expanded integration program were implemented.

2. Online-only advertising for ASHRAE Journal is forecast to be less than FY19-20 budget amount of \$875,000. Staff is developing new opportunities to accelerate online advertising revenue growth for the Society. Mr. Owen presented a list of completed advertising programs along with those in development, along with projected potentials for FY20. The estimated fiscal impact of these new programs for FY19-20 exceeds \$100,000 in additional revenue.

3. HPB magazine advertising revenue is projected to finish at \$110,000 for the magazine and \$115,000 for online-only advertising sales. A rate increase, more webinar and website opportunities, as well as improved circulation will support increased revenue and advertising for the next fiscal year. Staff was assigned an action item to produce a proposal for adapting High Performing Buildings for maximizing revenue while reducing expenses.

4. Ms. Hammack referenced the CHP technical article within the December issue of ASHRAE Journal that did not have a corresponding advertisement. She said the impression with December is that technical editorial content is in front of the magazine while advertisements are placed in back. Mr. Owen said a policy change in advertising placement will result in more even distribution of advertising in future issues. Staff was assigned an action item to analyze and report on advertising trends within recent ASHRAE Journal issues for advertising placed within or near technical features covering technology applicable to the advertised product.

Respectfully submitted,

Farooq Mehboob, Chair
Journal Advertising Sales Subcommittee
FM: gm/mso



**eLearning Subcommittee
Report to Publishing and Education Council (PEC)
Meeting of Tuesday, February 4, 2020**

Attendees

Farooq Mehboob — Chair (Present)
William Dean — Member (Present)
Charles Henck — Member (Present)
C S Ow — Member (Absent)
Chandra Sekhar — Member (Present)
Doug Fick — Member (Present)
Mark Owen — Staff Liaison
Eunice Njeru — Staff
David Soltis — Staff
Steve Comstock — Staff
Susan Polite — Staff

Action Items

None

Information Items

1. Financial Review

Subscription revenue for ASHRAE eLearning is on track to make the forecast for the 2019-2020 fiscal year, although a very aggressive marketing effort will be needed to achieve it. The cumulative subscription revenue for the fiscal year to date is 74.3K on a forecast of 230K (November Financials). Most of this revenue is from individual member and non-member subscriptions, with a few corporate subscriptions. eLearning is expecting a 60K transfer from Foundation to continue to fund both new courses and updating existing to achieve an interactive learning experience for the learner. UNEP activities are forecasted bring in 166K.

2. Course Updates Status

ASHRAE eLearning is updating its courses to meet the demand of interactive learning experience in the market place. The demand of the current courses was evaluated to determine which ones were worth updating and which ones were better off retired. The priority is Fundamental Courses, which have proven to be the most popular with corporate customers. For the Society Year 2019-2020, the goal is to update a total of 10 courses. See *Attachment A* for details.

3. New Course Development

To broaden and diversify the eLearning course catalog as well as meet member learning needs, eLearning continues to work with member volunteers to design and develop new courses (see *Attachment B*). A systematic approach of developing courses was discussed, including synergy between eLearning and ASHRAE Learning Institute (ALI) for decisions about new course development.

4. UNEP Activities

UNEP activities (see *Attachment C*) have included launching of the ASHRAE-UNEP portal where all ASHRAE-UNEP partnership resources are housed, translation of the Refrigerants Literacy course from English to French, and a new Energy Efficiency Literacy course. These projects are funded under the ASHRAE-UNEP contracts.

5. Translation

During the Members Council 2019 winter meeting in Atlanta, a motion to translate eLearning courses into several languages was put forward (see *Attachment D*). The eLearning Subcommittee reviewed the cost associated with translation per course. The fiscal impact per course is estimated at 30K-35K.

Respectfully submitted,

Farooq Mehboob, Chair
eLearning Subcommittee
4 February 2020
FM: en/mso

| Course Updates Progress Report | | |
|---------------------------------|--|---------------|
| Project Kickoff | March 2019 | |
| Goal | Update 10 Courses During SY 2019-2020 | |
| Completed | 1 | November 2019 |
| Scheduled to Launch | 1 | February 2020 |
| With Instructional Designers | 1 | March 2020 |
| Seeking Instructional Designers | 2 | April 2020 |
| With Subject Matter Experts | 5 | June 2020 |
| Seeking Subject Matter Experts | 6 | August 2020 |
| Proofing | 5 | December 2020 |
| With Content Organizers | 1 | December 2020 |
| Total | 22 | |
| | | |

eLearning Subcommittee Report to PEC
Attachment B

| NEW/IN-PROGRESS/PROPOSED | | | |
|--------------------------|---|----------------|-----------------|
| Category | Title | Status | Completion Date |
| New | Safe Handling of Refrigerants for Technicians | Launched | November 2019 |
| | | | |
| In-progress | Advanced Energy Design Guide for K-12 School Buildings—Achieving Zero Energy – NREL | Review | March 2020 |
| | Introduction to DOAS | Content Design | May 2020 |
| | Designing Toward Net-Zero Energy Commercial Buildings | Content Design | May 2020 |
| | Energy Efficiency Literacy (UNEP) | Content Design | March 2020 |
| | | | |

| ASHRAE-UNEP PROJECTS | | |
|-------------------------|--|------------------------------|
| Project | Description | Status |
| ASHRAE - UNEP Portal | Portal for all things ASHRAE-UNEP partnership. | Launched - November 2019 |
| Translation | Refrigerants Literacy translation to French | Launched - October 2019 |
| New Course | Energy Efficiency Literacy | Proposed Launch - March 2020 |
| | | |

eLearning Subcommittee Report to PEC
Attachment D

TO: Julia A. Keen, Publishing and Education Council Chair
Mark Owen, Publishing and Education Council Staff Liaison

FROM: Joyce Abrams

DATE: February 27, 2019

SUBJECT: Members Council Referral – E-Learning Courses

During the Members Council 2019 winter meeting in Atlanta, the motion below was referred to Publishing and Education Council for consideration. I appreciate your keeping me advised of your actions. Let me know if you have any questions. Thank you.

Membership Promotion Committee – Motion 11 (01/15/2019):

That e-learning courses be translated to major non-English languages based on membership demographics.

Background: ASHRAE's vision is to be a global leader and foremost source of technical and educational information. Based on membership demographics, the top eight non-English speaking countries include: Canada (French), India (Urdo), Hong Kong (Chinese), Philippines (Tagalog), UAE (Arabic), Malaysia (Malay), Brazil (Portuguese), and Mexico (Spanish). Voice-over audio recording of the e-learning materials will provide greater global membership value. Translations can be completed by volunteer members with peer review.

Fiscal Impact: Recommend \$0 fiscal impact. Generate income with new e-learning benefit and increase use of e-learning.

cc: Michelle L. Swanson, Membership Promotion Committee Chair
Daniel B. Gurley, III, Membership Promotion Committee Staff Liaison



**Fiscal Planning Subcommittee
Report to Publishing and Education Council
Meeting of Tuesday, February 4, 2020**

Motions for PEC

None.

Information Items

1. The subcommittee reviewed the Publishing and Education Council end December 2019 Financials.
2. The subcommittee discussed future elimination for off-site storage expenses after ASHRAE Headquarters moves into the larger building in October 2020. An action item was assigned to staff to report back to the subcommittee the amount of savings.
3. The subcommittee discussed the value of developing training opportunities to work in conjunction with ASHRAE Certification. Staff reported that steps are being taken to implement this combination as soon as possible.

Respectfully submitted,

Katherine Hammack, Chair
Fiscal Planning Subcommittee
4 February 2020
KH;jh/mso



**Functional Planning Subcommittee of PEC
Report to PEC
Meeting of Monday, February 3, 2020**

Motions for PEC

1. **Functional Planning Subcommittee recommends PEC approve the following changes to the ROB:**

2.101.007.3

ASHRAE shall publish and distribute ~~on-line~~ an electronic newsletter to its members. The ~~name of the~~ e-Newsletter ~~shall be Society Connections, and it~~ shall be an "official publication of the Society."

(SBL 10.2) (06-03-20-01)

2.101.007.4

(15-01-25/14-07-02-17)

ASHRAE shall publish and distribute to subscribers a journal of archival-quality research. The name of the publication shall be ~~HVAC&R Research to~~ *Science and Technology for the Built Environment*, and it shall be an "official publication of the Society."

Background: These changes simply correct inaccuracies in (1) the mode of delivery (email, not "on-line") and (2) the names of the referenced publications ("eSociety" has supplanted "Society Connections" for some time; the "HVAC&R Research" is a remnant typo from the previous revision. *(Functional Planning Subcommittee 5-0-0 CNV)*

Fiscal Impact: None.

2. **Functional Planning Subcommittee recommends PEC approve changes to the Publications Committee MOP as shown in Attachment A.**

Background: These changes will reflect the reporting and procedural changes that will happen with the new PEC restructure plan to be implemented July 1, 2020. Additional editorial and clean up changes to these documents were also made. *(Functional Planning Subcommittee 5-0-0 CNV)*

Fiscal Impact: None.

Information Items

The subcommittee was assigned oversight of the following three PEC MBOs:

- PEC MBO #2 - Develop Strategy for expanding ALI Instructor core and establish procedures and criteria for instructor appointment and remuneration.

- PEC MBO #3 - Analyze Certification Program and develop metrics for evaluating potential for new certifications aligned with Strategic Plan initiatives 1 & 2 after surveying members to establish interest and demand.
- PEC MBO #4 - Analyze performance of special publications over the past three years and develop criteria for evaluating and approving special publication requests on a business case basis aligned with strategic plan initiative 3.

The subcommittee will work with the involved standing committee and staff to develop metrics and evaluation plans. A conference call will be held before the annual conference in Austin for the subcommittee to finalize their recommendations to be presented to PEC. *(Attachment B)*

Respectfully submitted,

Jon Symko
PEC Fiscal Planning Subcommittee Chair
3 February 2020



Publications Committee MANUAL OF PROCEDURES

~~January 31, 2017~~

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Table of Abbreviations

| | |
|--------------------------------------|--|
| <u>Annual Conference</u> | <u>Meeting of the Society, generally in June</u> |
| BOD | Board of Directors (or Board) |
| <u>CO</u> | <u>Coordinating Officer</u> |
| <u>MBO</u> | <u>Management by Objectives</u> |
| DAL | Director-at-Large |
| MOP | Manual of Procedures |
| ROB | Rules of the Board |
| <u>TC</u> | <u>Technical Committee</u> |
| BAR | Board Approved Rules |
| BL | Bylaws |
| EXCOM | Executive Committee (of the BOD) |
| MBO | Management by Objectives |
| Annual Meeting | Meeting of the Society, generally in June |
| Winter Conference Meeting | Meeting of the Society, generally in January |
| TC | Technical Committee |

STRUCTURE

~~The **Scope and Purpose** This manual describes procedures for accomplishing the duties and responsibilities assigned by the Rules of the Board (ROBs) applicable to the Publications Committee. The Scope and Purpose of the Committee shall be:~~

- ~~1. _____ To formulate the editorial policies of ASHRAE periodicals, books, and software products in print and nonprint formats in accordance with the policies of the Board of Directors.~~
- ~~2. _____ To be responsible for the Rules of the Board as follows: *ASHRAE Journal* is to maintain and enhance its leadership role in the communication of HVAC&R information to and from the profession, industry, and related interests through its worldwide readership and editorial content.~~

~~*ASHRAE Insights* shall be the primary vehicle for intrasociety communications.~~

~~Publications that are not *ASHRAE Handbook*, *ASHRAE Journal*, and *Insights* shall be referred to as special publications, including nonprint formats.~~

I. _____ Committee Organization

- ~~A. _____ *Committee Structure*^{*}: The Committee shall comprise a chair~~Chair~~, a vice chair~~Vice Chair~~, and ten other voting members ~~appointed by the president elect. Service on this Committee is intended to be for a 3-year term. Appointments are made, however, each year by the president elect for the administrative year covered by his/her term as president. Service on this committee is for a three-year term.~~ A: CO, a BOD Ex-Officio, the *ASHRAE Journal* editor, and the Special Publications editor~~and Staff Liaison~~ complete the committee; one of these editors serves as the staff liaison for the committee. ~~The Committee shall include a Planning Subcommittee.~~~~
- ~~The committee~~B. _____ *Direction*: The Chair shall direct all Committee activities. In the absence of, or as directed by the Chair, the Vice Chair shall perform the duties of the Chair.
- ~~C. _____ *Committee/Council/Board of Directors Relationships*: The Committee reports to the Products Committee of the Publishing and Education Council. The Publications Chair is a member (non-voting) of the Publishing and Education Council, which makes policy determinations not requiring specific action by the BOD. The Publications Chair is the Committee's reporting channel to the Council and Board of Directors.~~

The committee chair~~Committee Chair~~ and vice chair~~Vice Chair~~ shall attend the Publishing and Education Council meetings to:

- ~~1. 1-~~ Transmit and explain recommendations of the committee~~Committee~~ to the council~~Council~~.
- ~~2. 2-~~ Bring recommendations and actions of the council~~Council~~ and BOD to the committee.

^{*}~~See the Reference Manual for specific details concerning Committee structure.~~

The BOD Ex-Officio is an advisor to the committee and an advocate for the committee on the Products Committee, on the Publishing and Education Council, and with the BOD. This individual shall receive agendas and minutes of all committee meetings and copies of all correspondence from and to the committee. -

The staff liaison shall carry out the requirements of the ROB and MOP and shall do the following

D. ~~Planning Subcommittee: A subcommittee may be appointed by the Chair.~~

E. ~~International Subcommittee: A subcommittee may be appointed by the Chair.~~

F. _____:

- ~~Attend all meetings of the committee.~~
- Advise the committee of plans and activities affecting publication and obtain committee input on planned programs and activities.
- Enlist committee assistance in obtaining articles, reviewing articles, and maintaining an editorial balance in the content of the material presented in the publication.
- Act as secretary to the committee in the preparation and distribution of the minutes.
- Distribute minutes of the past four committee meetings and the MOP to new committee members. This shall occur as new appointments are made by the president-elect.
- Distribute the agenda, reports, and other materials to members of the committee.
- Prepare a monthly ASHRAE Journal review form and send the form to members of the committee for them to rate each volume's technical articles.

SUBCOMMITTEES and LIAISONS

A Planning Subcommittee shall be appointed by the chair. This subcommittee shall consist of the chair and vice chair, the ASHRAE Journal editor, the Special Publications editor, the staff liaison, and other committee members who wish to attend. The vice chair will preside. The Planning Subcommittee shall meet prior to each meeting for the purposes of reviewing a list of objectives that will be reported with recommendations to the full committee.

Functional Subcommittee: The Vice Chair shall be responsible for enhancements and updates of the Committee's MOP and ROB and presentation of changes for approval at Publishing and Education Council.

G. _____ TAC Liaison: The chairChair shall appoint a member of the Publications Committee to be liaison with Research Administration Committee (RAC).

The chair shall appoint members of the Publications Committee to be liaisonsliaison to each section of the Technical Activities Committee (TAC).- TAC Section Liaisons shall contact the TC chairs in their assigned TAC section to communicate about upcoming Special Publications and/or the relevance of older Special Publications on the market. TAC Section liaisons shall also attend the TC/TG/MTG Chair's Breakfast meetings at the Annual and Winter Conferences to communicate with TC chairs and convey information to or from the chairs and Publications Committee.

On an ad hoc basis, the chair may appoint committee members to be liaisonsH. —Liaison to Other Committees: Members may be appointed by the Chair as liaison to other committees of the Society for the purpose of interchange of information of mutual value.

DUTIES

The Publications Committee identifies the technical information needs of the HVAC&R industry not met through the ASHRAE Handbook series, ASHRAE's research journal, standards, guidelines, or user's manuals and oversees editorial policies and delivery of products to the marketplace. This includes the editorial policies of ASHRAE's magazines (such as *ASHRAE Journal* and *High Performing Buildings*), ASHRAE's electronic newsletters, *ASHRAE Transactions* and other conference proceedings, and ASHRAE Special Publications, which are technical publications in print format, such as non-series books (including books resulting from ASHRAE Research Projects and Special Projects), books in the Advanced Energy Design Guide series and the ASHRAE Datacom Series, charts, and tools, as well as all technical publications in machine-readable format, such as audio and visual presentations, software, databases, apps, and online resources.

~~I. — *Journal Review Coordinator*: The Chair will appoint a Journal review coordinator.~~

~~J. — *Insights Review Coordinator*: The Chair will appoint an *Insights* review coordinator.~~

III. — Committee Assignments

Duties/Job descriptions for:

| | |
|---|-----------------------------|
| _____ Publications Committee | _____ Appendix A |
| _____ Planning Subcommittee | _____ Appendix B |

The responsibilities of the individual committee members are as follows:

- Attend two to four committee meetings per year. The Publications Committee meets at the Annual and Winter Conferences of the Society.
- Provide suggestions, comments, or feedback on ASHRAE's magazines and ASHRAE's electronic newsletters.
 - Read other publications touching on the fields covered by ASHRAE's magazines for comparative purposes and for making constructive suggestions.
 - Generate topics suitable for ASHRAE's magazines and suggest potential authors.
 - Suggest qualified reviewers to assist the *ASHRAE Journal* editor in evaluating or technically editing articles.
- Nominate a candidate for the Journal Paper Award each Society year.
 - Each month committee members will be sent a review form for the current month's *ASHRAE Journal* technical features; committee members are to complete this form to rate the *ASHRAE Journal* technical features and submit it to the *ASHRAE Journal* editor.
 - One week prior to the Winter Conference, the *ASHRAE Journal* editor will provide the committee electronic access to the three to six top-scoring technical features as rated by the committee members on the monthly review form. The committee, using this information and its members' judgment, shall select and nominate a candidate for the Journal Paper Award.
 - The technical features considered and nominated shall have been published within a calendar year (January through December) preceding the Winter Conference.

- It is the responsibility of the *ASHRAE Journal* editor to report the nomination to the Honors and Awards Committee staff liaison before the end of the Winter Conference. Presentation of the award will occur at the following Annual Conference.
- Recommend to the Products Committee of the Publishing and Education Council those Special Publications that the committee feels should be published and their methods of publication.
 - Committee members evaluate the suitability of proposed Special Publications based on the value of a proposed publication to the membership, the size of the expected audience, and the potential to recover publishing costs through sales of the publication.
 - For a proposal to be considered, the committee shall require submission of a completed online Publication Request Form. The form will be submitted electronically to the Special Publications editor, who will coordinate a staff analysis of the publication and submit recommendations to the Publications Committee.
 - The committee reviews the recommendations and provides supporting data on the fiscal impact to the Products Committee, which will approve, reject, or defer the proposed publication. In the case it is approved, it will move to Publishing and Education Council for final approval for publication.
 - When reviewing unsolicited material, the committee shall endeavor to maintain confidentiality regarding the material submitted, if requested.
 - Following review and approval of the final technical content by the project's cognizant TC or Project Monitoring Subcommittee (PMS), Special Publications staff will edit and format the manuscript for publication.
- Ensure that all Special Publications are current and timely.
 - The staff liaison will maintain a list of Special Publications that have publication dates of the first printing or latest revision four or more years old.
 - The Special Publications editor or the committee liaison assigned to the specific TAC section of the cognizant TC for each publication shall correspond with the chair of the cognizant TC or the TAC section head to determine whether the publication is still current and valid, whether it should be revised or updated, or whether the topic is no longer of interest to HVAC&R engineers and should therefore be made obsolete.

OPERATION

| | | |
|-------|--|------------|
| _____ | MBO Fiscal Budget | |
| _____ | Editorial Calendar | |
| _____ | <i>ASHRAE Journal/Insights</i> Reviews | Appendix C |
| _____ | International Subcommittee | Appendix H |

IV.—Committee Operations

~~A. The Committee year ends with the conclusion of its meeting at the Society Annual Meeting.~~
 At or before the Annual ~~Conference Meeting~~, the ~~committee chair~~~~Chair~~ for the succeeding year shall work with the outgoing ~~chair~~~~Chair~~ to understand the status and performance of ~~committee~~~~Committee~~ objectives, to plan the continuing and new programs for the following year, and to become the keeper of the ~~committee's~~~~Committee's~~ archives.

B.—Prior to the Annual ~~(Summer)~~ Conference, the staff liaison~~Society~~ shall contact new committee~~Committee~~ members and invite their attendance and participation as guests at the regular Publications Committee Meeting. New member orientation will be conducted via conference call or email within the first 30 days of the new member's appointment. ~~The meeting shall include orientation for new members.~~

C.—The chair will assign mentors to new members using guidelines in the Reference Manual.

D.—Prior to the ~~Society~~ Annual Conference~~Meeting~~, the committee~~Committee~~ vice chair or the individual who will be the next year's chair will prepare objectives (MBOs) for the committee~~Committee~~ for the next year and present these objectives to the committee~~Committee~~ for review at the committee~~Committee~~ meeting held during the ~~Society~~ Annual Conference. The preparer of the objectives has the option of proposing objectives that extend beyond one year as long as the first-year objectives are clear and measurable. The objectives will be included in the committee's~~Committee's~~ report to the Products Committee~~council~~ at the Annual Conference as an information item, ~~and a copy of the objectives will be sent to the Assistant to the Board of Directors.~~

E.—Motions and resolutions presented to the Products Committee with the potential to be forwarded to Publishing and Education Council and the BOD shall follow the approved guidelines. These guidelines apply to proposed changes and clarifications for ROB, ~~BAR~~ and other committee-~~Committee-~~approved items requiring council~~Council~~ and/or BOD~~Board~~ approval. Appendices are part of the MOP and therefore require approval by the reporting body (B-97-97-02-16).

F.—This committee shall develop procedures for recommending updates to the Society's strategic plan on a continuous basis. As a minimum, the committee shall submit a report to the Product~~council~~ at a time determined by the Board Planning Committee annually ~~that.~~ ~~The report~~ includes the current status of each activity that supports the fulfillment of the committee's assignments under the strategic plan. The committee shall report to the Products Committee~~council~~ all recommendations for changes to the strategic plan as provided by the committee's constituents before the Annual Conference.

V.—~~**BOD Ex-Officio (Director-at-Large)**~~ The BOD Ex-Officio is an advisor to the Committee and an advocate for the Committee on the council and the BOD. This individual shall receive agendas and minutes of all Committee meetings and copies of all correspondence from and to the Committee. ~~The BOD Ex-Officio is a voting member of the Publishing and Education Council and carries motions forward to the Publishing and Education Council.~~

VI. — Staff Liaison

One week prior to the Winter ~~The staff liaison shall carry out the requirements of the ROB and MOP and shall:~~

- ~~• Attend all meetings of the Committee.~~
- ~~• Advise the Committee of plans and activities affecting the publication and obtain Committee input on planned programs and activities.~~

- ~~Enlist Committee assistance in obtaining articles, reviewing articles, and maintaining an editorial balance in the content of the material presented in the publication.~~
- ~~Act as Secretary to the Committee in the preparation and distribution of the minutes.~~
- ~~Distribute minutes of the past four Committee meetings and the MOP to new Committee members. This shall occur as new appointments are made by the President-Elect.~~
- ~~Distribute the agenda, reports and other materials to members of the Publications Committee.~~
- ~~Prepare a monthly *ASHRAE Journal* review form and send the form to members of the Publications Committee and the Publishing and Education Council for their review.~~
- ~~Prepare editorial calendar materials and distribute to Publications Committee members for feedback and input.~~

~~**VII. Procedures** The guidelines for operation and procedures for the Publications Committee are outlined as follows:~~

| | |
|--|-----------------------|
| Best Article Review Procedure..... | Appendix D |
| <i>ASHRAE Journal</i> Guidelines..... | Appendix E |
| <i>Insights</i> Content and Procedures..... | Appendix F |
| Special Publications Procedures..... | Appendix G |

Appendix A

Publications Committee Duties

1. ~~Attend two to four Committee meetings per year. The Publications Committee meets at the Annual and Winter Meetings of the Society. The Committee sometimes schedules a meeting on the same weekend as the Publishing and Education Council spring and/or fall meeting.~~
2. ~~Read each issue of *ASHRAE Journal* and *Insights* thoroughly. The *Journal* Review Form is to be completed and submitted to the assigned *Journal* coordinator. The *Insights* Review Form is to be completed and submitted to the assigned *Insights* coordinator.~~
3. ~~Recommend Best *ASHRAE Journal* feature articles for awards.~~
4. ~~Read other publications covering parts of the *Journal's* field for comparative purposes and make constructive suggestions.~~
5. ~~Suggest qualified reviewers to assist the *Journal* Editor in evaluating or technically editing an article.~~
6. ~~Perform all tasks assigned by the Chair.~~
7. ~~Generate topics suitable for *ASHRAE Journal* and suggest potential authors.~~
8. ~~Review editorial calendar and provide feedback to the *Journal* editor.~~
9. ~~Recommend to the Publishing and Education Council special publication items that should be published and also the method of publication.~~

Appendix B

Planning Subcommittee Duties

- ~~1. *Organization:* The Planning Subcommittee shall consist of the Chair and Vice Chair of the Publications Committee, the *Journal* coordinator, the *Insights* coordinator, and other members who wish to attend. The Vice Chair will preside.~~
- ~~2. *Purpose:* The Planning Subcommittee shall meet prior to each meeting for the purpose of reviewing a list of objectives that will be reported with recommendations to the full Committee; for reviewing and reporting on the editorial features calendar; and for establishing the proposed budget for the Committee's expenses.~~

Appendix C

ASHRAE Journal/Insights Reviews

ASHRAE Journal Review:

~~Each member of the Publications Committee and Publishing and Education Council will be sent a review form for the current month's *Journal*. The Committee chair shall assign a person to collect *Journal* review forms.~~

Insights Review:

~~At least annually, each member of the Publications Committee will be sent a review form for an issue of *Insights*. The Committee chair shall assign a person to collect *Insights* review forms.~~

Appendix D

Best Article Review Procedure

~~One week prior to the Winter Meeting, the *Journal* Review coordinator will provide the Committee the three to six top scoring articles along with the Best Article recommendation. The Committee Chair will also bring three sets to the Winter Meeting. The Publications Committee, using this information and its members' judgment, shall select and nominate to the Honors and Awards Committee a candidate for the *Journal* Best Paper Award. The *Journal* articles considered and nominated shall be within a calendar year (January through December) and shall relate to the arts and sciences represented by ASHRAE.~~

~~*Timetable for Nomination:* The Publications Committee shall rate the articles throughout the year through the monthly review process conducted by the Publications Committee and the Publishing and Education Council. It will be the responsibility of the Publications Committee Chair to report the nomination to the Honors and Awards Committee staff liaison before the end of the Winter Meeting. Presentation of the award will occur at the following Annual Meeting.~~

Appendix E

ASHRAE Journal Guidelines

A. Feature Articles:

1. Sources of feature articles include but are not restricted to:

- Technical papers from any past meeting.
 - Symposia papers from any past meeting.
 - Seminar presentations from any past meeting.
 - Forum discussions, but only with the permission of each participant quoted or paraphrased.
 - Papers from ASHRAE sponsored or cosponsored conferences.
 - Information or articles developed around current and past Society level and regional level Technology Awards.
 - Extracts from Professional Development Seminar presentations.
 - Chapter meeting and/or chapter seminar presentations.
 - Extracts or papers and publications of ASHRAE.
 - International affiliates.
 - Feature articles from other magazines that reach only a small percentage of *ASHRAE Journal* readers.
 - Past articles from *ASHRAE Journal*, publications of predecessor societies or magazines no longer in publication.
2. Prior to publishing any articles in the *Journal*, the editor must have the author's written permission to publish or in the case of reprinted articles, a written release of copyright.
3. The editor shall select a balanced spectrum of feature articles for each issue considering the background, specialization and interests of the readers. The minimum is to have at least one feature article in every other issue for at least 90% of *ASHRAE Journal* subscribers.
4. Papers may be published in condensed or original form at the discretion of the editor. All papers shall be edited as required to optimize their readership and value to the *ASHRAE Journal* subscriber.
5. Manuscripts, when reviewed and approved for publication, will be published in the length and coverage agreed upon by the editor and author.
6. Abstracts or condensations of technical papers or manuscripts shall first be requested of the author, but may be prepared by the *Journal* staff or a suitable authority. The author's written approval is required prior to publication.

A. Authors:

Standard practice is that authors:

- a. Submit articles in conformance with the specifications in "Instructions to Authors" available from the *ASHRAE Journal* staff.
- b. Have their article peer reviewed.

- ~~• c. May be identified by name, title, company affiliation and a brief business/education biography.~~
- ~~• d. Conform to *ASHRAE Journal's* policy relating to commercialism in both text and illustrations.~~
- ~~• e. Submit original material and be required to sign the ASHRAE agreement for exclusive Permission to Publish prior to peer review.~~

~~B. Readership:~~

~~Readership breakdowns are a valuable instrument for the Editor and Committee for targeting feature articles that provide value to the *Journal* readers.~~

Appendix F

Insights Contents and Procedures

- ~~A. The monthly newspaper, *Insights*, shall publish available news of ASHRAE officers, staff, and the general membership, meeting programs, educational programs, standards, actions and publications available from and through the Society. Emphasis in each issue shall be placed on news from the chapters and regions, research & technology, and individual members.~~
- ~~B. The staff and Committee are to establish and maintain close liaison with departments and Committees of the Society in order to effectively serve the membership with information of value and interest.~~
- ~~C. A survey shall be distributed by the *Insights* editor to the Publications Committee for review of *Insights*. The results shall be collected by the *Insights* coordinator and brought to the full Committee.~~

Appendix G

Special Publications Procedures

A. ~~Special publications are technical publications other than ASHRAE Handbook and periodicals. They are grouped into the following categories:~~

- ~~1. *Winter/Annual Meeting Products*: Preprints of technical and symposium papers presented at Society Winter and Annual Meetings; Winter/Annual Meeting CD, which contains the papers from the current meeting and discussion from the previous meeting; and ASHRAE Transactions, a book that is the official proceedings of Society Winter and Annual Meetings.~~
- ~~2. *Nonseries Books*: Books that are complete in themselves, which are products of ASHRAE research, governmental research, ASHRAE Committee projects, expansion of Handbook materials and conference proceedings.~~
- ~~3. *Nonprint Products*: Primarily CDs and some software.~~

~~4. *Standards*: ASHRAE standards.~~

B. ~~The Publications Committee action on each of the special publications is as follows:~~

- ~~1. *Winter/Annual Meeting Products*: Publication is governed by ASHRAE Program Committee and Rules of the Board.~~
- ~~2. *Nonseries Books*: Publications Committee reviews data, then either approves, rejects, or defers recommendation to the Publishing and Education Council.~~
- ~~3. *Nonprint Products*: Publications Committee reviews data, then either approves, rejects, or defers Publications Committee recommendation to the Publishing and Education Council.~~
- ~~4. *Standards*: No action required by Publications Committee; governed by Standards Committee and Rules of the Board.~~

C. ~~Special Publications:~~

- ~~1. *Review of proposed topics*. Publications Committee evaluates the suitability of proposed topics based on the value of a proposed publication to the membership, the size of the expected audience, and the potential to recover publishing costs through sales of the publication. Topics for special publications may originate from ASHRAE research projects, from unsolicited proposals, or by referrals from Publishing and Education Council.~~

- a. ~~Topics originating from ASHRAE research projects. Publications Committee identifies proposed research projects that have special publications as deliverables through liaison with Research Administration Committee, Technical Activities Committee, and the technical committees.~~
- b. ~~When reviewing unsolicited material, the Committee shall endeavor to maintain confidentiality regarding the material submitted, if requested.~~
- c. ~~For a proposal to be considered, the Committee shall require submission of a completed online Publication Ideas form.~~
- 2. ~~For each accepted special publication topic, Publishing Committee identifies a cognizant committee to oversee production of the technical content.~~
 - a. ~~For publications originating from ASHRAE research projects, the technical committee responsible for managing the research project also manages the technical content.~~
 - b. ~~For publication topics that are clearly within the scope of a single technical committee or standing committee, Publishing Committee requests that committee to appoint a project monitoring committee.~~
 - c. ~~If the publication topic is of too broad a scope for a single technical committee, Publishing Committee refers it to the Technical Activities Committee for appointment of a project monitoring committee.~~
- 3. ~~Following review and approval of the final technical content by the cognizant committee, publications staff edits and formats the manuscript for publication. Publication proceeds only after recommendation by the project monitoring committee and approval by the Publications Committee and Publishing and Education Council.~~
- D. ~~The Publications Committee shall ensure that all special publications are current and timely by the following actions:~~
 - 1. ~~Maintain a list of all nonseries special publications with date of latest revision or publication.~~
 - 2. ~~For each nonseries publication, following four years of availability, the editor of special publications shall correspond with the cognizant technical committee or the Technical Activities Committee to determine whether the publication is still current and valid or whether it should be revised or updated.~~
 - 3. ~~If revision or update is required, Publishing Committee identifies the source of funding for the update.~~

Appendix H

International Subcommittee

~~1.—Organization: The International Subcommittee shall consist of three (3) members from the Publications Committee.~~

~~2.—Purpose: The International Subcommittee shall meet prior to the full committee meeting for the purpose of reviewing a list of objectives that will be reported with recommendations to the full committee. The subcommittee's activities will include reviewing and reporting on the committee's near and long term goals, publication activities and content, status, consumer acceptance and/or problems, technical values, market activities, and constraints.~~

ASHRAE New Special Publications Evaluation Criteria

Publication Name:

Publication Sponsor:

Point Threshold for Publication: (need to determine what this minimum is - 70 points?)

Evaluation:

| Criteria | Historical Performance of Similar Publications | Market and Industry Need | Projected Production Cost | Projected Revenue | Primary Buyer | Member Benefits | Current Hot Topic? | Total Points |
|-----------------|--|--------------------------|---------------------------|-------------------|---------------|-----------------|--------------------|--------------|
| Max Points | 15 | 20 | 15 | 15 | 10 | 15 | 10 | 100 |
| Points Assigned | | | | | | | | |

Notes:

Historical Performance of Similar Publications:

We should look at similar types of publications (Design Guides, User's Manuals, hands on guides, etc.) to help in estimating sales

**Projected
Margin**



**Report to PEC from
Research Journal Subcommittee
Meeting of Tuesday, February 4, 2020**

Motions for PEC

None.

Information Items

1. STBE received 69,751 article downloads in 2019, an increase of 43% over 2018. 129 papers were published in 2019, with 10 of them open access (OA). The journal's 2018 impact factor is 1.199, ranking 42/63 in the construction and building technology category of Journal Citation Reports (JCR). Additional detailed information is contained in the Publisher's Report from Taylor & Francis (Attachment A).
2. STBE's editor, Dr. Jeff Spitler, discussed with the subcommittee developing a presentation or article with guidance on submitting papers to STBE for authors and the idea of an expanded review board for the review of STBE papers.
3. The subcommittee has selected a paper (confidential as of this report) for the 2019 STBE Best Paper Award and sent their nomination to the Honors and Awards Committee. The award will be presented at the annual meeting in Austin.

Respectfully submitted,

Farooq Mehboob, Chair
Research Journal Subcommittee
4 February 2020
FM/jh/mso



Research Journal Subcommittee Report to PEC
Attachment A



Science and Technology for the Built Environment

Confidential Publishing Report
January 2020

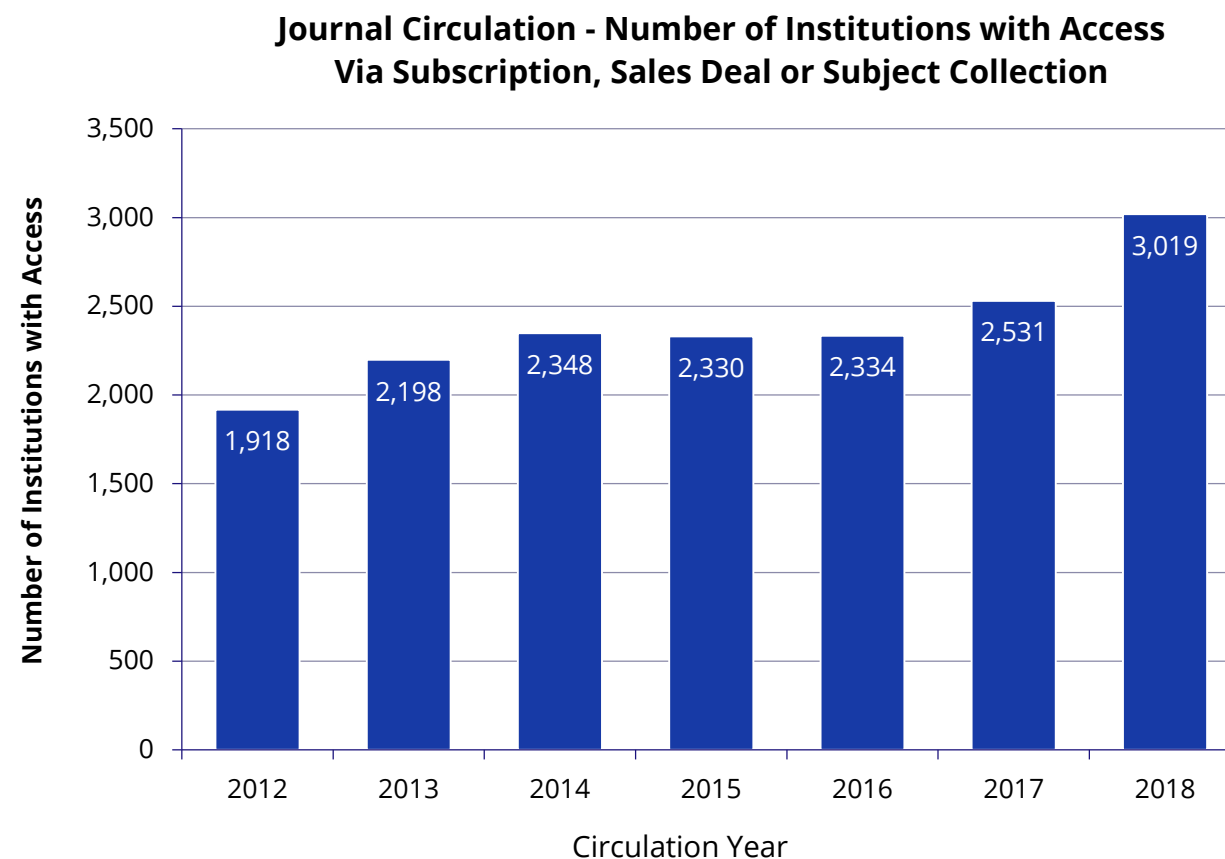
Agenda

1. Global Reach
2. Altmetric Analysis
3. Citation Analysis
4. Marketing Report
5. Production Report
6. Author Survey
7. Resources
8. Journal Contacts

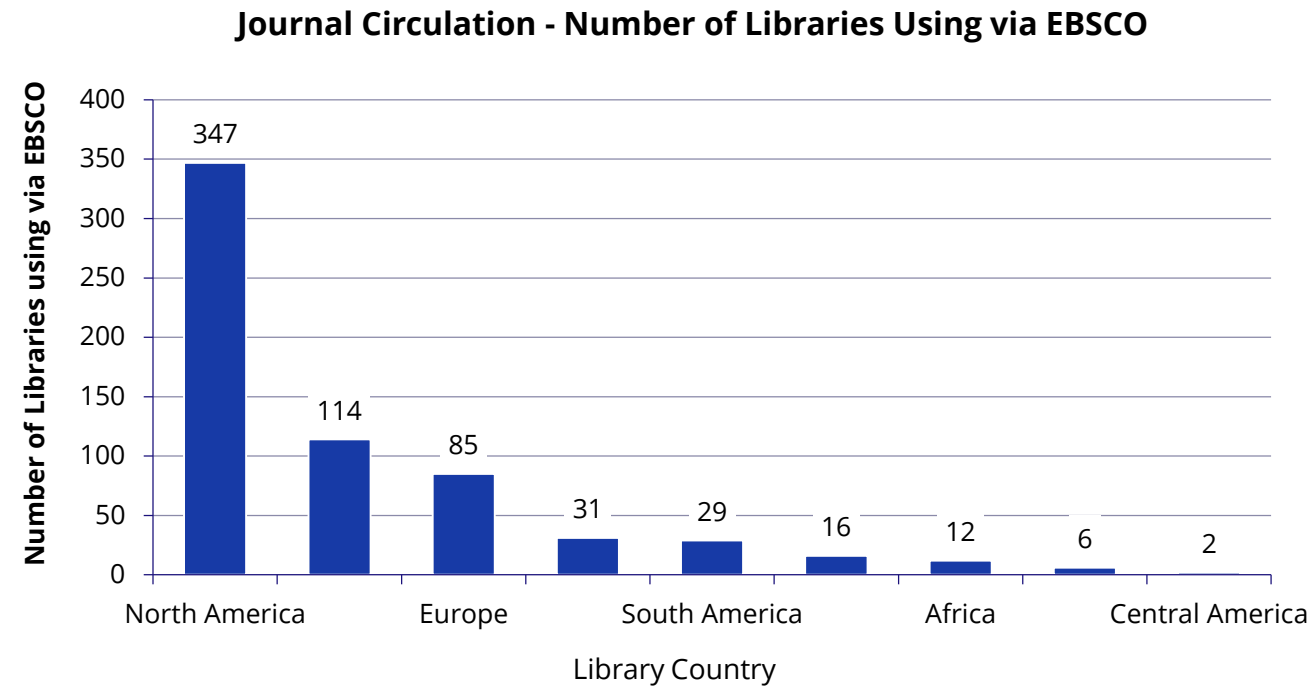
Highlights

- Your Journal received **69,751 article downloads** in 2019, which is **43% higher** than downloads received in 2018.
- The most downloaded article is 'Equipment power consumption and load factor profiles for buildings' energy simulation (ASHRAE 1742-RP)' by Omer Sarfraz, with **2,324 downloads**.
- The top Altmetric scoring article was 'Indoor air quality in 24 California residences designed as high-performance homes' by Brennan Less, Nasim Mullen, Brett Singer, Iain Walker, with a **score of 5**.
- The journal's **2018 Impact Factor is 1.199**, ranking 42/63 in the construction and building technology JCR category.
- The journal's **2018 CiteScore is 1.300**, ranking 73/168 in the Building and Construction Scopus category.
- There were 129 publications in 2019, **10 of which were Open Access**.

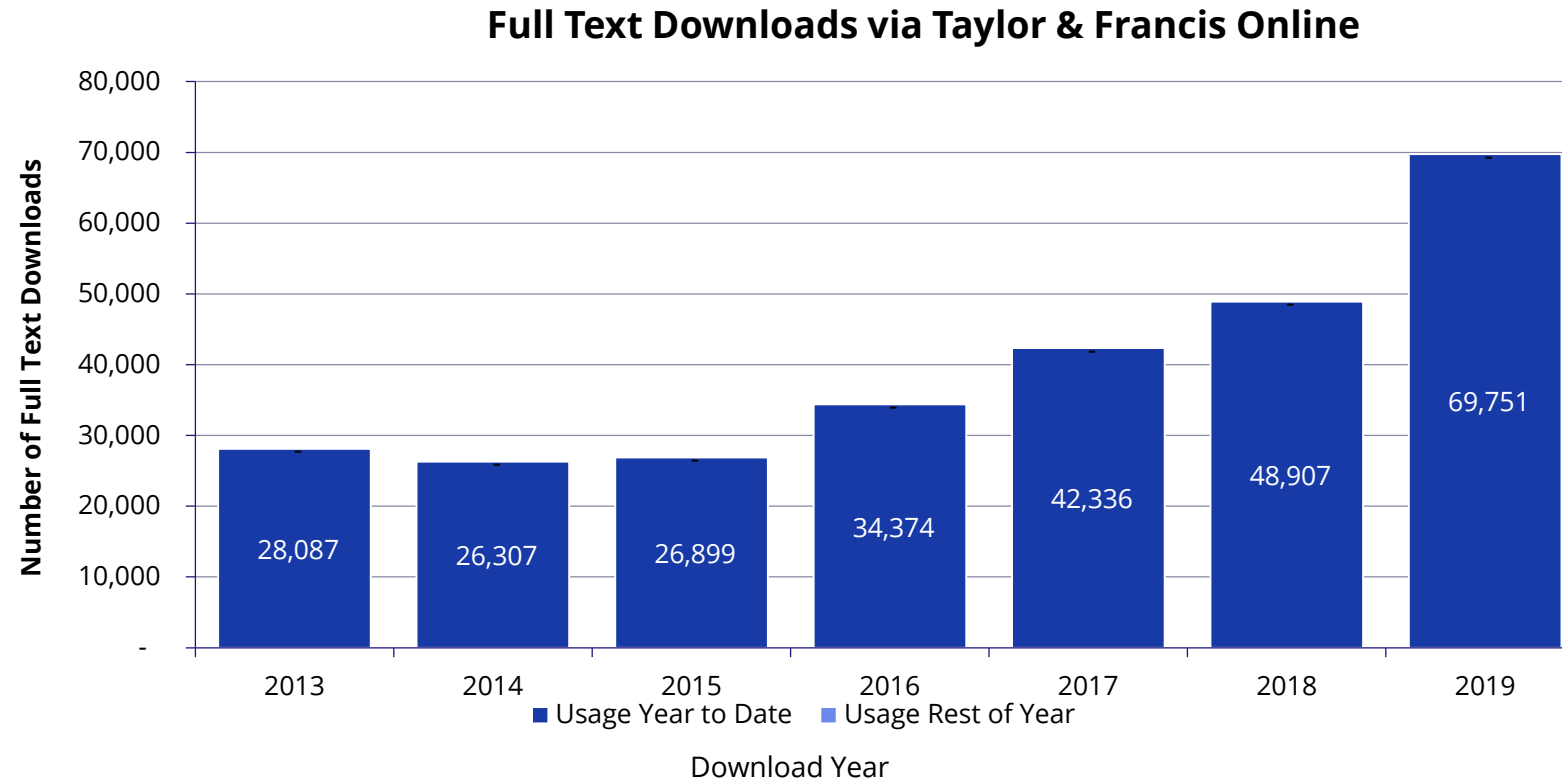
Global Reach – Circulation



EBSCO Circulation (2018)

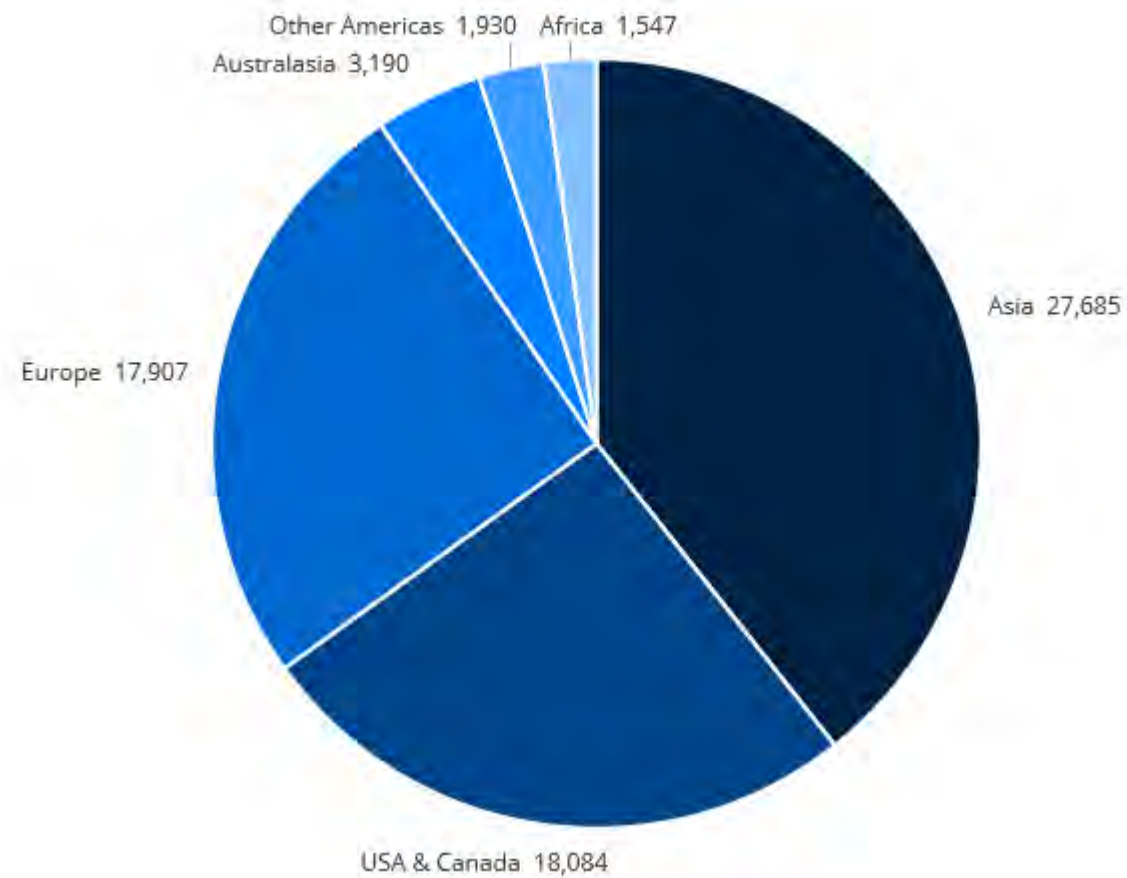


Article Downloads – Taylor & Francis Online (TFO) Usage



There were 69,751 article downloads in 2019. Article downloads have increased by 43% from 2018 to 2019.

Article Downloads by Region (in the past 12 months)



Most Downloaded Articles in the Past 12 Months (from Past Three Volume Years)

| Article Title | First Author | Volume and Issue | Number of Downloads | Open Access |
|--|--------------------------|------------------|---------------------|-------------|
| Equipment power consumption and load factor profiles for buildings' energy simulation (ASHRAE 1742-RP) | Omer Sarfraz | 24(10), 2018 | 2,324 | Yes |
| Traffic noise level predictions for buildings with windows opened for natural ventilation in urban environments | Jelena Srebric | 23(5), 2017 | 1,254 | Yes |
| Design optimization and validation of high-performance heat exchangers using approximation assisted optimization and additive manufacturing | Vikrant Aute | 23(6), 2017 | 1,103 | Yes |
| Supermarket system characteristics and operating faults (RP-1615) | David Yuill | 24(10), 2018 | 917 | Yes |
| Window and door opening behavior, carbon dioxide concentration, temperature, and energy use during the heating season in classrooms with different ventilation retrofits—ASHRAE RP1624 | Jorn Toftum | 24(6), 2018 | 838 | Yes |
| Recent advances on heat and mass transfer in refrigeration and air-conditioning systems | Lorenzo Cremaschi | 23(6), 2017 | 793 | No |
| A heat transfer and friction factor correlation for low air-side Reynolds number applications of compact heat exchangers (1535-RP) | Cheng-Xian (Charlie) Lin | 23(1), 2017 | 781 | Yes |
| IAQ and energy implications of high efficiency filters in residential buildings: A review (RP-1649) | Jeffrey A. Siegel | 25(3), 2019 | 737 | Yes |
| IAQ 2016: Defining indoor air quality: Policy, standards and best practices | S. C. Sekhar | 24(2), 2018 | 734 | No |
| Fouling and Its Effects on Air-cooled Condensers in Split System Air Conditioners (RP-1705) | Mehdi Mehrabi | 25(6), 2019 | 714 | Yes |

*chart shows list of articles published in the last three volumes that were the most downloaded in 2019.

Top Institutions by Downloads (Past 12 Months)

| Institution name | Number of Downloads |
|--|---------------------|
| Tongji University | 1,202 |
| Hong Kong Polytechnic University | 987 |
| Huazhong University of Science & Technology | 719 |
| Tianjin University | 682 |
| Concordia University Library | 663 |
| Oklahoma State University - Stillwater and Tulsa | 651 |
| Zhejiang University | 604 |
| Xian Jiaotong University | 591 |
| Purdue University Calumet | 560 |
| National Renewable Energy Lab | 540 |

Note: Consortia have been removed from this table.

Altmetrics

An Altmetric score is a high-level measure of the quality and quantity of online attention that an individual article has received. The score is based on relevant mentions from social media sites, newspapers, policy documents, blogs, Wikipedia, and many other sources.

| Volume | Sources | Authors |
|---|--|--|
| The score for an article rises as more people mention it. We only count 1 mention from each person per source, so if you tweet about the same paper more than once, Altmetric will ignore everything but the first. | Each category of mention contributes a different base amount to the final score. For example, a newspaper article contributes more than a blog post which contributes more than a tweet. | We look at how often the author of each mention talks about scholarly articles, at whether or not there's any bias towards a particular journal or publisher and at who the audience is. For example, a doctor sharing a link with other doctors counts for far more than a journal account pushing the same link out automatically. |

The Colors of the Donut

- Policy documents
- News
- Blogs
- Twitter
- Post-publication peer-reviews
- Facebook
- Sina Weibo
- Syllabi
- Wikipedia
- Google+
- LinkedIn
- Reddit
- Research highlight platform
- Q&A (Stack Overflow)
- Youtube
- Pinterest
- Patents



Default Weights

| | |
|-------------------------------|------|
| News | 8 |
| Blogs | 5 |
| Twitter | 1 |
| Facebook | 0.25 |
| Sina Weibo | 1 |
| Wikipedia | 3 |
| Policy Documents (per source) | 3 |
| Q&A | 0.25 |
| F1000/Publons/Pubpeer | 1 |
| YouTube | 0.25 |
| Reddit/Pinterest | 0.25 |
| LinkedIn | 0.5 |
| Open Syllabus | 1 |
| Google+ | 1 |

According to Altmetric, "The score is derived from an automated algorithm, and represents a weighted count of the amount of attention we've picked up for a research output. Why is it weighted? To reflect the relative reach of each type of source. It's easy to imagine that the average newspaper story is more likely to bring attention to the research output than the average tweet. This is reflected in the default weightings:"

Altmetric Analysis – Top Altmetric Scores (Past Year)

Report generated January 2020.

| RANK | ATTENTION SCORE | RESEARCH OUTPUT | | | |
|------|-----------------|---|-----|---|--|
| #1 | 5 | Indoor air quality in 24 California residences designed as high-performance homes Article in <i>Science and Technology for the Built Environment</i> , January 2015 | #6 | 1 | Light transmittance characterization and energy-saving analysis of a new selective coating for in situ window retrofit Article in <i>Science and Technology for the Built Environment</i> , June 2019 |
| #2 | 4 | Meta-analysis of summertime indoor temperatures in new-build, retrofitted, and existing UK dwellings Article in <i>Science and Technology for the Built Environment</i> , June 2019 | #7 | 1 | Explicit multipole formulas and thermal network models for calculating thermal resistances of double U-pipe borehole heat exchangers Article in <i>Science and Technology for the Built Environment</i> , July 2019 |
| #3 | 3 | IAQ 2016: Defining indoor air quality: Policy, standards and best practices Article in <i>Science and Technology for the Built Environment</i> , December 2017 | #8 | 1 | Adaptation of fan motor and VFD efficiency correlations using Bayesian inference Article in <i>Science and Technology for the Built Environment</i> , May 2019 |
| #4 | 2 | Characterization, testing, and optimization of load aggregation methods for ground heat exchanger response-factor models Article in <i>Science and Technology for the Built Environment</i> , September 2019 | #9 | 1 | Window and door opening behavior, carbon dioxide concentration, temperature, and energy use during the heating season in classrooms with different ventilation retrofits—ASHRAE RP1624 Article in <i>Science and Technology for the Built Environment</i> , February 2018 |
| #5 | 1 | Effects of moisture content, temperature and pollutant mixture on atmospheric corrosion of copper and silver and implications for the environmental design of data centers (RP-1755) Article in <i>Science and Technology for the Built Environment</i> , January 2020 | #10 | 1 | Fouling and Its Effects on Air-cooled Condensers in Split System Air Conditioners (RP-1705) Article in <i>Science and Technology for the Built Environment</i> , June 2019 |

Overview and Source Breakdown of Altmetric Attention Score (Past Year)

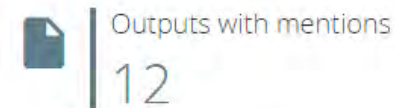
REPORT OVERVIEW



Total number of mentions for research outputs in this report



Total number of research outputs in this report, including those without mentions



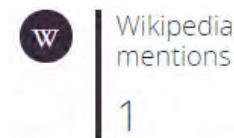
Total number of research outputs in this report that have Altmetric mentions



Number of attention sources that mention research outputs in this report

ATTENTION SOURCE BREAKDOWN

The number of mentions from each source that Altmetric has tracked for the research outputs in this report.



Link to Altmetric Report

The link below can be used to access a report containing the latest Altmetric attention to your journal. This data is updated daily, so can be used to keep track of trending articles.

<https://www.altmetric.com/explorer/report/269fecca-3cf3-409d-956b-56161e477766>

Impact Factor & Ranking

$$\text{JIF} = \frac{\text{Citations in 2018 to items published in 2016 (146) + 2017 (101)}}{\text{Number of citable items in 2016 (100) + 2017 (106)}} = \frac{247}{206} = 1.199$$

1.199

2018 Journal Impact Factor



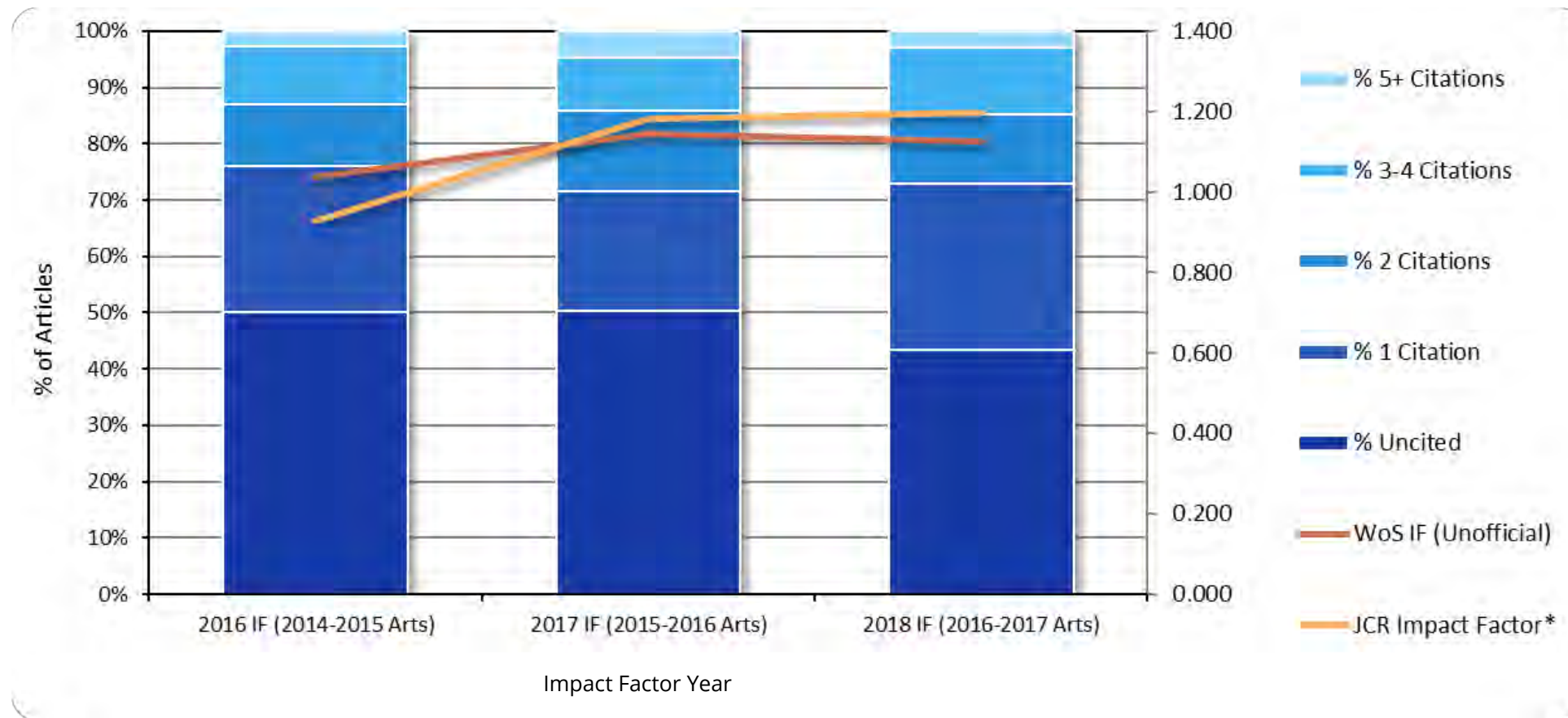
| Impact Factor Year | Impact Factor | Rank |
|--------------------|---------------|--|
| 2013 | 0.745 | (31/58 Construction & Building Technology, 36/55 Thermodynamics, 75/126 Engineering, Mechanical) |
| 2014 | 0.673 | (35/59 Construction & Building Technology, 43/55 Thermodynamics, 92/130 Engineering, Mechanical) |
| 2015 | 0.871 | (37/61 Construction & Building Technology, 43/58 Thermodynamics, 86/132 Engineering, Mechanical) |
| 2016 | 0.928 | (36/61 Construction & Building Technology, 47/58 Thermodynamics, 97/130 Engineering, Mechanical) |
| 2017 | 1.183 | (37/59 Thermodynamics, 38/62 Construction & Building Technology, 87/128 Engineering, Mechanical) |
| 2018 | 1.199 | (42/63 Construction & Building Technology, 43/60 Thermodynamics, 90/129 Engineering, Mechanical) |

Top Cited Articles – 2018 Impact Factor

| Article title | First Authors | Volume | Issue | Document Type | Number of Citations |
|---|---------------------|--------|-------|---------------|---------------------|
| Design of a hydraulically driven compressive elastocaloric cooling system | Qian, Suxin | 22 | 5 | Article | 8 |
| Magnetic heat pumps: An overview of design principles and challenges | Trevizoli, Paulo V. | 22 | 5 | Article | 7 |
| Optimal operation scheduling for microgrid with high penetrations of solar power and thermostatically controlled loads | Luo, Fengji | 22 | 6 | Article | 6 |
| A power limiting control strategy based on adaptive utility function for fast demand response of buildings in smart grids | Tang, Rui | 22 | 6 | Article | 6 |
| Sizing heating, ventilating, and air-conditioning systems under uncertainty in both load-demand and capacity-supply side from a life-cycle aspect | Huang, Pei | 23 | 2 | Article | 6 |
| Exploring the efficiency potential for an active magnetic regenerator | Eriksen, Dan | 22 | 5 | Article | 5 |
| Elastocaloric cooling: From fundamental thermodynamics to solid state air conditioning | Schmidt, Marvin | 22 | 5 | Article | 4 |
| Modeling the impact of residential HVAC filtration on indoor particles of outdoor origin (RP-1691) | Azimi, Parham | 22 | 4 | Article | 4 |
| Effects of passenger thermal plume on the transport and distribution characteristics of airborne particles in an airliner cabin section | Yan, Yihuan | 22 | 2 | Article | 4 |
| Airflow patterns due to door motion and pressurization in hospital isolation rooms | Mousavi, Ehsan S. | 22 | 4 | Article | 4 |

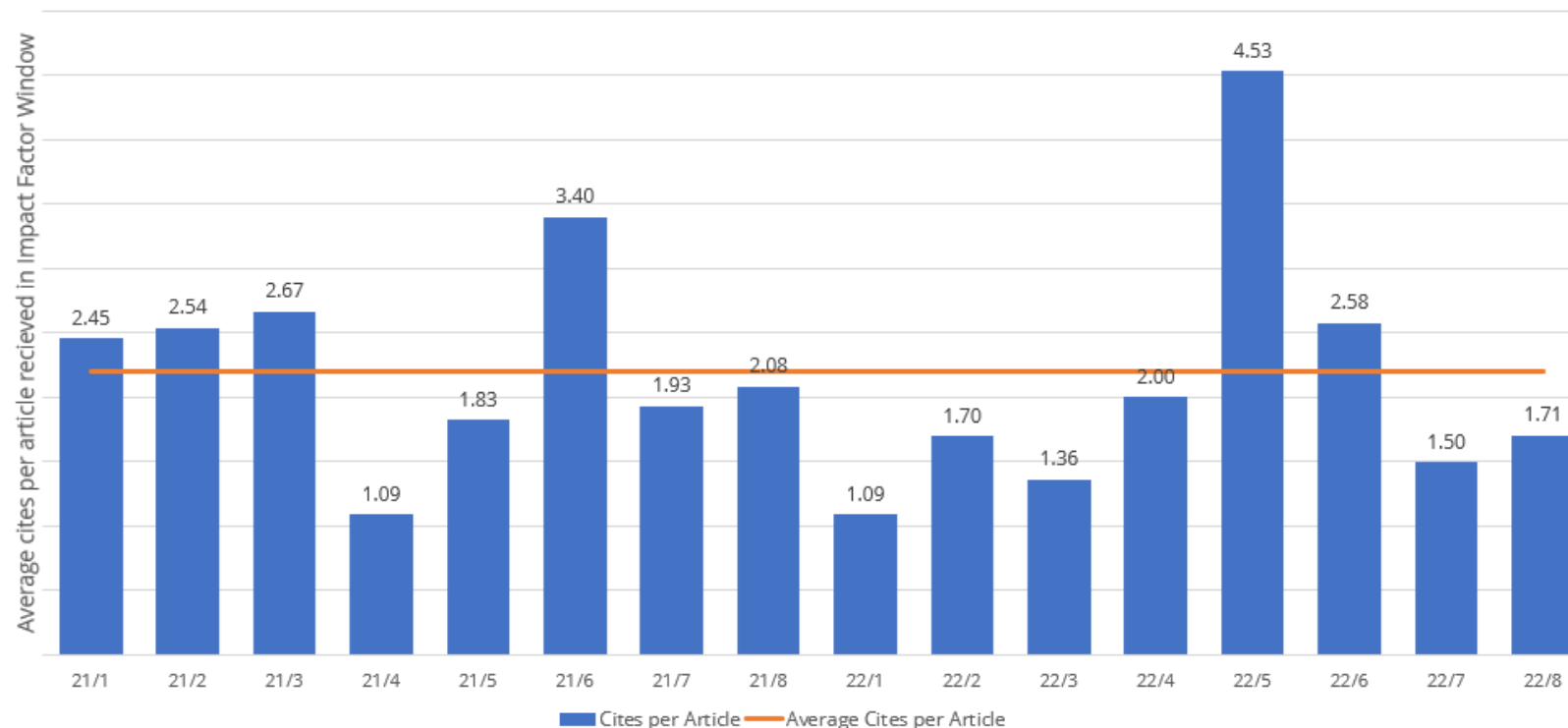
*19 self-citations out of 247 – 7.69% self-citation rate.

Article Citation Distribution – 2018 Impact Factor



Issue Citation Breakdown

Average Impact Factor Contributing Citations per Article – by Issue



This chart shows how many citations articles have picked up which contributed to the Impact Factor. This is grouped into issues to show if special issues contributed more citations than regular issues to the Impact Factor.

An article contributes to the Impact Factor in 2 years. E.g. for Article X published in 2016 – citations it receives in 2017 and 2018 contribute to the Impact Factor. Therefore we can define "Impact Factor Citations" as the number of citations an article picks up in the 2 years after it was published. A 2016 issue therefore will contribute to the 2017 and 2018 Impact Factors.

The orange line shows the average number of citations which articles received in all the volume years looked at in the chart. This is designed to provide a baseline to show which issues are better cited than average (above the average line) or worse cited than average (below the average line).

Citing Sources – 2018 Impact Factor



Note: Number of citing articles from each journal.

Citing Regions – 2018 Impact Factor



Note: Shows number of citing articles from each region. Web of Science lists England, Scotland, Wales and Northern Ireland separately.

CiteScore and Ranking

| CiteScore | Score | Rank |
|-----------|-------|---|
| 2016 | 1.010 | (19/47 Fluid Flow and Transfer Processes, 50/149 Building and Construction) |
| 2017 | 1.050 | (26/66 Fluid Flow and Transfer Processes, 66/161 Building and Construction, 66/106 Environmental Engineering) |
| 2018 | 1.300 | (30/76 Fluid Flow and Transfer Processes, 65/117 Environmental Engineering, 73/168 Building and Construction) |

Marketing – Objectives

Through various campaigns and the marketing of your journal, our objectives are to:

- Drive and sustain usage
- Demonstrate impact
- Grow international reach
- Attract high quality submissions
- Increase citations
- Increase author and researcher engagement
- Increase membership.

Reaching Readers Emails

STBE benefits from highly-targeted promotion focused on article-level marketing that leverages the web of connections attached to every published article such as colleagues, reviewers, funders, cited authors, and hundreds more.

Once new articles are published in the journal, they are included in our Reaching Readers email service – a bi-weekly email that is sent to researchers within our network, and contains content based on their subject interest. These campaigns are designed to deliver reach, readership and potential citations as relevant articles are presented weekly to interested readers and the recipient doesn't need to be signed up to the journal to learn about new articles, just registered with Taylor & Francis with an interest in the subject area.

In total, 111 articles have been promoted this way since January 2019.

| Article Title | Contact Count |
|--|---------------|
| A study of the effects of water capacity on the thermal performance of water-in-glass evacuated tube solar collectors applied to space heating | 2,804 |
| Investigating the influence of different speeds and directions of winds on the performance of split air conditioning systems | 1,340 |
| Development of control quality factor for HVAC control loop performance assessment—II: Field testing and results (ASHRAE RP-1587) | 1,251 |
| Data-driven energy models for existing VFD-motor-pump systems | 1,207 |
| Virtual measurement of the air properties in air-handling units (AHUs) or virtual re-calibration of sensors | 1,207 |
| The impact of rock fracturing and pump intake location on the thermal recovery of a standing column well: model development, experimental validation, and numerical analysis | 1,141 |
| Determine the absolute roughness of phenolic duct (RP-1764) | 1,004 |
| A numerical analysis and optimization of the dynamic performance of a multipurpose solar thermal system for residential applications | 997 |
| Detection and interpretation of anomalies in building energy use through inverse modeling | 984 |
| Performance simulation of underground seasonal solar energy storage in hot summer and cold winter zone in china | 956 |

Alerts and Social Media

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<http://pages.email.taylorandfrancis.com/taylorandfrancissubscriptioncenter>

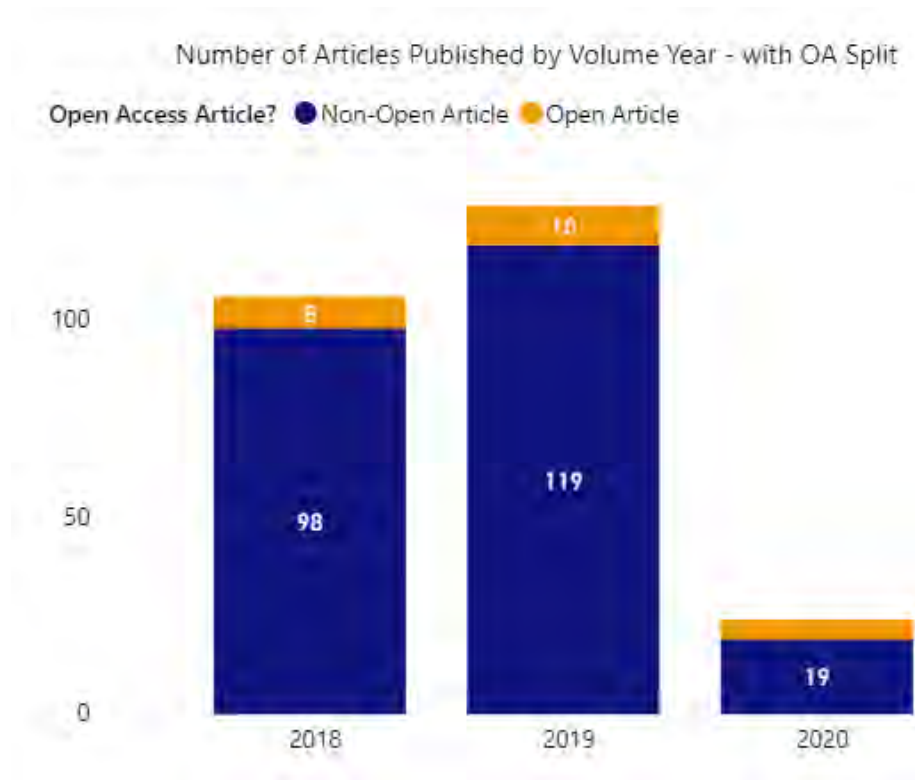
*Current media & publishing industry open rate is 21.33% <https://mailchimp.com/resources/email-marketing-benchmarks/>



Production – Published Content (Volume Years 2018-2020)

Number of Documents by Article Type

| Article Type | Distinct Count of Documents |
|-----------------|-----------------------------|
| Article | 238 |
| Editorial | 12 |
| Guest Editorial | 4 |
| Correction | 2 |
| Corrigendum | 2 |
| Addendum | 1 |
| Total | 259 |



For more information on Open Access and Plan S, please visit:

- <http://authorservices.taylorandfrancis.com/publishing-open-access-with-taylor-francis/>
- <https://editorresources.taylorandfrancis.com/peersupport/coalition-s-plan-s-and-accelerating-oa/>

Production Schedule (2019-January 2020)

Online Issue Published

| Issue Number | 2019 | 2020 |
|--------------|------------------|-----------------|
| 01 | 14 February 2019 | 07 January 2020 |
| 02 | 19 March 2019 | |
| 03 | 19 March 2019 | |
| 04 | 23 April 2019 | |
| 05 | 29 May 2019 | |
| 06 | 08 July 2019 | |
| 07 | 02 August 2019 | |
| 08 | 08 October 2019 | |
| 09 | 29 October 2019 | |
| 10 | 12 December 2019 | |

Print Issue Published

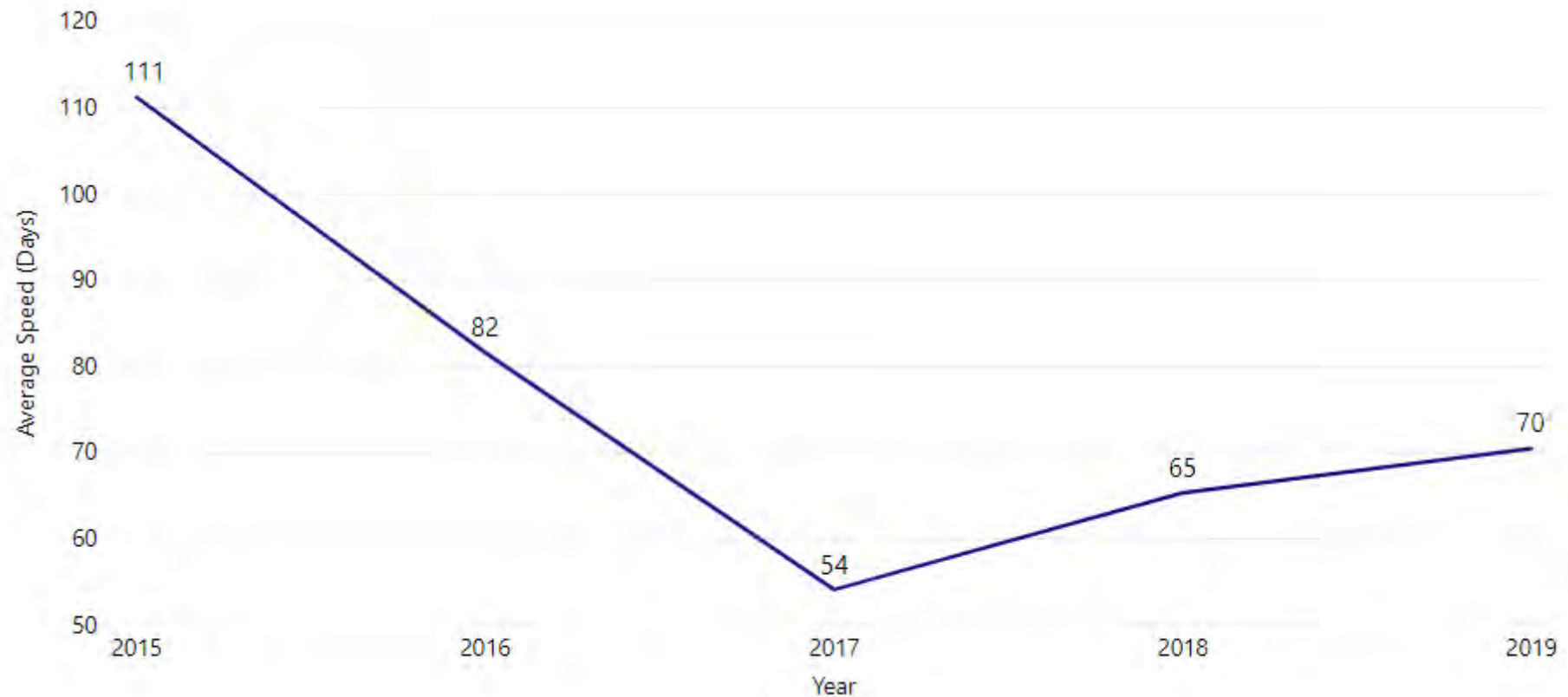
| Issue Number | 2019 |
|--------------|------------------|
| 01-05 | 27 June 2019 |
| 06-10 | 19 December 2019 |

Page Count & Backlog Report (Vol. Years 2019 and 2020)

| Volume Year | Budgeted Pages | Actual Pages | Number of Pages Remaining |
|-------------|----------------|--------------|---------------------------|
| 2019 | 1520 | 1524 | -4 |
| 2020 | 1520 | 441 | 1079 |

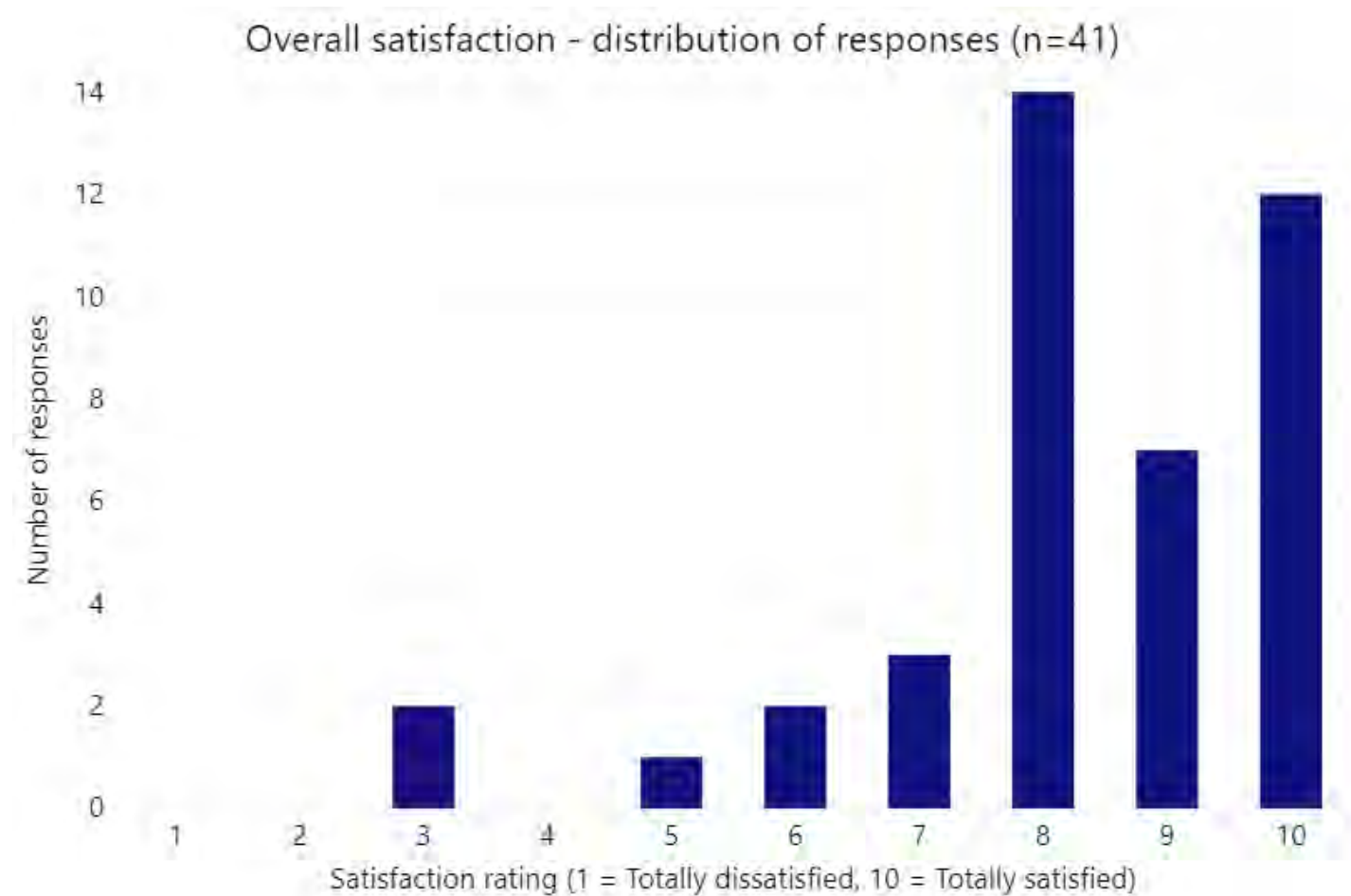
*There are no articles in the backlog. Any copyflow concerns should be discussed with your Taylor & Francis Editorial contact.

Average Speed of Article Publication*

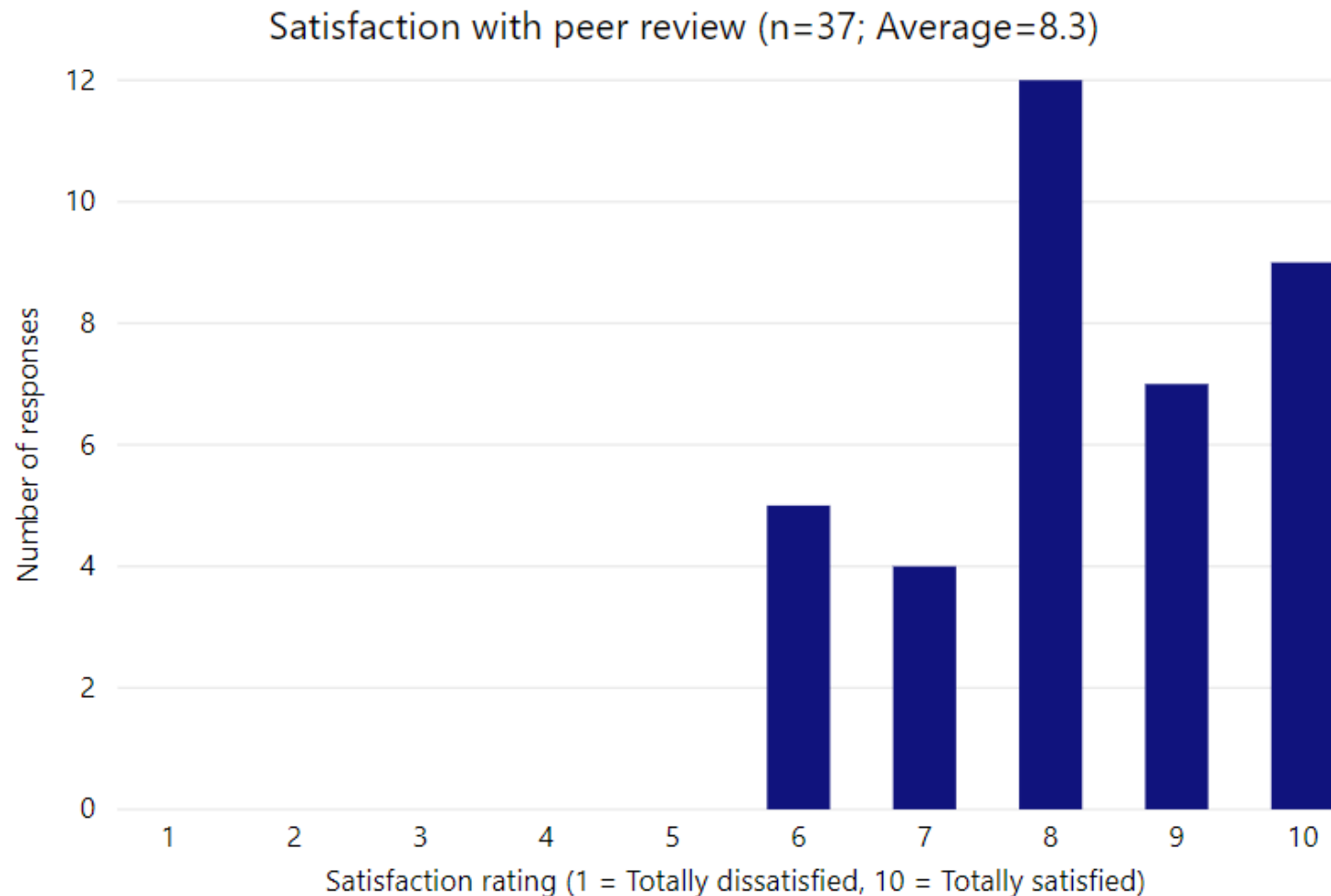


* mean days from submission to Central Article Tracking System (CATS) to online publication.

Author Survey – Overall Satisfaction (2018-2020)



Satisfaction with Refereeing Process (2018-2020)



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News, support and guidance for Editors, authors and Librarians:

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- <http://taylorandfrancis.com/about/corporate-responsibility/development-initiatives>
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- <https://librarianresources.taylorandfrancis.com/services-support/development-initiatives>
- <https://www.taylorandfrancis.com/sdgo>



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**Certification Committee
Report to Publishing and Education Council (PEC)**

ASHRAE 2020 Winter Conference / Orlando, FL

Item Requiring Council Attention

None.

Information Items

1. Increased Certification Application Rate YTD vs. LYTD

Through January 31, 2020, ASHRAE has received 20% more certification applications (292) over the previous SYTD (244). This is primarily due to CHD application.

2. 2019-20 Budget & Forecast

Through the period ending Dec. 31, 2019, Certification is nearly at budget for Revenue and the forecast for Expense anticipates a decrease of \$20,000.

3. PEC MBO #3 (*Attachment A*)

“Analyze Certification Program and develop metrics for evaluating potential for new certifications aligned with Strategic Plan initiatives 1 (*promote best practices that enable adaptability, resilience and recovery of buildings and communities*) & 2 (*promote understanding of indoor environmental quality (IEQ) among practitioners*) after surveying members to establish interest and demand.”

Execution of this MBO is in progress. Please see Attachment A for details.

4. ANSI

A. Accreditation

Currently, four (BCxP, BEAP, BEMP and HBDP) of ASHRAE's seven certification programs are ANSI-accredited. The Certification Committee has determined to pursue ANSI accreditation of all ASHRAE certification programs, in order to avoid confusion in the marketplace and add value. In this event, ASHRAE would add the CHD, HFDP and OPMP scopes. Staff advise that any additional expense would be a onetime application fee and likely would be fall within currently budgeted expense.

B. Management System Review

An ANSI requirement, the Certification Committee completed its annual Management System Review, evaluating the results of internal and external audits, feedback from applicants and candidates, assessment of ASHRAE's exam development and delivery contractor, an impartiality threat analysis, the status of preventive and corrective actions, follow-up actions from previous management reviews, and the 2019 complaints log.

5. Marketing

A. Digital Badging

Certification [Digital Badging](#) launched. A total of 542 (70%) of 773 badges issued have been accepted by certificants. There have been over 5,300 badge views in various electronic media. As examinees continue to pass their exam and certificants continue to renew their certification, more badges will be issued.

- ✓ Helps Certificants get the recognition they've earned
- ✓ Shareable in electronic media e.g. LinkedIn profile, website and email signature
- ✓ Rich meta-data includes certification scope and key job knowledge, skills and abilities
- ✓ Real-time, third-party verification

Example:



B. Monitoring Program Effectiveness

As part of its oversight role, the Certification Committee is partnering with ASHRAE Marketing to develop a marketing plan to return two underperforming certification programs to health. Possible root causes and potential corrective marketing activities have been identified. A meeting is scheduled for Feb. 13.

6. Exam Development

Ongoing exam development activities in 2019-20 will help ensure the continued relevancy and validity of ASHRAE's certification programs:

BCxP: New exam form scheduled to launch March, 2020.

BEMP: New exam form scheduled to launch March, 2020.

HBDP: New form to launch July 1, 2020.

HFDP: New form to launch in February 2020.

7. 2019-20 MBOs- Draft (*Attachment B*)

Respectfully submitted,
Mark Bettin
Certification Committee, Chair
02/04/2020

To execute PEC MBO #3, the Certification Committee has identified the following steps:

A. *Generate proposals for possible certification program(s) that support Strategic Plan Initiatives 1 and 2. In Progress*

- Nineteen (19) TCs and SSPCs were invited to consider submitting a proposal for such a new Certification program. These TCs and SSPCs likewise were invited to attend the Certification Committee meeting on Feb. 1 and given the opportunity to have a Certification Committee member attend their meeting in Orlando and be a resource to answer questions and provide guidance. In the end, five TC and SSPC Chairs requested Certification Committee Member attendance at their meeting in Orlando.
- The due date to submit a proposal is 3/15/2020.

B. Develop metric for evaluating the likelihood of success for the proposed program(s).

COMPLETED. The “ASHRAE Certification Program Proposal Evaluation Algorithm” was created in 2015.

C. Survey members regarding interest and demand in the possible certification program(s).

A step in the Certification program evaluation process is to conduct market research into the need and demand for the proposed certification program.

D. Evaluate the likelihood of proposed program success.

The due date to submit a proposal is 3/15/2020. The “ASHRAE Certification Program Proposal Evaluation Algorithm” clearly defines the criteria for recommending new certification programs.



Certification Committee MBOs Society Year: 2019-2020

Mission: To serve humanity by advancing the arts and sciences of heating, ventilation, air conditioning, refrigeration and their allied fields.

Vision: A healthy and sustainable built environment for all.

Goal #1: Position ASHRAE as an Essential Knowledge Resource for a Sustainable, High-Performance Built Environment.

Goal #2: Maximize Member Value and Engagement.

Goal #3: Optimize ASHRAE's Organizational Structure to Maximize Performance.

Certification Committee Scope: The Certification Committee is responsible for developing, implementing, and monitoring ASHRAE certification programs.

Chair: Mark Bettin, OPMP

Date: January 17, 2020

| Objective | SP 2019 -24 ¹ | Completion Date | Fiscal Impact | Responsible Party | Status | Comment |
|---|--------------------------|-----------------|----------------------|--|--------------------|---|
| 1. Attain 80% recertification rate for the 2019 renewal class, exceeding the industry average of 76%. | 2C | 3/31/2020 | Currently budgeted . | Chair, Certification Committee, Staff | <i>In progress</i> | 171 applications received through 12/31/2019. Late application period began 1/1/2020. |
| 2. Grow the number of certification applications by 10% over 2015-16 total of 500, a record high. | 3A | 6/30/2020 | None, Staff Time | Chair, Certification Committee, HVAC Designer Exam | <i>In progress</i> | Through 12/31/2019, 30% increase in applications (234 total) over LYTD. |

| | | | | | | |
|--|----|-----------|--------------------------|--|--------------------|---|
| | | | | Subcommittee, Staff | | |
| 3. Enhance relevancy of ASHRAE certification to ASHRAE members and the industry in general. | 2C | 6/30/2020 | Volunteer and Staff Time | Chair, Certification Committee, HVAC Designer Exam Subcommittee, Staff | <i>In progress</i> | <p>- Launched examination for new HVAC Designer (CHD) certification on June 3, 2019.</p> <p>- Digital badging launched September, 2019. As of Jan. 15, 726 digital badges issued with 511 badges claimed for a 70% acceptance rate, against an industry average of 45%. 4,979 badge views for an 9.3 average views per share rate, against an industry average of 2.0 views. 38 "expired" badges.</p> |
| 4.1 Manage certification programs against the ANSI/ISO/IEC 17024 accreditation standard. | 2B | 6/30/2020 | Currently budgeted . | Chair, Certification Committee, Staff | <i>In progress</i> | <p>- BCxP, BEAP, BEMP and HBDP are accredited.</p> <p>- Certification staff attended 2019 Client Day and 17024 Workshop meetings Sept. 18-19.</p> |
| 4.2. Launch new HBDP and HFDP exam forms updated per revised exam Detailed Content Outlines. | 3A | 11/1/2019 | Currently budgeted . | Chair, Certification Committee, HVAC Designer Exam Subcommittee, Staff | <i>In progress</i> | <p>New exam items are being pre-tested. Additional HBDP exposures are needed. New HFDP form slated to launch by Feb. 15, 2020. New HBDP form to launch by 7/1/2020.</p> |
| 4.3. Recruit 2020-23 class of Exam Subcommittee members. | 2A | 6/30/2020 | | Chair, Certification Committee, Nominations Task Force, Staff | | |

| | | | | | | |
|---|----------------------|-----------|--|---------------------------------------|----------------------|--|
| 5. Monitor the effectiveness of current certification programs, and recommend and implement any steps to improve program effectiveness. | 3A | 6/30/2019 | None. | Chair, Committee Task Force, Staff | Completed. | Task Force recommendations accepted by Certification Committee in Oct. 4 meeting. |
| 6. Finalize 2019-20 MBOs. | 2:A, B, C; 3:A, B | 9/30/2019 | To be determined. | Chair, Certification Committee, Staff | Completed. | Task Force to incorporate new Strategic Plan and Committee self-assessment. |
| 7. Evaluate Live Remote Proctoring as an alternative exam delivery mode. | 3B | 6/30/2020 | To be determined. | Chair, Certification Committee, Staff | <i>In progress</i> . | A proposal from PSI has been received. In winter 2020 ANSI to issue "remote proctoring questionnaire," a guidance document, to aid certifying bodies in evaluating vendor "remote proctoring services. |
| 8. Evaluate the certification and recertification application fee schedule for any possible updates in the February 1, 2020 meeting. | 3A | 1/12/19 | None. Possible 2020-21 revenue increase. | Chair, Certification Committee, Staff | | The Certification Committee agreed to maintain the current fee schedule one additional year through June 30, 2020. |
| 9. Analyze Certification Program and develop metrics for evaluating potential for new certifications aligned with Strategic Plan initiatives 1 (<i>promote best practices that enable adaptability, resilience and recovery of buildings and communities</i>) & 2 (<i>promote understanding of indoor environmental quality (IEQ) among practitioners</i>) after surveying members to establish interest and demand | 2B, 3A | 6/30/2020 | Staff time. | Chair, Certification Committee | <i>In progress</i> | Assigned by PEC and evaluated by Certification Committee in Oct. 4 meeting. Next steps to complete objective: 1. Generate proposals for possible certification program(s) that support SP Initiatives 1 and 2. 19 TCs and SSPCs invited to submit proposals by 3/15/2020, 2. Survey members regarding interest and demand in the possible certification program(s) |

| | | | | | | |
|---|--|--|--|--|--|--|
| | | | | | | 3. Develop metric for evaluating the likelihood of success for the proposed program(s) COMPLETED. 4. Evaluate the likelihood of proposed program success. |
| Recommendations for Strategic Planning: | | | | | | |

'2019-24 Strategic Plan: Goals & Objectives

1. Position ASHRAE as an Essential Knowledge Resource for a Sustainable, High-Performance Built Environment

- A. Utilize a holistic approach to ASHRAE's offerings and activities to drive positive economic, environmental and social impact through innovation in building design and operations.
- B. Expand capabilities globally to create, aggregate and disseminate essential information and knowledge focusing on emerging market trends and transformative approaches

2. Maximize Member Value and Engagement

- A. Infuse enthusiasm, vitality and diversity throughout ASHRAE events and services
- B. Expand the impact of collaboration and partnerships with industry organizations, universities and government agencies
- C. Leverage technology to increase member engagement, awareness and value

3. Optimize ASHRAE's Organizational Structure to Maximize Performance

- A. Prototype and launch new approaches that will increase ASHRAE's relevance and speed to market for key offerings
- B. Optimize ASHRAE's organizational systems and structures to increase capacity, efficiency and effectiveness
- C. Cultivate industry and member philanthropy to extend ASHRAE's impact and reach



**Handbook Committee Report to
Publishing and Education Council (PEC)
Meeting of February 4, 2020**

Action Items

1. Handbook Committee recommends that we investigate further the possibility of applying to include ASHRAE Handbook in UNESCO's Memory of the World archive.
Fiscal impact: none
Vote: 15 Y/1 N/0 abs CNV

Information Items

1. Presently there are no changes to the HBC MOP or ROB. Revisions are planned in time for the Austin meeting in June 2020.
2. HBC will evaluate their meeting room requirements before the Austin (2020) annual meeting and consolidate spaces where possible.
3. ASHRAE staff will pursue a solution to allow Internet browsers beyond just Internet Explorer to be used with the ASHRAE Authoring Portal. (This limitation has historically derived from SharePoint limitations, but new software versions may allow more flexibility.)
4. HBC continues to seek cost-efficient ways to reward contributors on the TCs, including "HB contributor" stickers for future meetings (similar to "Research Contributor" stickers on attendee badges).
5. The status of the 2019-2020 MBOs is attached. (*Attachment A*)

Respectfully submitted,

Suzanne LeViseur, Chair
Handbook Committee
2 February 2020
SL: hek

| Objective | | Completion Date | Fiscal Impact | Responsible Party | Status | Comment |
|-----------|---|-----------------|----------------------------|-------------------|-------------|--|
| 1 | Solicit ideas from volume subcommittee chairs for process improvements. | 6/20 | None | HBC | Continuous | |
| 2 | Improve peer-to-peer training of incoming volume subcommittee chairs. | 6/20 | None | Vice Chair | Continuous | Mentoring of new members |
| 3 | Review the relevance, scope, and objectives of subcommittees. | 6/20 | None | HBC ExCom | Continuous | Reshape HBC to best function under the new TC structure (when implemented) in a way that serves both HBC's and TCs' needs |
| 4 | Encourage TCs to develop extra features (spreadsheets, sidebar discussions, video, etc.) for Handbook Online. Suggest using YEA members | 6/20 | None | HBC | In progress | |
| 5 | Address volume imbalances | 6/20 | Could reduce mailing costs | HBC ExCom | In progress | Applications and Fundamental volumes are nearly twice the size of Refrigeration volume. Look at the possibility of shifting some material to a different volume. |
| 6 | Improve international representation /input in the handbook process | 6/20 | None | HBC ExCom | Ongoing | Continue with the effort started by Don Fenton |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |



Historical Committee (HC)
Report to Publishing and Education Council (PEC)
ASHRAE 2020 Winter Conference / Orlando, FL

Information Items

1 Historical Committee heard an update on the progress of all projects for 125th anniversary. All projects have been completed or will be complete by the 2020 Annual Conference in Austin.

2 Historical Committee discussed the pilot plaque project that will be installed in Orange, Texas after the Region VIII CRC. The Committee agreed that for the foreseeable future, plaques will continue to be self-funded. The Committee discussed the use of virtual plaques in lieu of physical plaques.

3 Historical Committee reviewed names for the next two Leadership Voices interviews to be filmed in Austin.

4 Historical Committee discussed the importance of including not just Presidential members but also industry innovators and leaders.

5 Historical Committee acknowledged that although they do not endorse candidates for either Hall of Fame or Pioneers of the Industry, they as a Committee can nominate someone.

6 Historical Committee discussed the necessity of continuity of communication, to keep Regional and Chapter Historians involved in history at the Society level.

7 Historical Committee reviewed a report on the status of PAOE points on the part of chapters by regions and approved suggested changes to PAOE for fiscal year 2020-21 with the goal of continuing to encourage non-participating chapters to reach minimum or par.

11 MBOs *Attachment A*

Respectfully submitted,

Stan Westhoff, Chair Historical Committee
02/02/2020
SW: ess

*Historical Committee Report to PEC
Attachment A*

Historical Committee 2019-2020 MBOs – Stan Westhoff, Historical Chair 02/02/2020

| Objective | SP Goal | Completion Date | Fiscal Impact | Delegated to: | Status | Comment |
|--|---------|---------------------|-------------------------|---|-----------------------------------|--|
| HC MBO 1 Develop proposals to improve the opportunities for Regional Historians to participate in Historical Committee activities. | 1 | Winter 2020 Orlando | None | RVC Guideline sub committee | Ongoing | Continue on-line participation of (RVCs) at Committee meetings. |
| HC MBO 2 Develop PAOE Recommended Changes to 2020-2021 PAOE | 1 | 2020 Austin | none | | Complete February | To get ahead of the PAOE Committee Cycle with proposal for the following year's PAOE Letter in Summer 2020. |
| HC MBO 3 History VC PAOE Update Summary Report at Annual & Winter Meetings to include copy similar to 2018-2019 Annual meeting | 1 | Winter & Annual | None | VC Report | Complete February | To encourage RVCs to target the below PAR performing Chapters in their Region based on the previous year's History PAOE Summary. |
| HC MBO 4 Encourage Chapter Historians who don't Attend their Regional CRC to complete the Chapter Historians Training Power Point and promote on-line workshop participation at CRCs | 1 | Winter 2020 | minor | RVC Guideline sub committee | Complete February | Update the Chapter Historians Training PowerPoint. Add points for submittal of a completed MBO with phone discussion with RVC History prior August 30 of fiscal year. Promote on-line workshop participation at CRCs |
| HC MBO 5 Assist in publicizing 125 th Anniversary. Develop information of historical interest that can be presented at Society & Regional Meetings | 1 | Summer 2020 | Major | 125th Anniversary Celebration sub committee | Complete June 2020 | Continue 125th Seminar and Historical Articles Promotions with PEC to support the 125th anniversary and demonstrate to members the strength in depth of our Society. |
| HC MBO 6 Develop proposal for publication/s to celebrate 125th Anniversary | 1 | Summer 2020 | To Be Advised | Historical Committee | Complete February | Continue working on and supporting 125th Publications to PEC. |
| HC MBO 7 Foster collaboration with other international societies to improve our historical research and support history-related activities of the Society | 4 | Summer 2020 | None | Historical Committee | Ongoing | Continue work on collaboration. HC has links with similar groups in CIBSE and AiCARR - opportunity to pursue to work w/similar committees in CEN, International Institute of Ammonia Refrigeration (IIR), International Institute of Refrigeration (IIR), & Global Cold Chain Alliance (GCCA). |
| HC MBO 8 Encourage younger members of ASHRAE to have interest in history-related activities of the Society | 2 | Summer 2020 | None | Historical Committee | Complete February | Proposing to keep the PAOE line item "For a local Chapter Historical activity performed by an actively engaged YEA member" |
| HC MBO 9 Leadership Recall Arrange for videos at Annual meeting 2020 | 2 | Summer 2020 | Verify \$1,000 Budgeted | Historical Committee | Ongoing | Arrange two Presidential interviews. Review other potential interviewees |
| HC MBO 10 Digitize Archived Journals + Transactions | 3 | Summer 2020 | Major | Historical Committee/PEC | Ongoing | Encourage digitalization of all Society Journals and Transactions |
| HC MBO 11 Incorporate a Women In Engineering component to the 125 Year ASHRAE Anniversary celebration | 1 | Summer 2020 | None | Historical Committee | Complete (WIA now called diverse) | Continue WIA PAOE Support in History |
| Jun 22–26, 2019 – Kansas City, MO | | | | | | Feb 1-5, 2020 – Orlando, FL |



**Professional Development Committee
Report to Publishing and Education Council (PEC)**

ASHRAE 2020 Winter Conference – Orlando

Information Items

1. The committee edited, reviewed and approved the MOP for the new Training and Education Committee (TEC) and submitted it to the Functional Planning Subcommittee.
2. In response to PEC MBO #2: ***Develop Strategy for expanding ALI Instructor core and establish procedures and criteria for instructor appointment and remuneration.***
The committee drafted a report with recommendations on the criteria for selection of course instructors. The report is attached. We felt that the honorarium paid to instructors would vary based upon the location of the courses and cost of the courses. It should be left up to staff to set the course costs. We will add this to our reference manual. See *Attachment A*.
3. Discussion are underway with instructors to create exam prep courses for the Building Commissioning Professional BCxP, Building Energy Assessment Professional (BEAP), and new HVAC Design (CHD) certification exams.
4. We had one referral from Members Council and have sent a response.
5. Five (5) new courses were presented in conjunction with the Orlando conference. Of those, the *V in HVAC - What, Why, Where, How and How Much* drew the highest number of registrants with the hands-on *Best Practices for Installing DDC Systems* course not far behind.
6. The combined total of all course registrants is 1,123 – the 2nd highest number of attendees in the past 10 years, close behind Vegas 2017 with 1,161. Courses with the five highest registrations are:
 - 122 - Guideline 36: Best in Class HVAC Control Sequences
 - 76 - Designing and Operating High-Performing Healthcare HVAC Systems
 - 82 - Variable Refrigerant Flow Systems: Design and Applications
 - 68 - V in HVAC - What, Why, Where, How and How Much (New!)
 - 67 - Humidity Control II: Real-World Problems and Solutions
7. Professional Development Committee 2019-2020 MBOs are included as *Attachment B*.

Respectfully submitted,
Charles E. Henck, Professional Development Committee Chair
February 3, 2020

INSTRUCTOR QUALIFICATIONS

Instruction Qualifications

1. Solid grasp of engineering fundamentals.
2. Practical experience to answer questions for students and to be able to distinguish between theory and practice in day to day engineering.
3. Skill and ability to teach and present well in a compelling and engaging manner. This means preparing ahead of time and not just reading the slides.
4. Motivation and interest in teaching. We're not looking for reluctant instructors who will turn over regularly.

Search Criteria

1. ASHRAE DL Series: Sort by high ratings and participation. DL's with these criteria have already expressed and interested in teaching and presenting and have the skills do so.
2. Regular Chapter Speakers: Most local chapters have their go to speakers. Many of those speakers are motivated to give back and/or to develop their careers and speaking abilities. Chapters are not going to recommend unskilled speakers who aren't capable of presenting.
3. Sole (Sr.) Practicing Engineers: There are a quite a few consultants working on sunset or second careers that have a tremendous depth of practical experience that would be applicable to teaching. Need to carefully screen for the speaking / teaching ability.
4. Academia: There are many great teachers produced by academia. The challenge is screening out those who do not have the practical experience needed or who are mostly focused on research and less interested in teaching but may agree to build a resume.

Professional Development Committee

MBOs for Society Year 2019-2020

Chair: Charlie Henck Date: June 24, 2019

| Objective | SP | Complete by | Fiscal Impact | Responsible Party | Comment/ Status |
|---|----|-------------|---------------|-------------------------|---|
| 1. Review new strategic plan for items that apply to PDC and develop a plan to implement. | | Jun-20 | None | Planning Subcommittee | |
| 2. Develop topics and RFPs for an additional (3) practical applications courses to 'fill the gaps' in our current offerings for developing young engineers. | | Jun-20 | None | Planning Subcommittee | In progress |
| 3. Review all SDLs and issue RFPs for the ones that need updating. | | Jun-20 | None | Operations Subcommittee | Review by Jan complete Issue RFP by June |
| 4. Review all existing courses and sunset those that have not been used in 5 years or recommend updates | | Jun-20 | None | Operations Subcommittee | Continuous |
| 5. Update of the Reference Manual | | Jun-20 | None | Operations Subcommittee | Update with approval of restructure |
| 6. Every course reviewed by PDC Liaison prior to presentation– Quality check | | Jun-20 | None | Operations Subcommittee | Continuous |
| 7. Improve marketing of courses/branding. Work with ASHRAE marketing for improvement | | Jun-20 | TBD | Planning Subcommittee | Continuous |
| Additional Recommendations for Strategic Planning: Not at this time | | | | | |

Publications Committee Report to Publishing and Education Council

Tuesday, February 4, 2020, 8:00-12:00

Major Motions Passed

1. Publications Committee voted in executive session to select the winner for the 2019 Journal Paper Award, the title and author(s) of which Jay Scott will forward to the Honors and Awards Committee for award presentation to the author(s) at the 2020 ASHRAE Annual Conference.
2. Publications Committee voted to support development and publication of the proposed book *ASHRAE Design Guide for Kitchen Ventilation Systems*.

Action Items for PEC

(None)

Information Items

1. Publications Committee finalized the process for committee participation in RAC's new PTAR process (wherein those submitting a proposal to receive RAC funding specifically earmarked for a publication as a deliverable will go through submission and approval procedures with RAC and Publications Committee) and is participating in a guinea pig project with RAC.
2. For PEC MBO #4, Publications Committee discussed the publications performance data they need from ASHRAE staff that will enable them to determine the criteria for evaluating and approving special publication requests on a business case basis. The committee will hold a conference call before the 2020 ASHRAE Annual Conference to complete their work on this MBO.
3. For PEC MBO #5, Publications Committee discussed the data they need from ASHRAE staff that will enable them to determine the publications data appropriate for the PEC Dashboard. The committee created a subcommittee that will finalize their results before the 2020 the ASHRAE Annual Conference.
4. Updates on the Publications Committee MBOs for the 2019-2020 Society year are included in *Attachment A*.
5. In line with Goal 3 of the 2019-2024 ASHRAE Strategic Plan, Publications Committee recommends that ASHRAE develop a survey tool that collects feedback from our grassroots levels, including our international membership, with respect to their product needs (books, *ASHRAE Journal* articles, apps, and other tools) and to link this information back to TAC council and other relevant sections for their further actions.

Respectfully submitted,
Chee S. Ow, Chair
Publications Committee
2 February 2020

Publications Committee
MBOs for Society Year 2019-2020
Chair: Chee S. Ow **Date:** 2 February 2020

| Objective | SP 2019 | Compl. by | Fiscal Impact | Resp. Party | Comment/Status |
|--|---------|-----------|---------------|--|-------------------|
| Establish evaluation criteria for Publications Topic Acceptance Request (PTAR) submissions in line with RAC liaison processes. | 1b | June 2020 | Nil | Roberto Aguilo and Hugh McMillan (Chair) | In progress |
| Review Pub. Committee Orientation materials. | 3b | June 2020 | Nil | Rennie Tisdale (Chair) and Hugh McMillan | Completed 8/20/19 |
| Determine international readership needs for ASHRAE Journal. | 1b, 2c | June 2020 | Nil | Vikram Murthy (Chair) and Adeeba Mehboob | Ongoing |
| Additional Recommendations for Strategic Planning: In line with Goal 3 of the 2019-2024 ASHRAE Strategic Plan, Publications Committee recommends that ASHRAE develop a survey tool that collects feedback from our grassroots levels, including our international membership, with respect to their product needs (books, <i>ASHRAE Journal</i> articles, apps, and other tools) and to link this information back to TAC council and other relevant sections for their further actions. | | | | | |

SP 2019 = Strategic Plan 2019 Initiative addressed by objective



Attachment M
PEC Minutes – Orlando Jan 2020

Report to Pub/Ed Council

Winter Meeting
Orlando, Florida

Presenter: Timothy G. Wentz, PE, HBDP | Fellow/ Presidential Member ASHRAE

Charge to the Ad Hoc

- Review the current business models and operating practices to determine how revenues/profits could be enhanced.
- Survey members and customers to establish if a demand exists for products and services that ASHRAE may be able to provide
- Study products and services being provided by bodies similar to ASHRAE both in North America and internationally which ASHRAE can provide
- Recommend an outline of potential new offerings with ballpark costs and revenue projections.
- Ensure alignment with the Strategic Plan, particularly Goals 1a, 1b and 3a

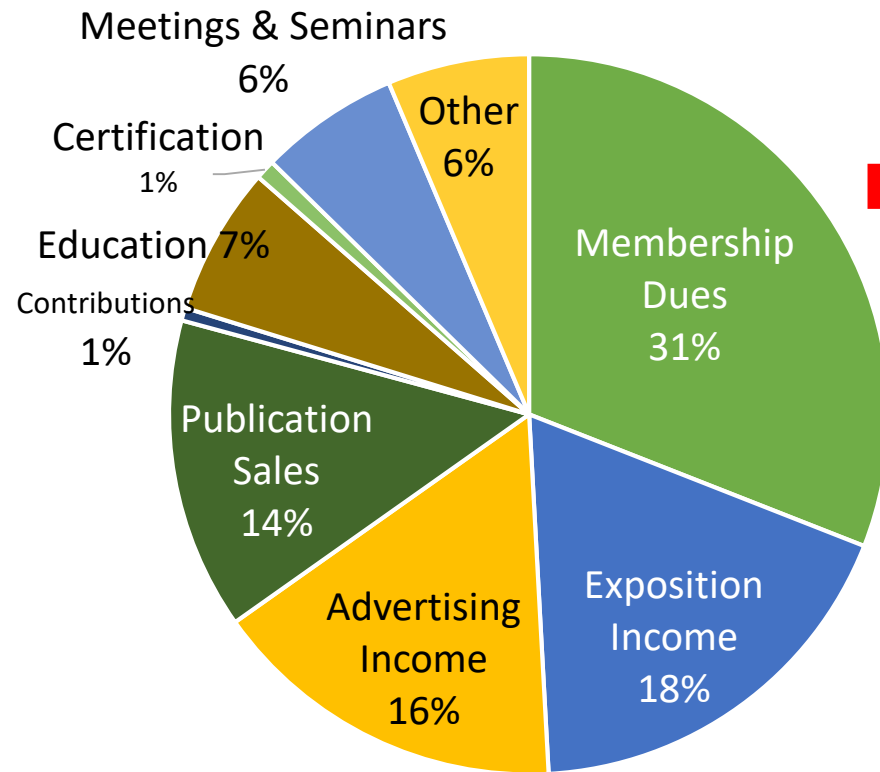


Charge to the Ad Hoc

- Determine where we are today
- Ascertain where we want to be
- Develop a plan to attain our goal



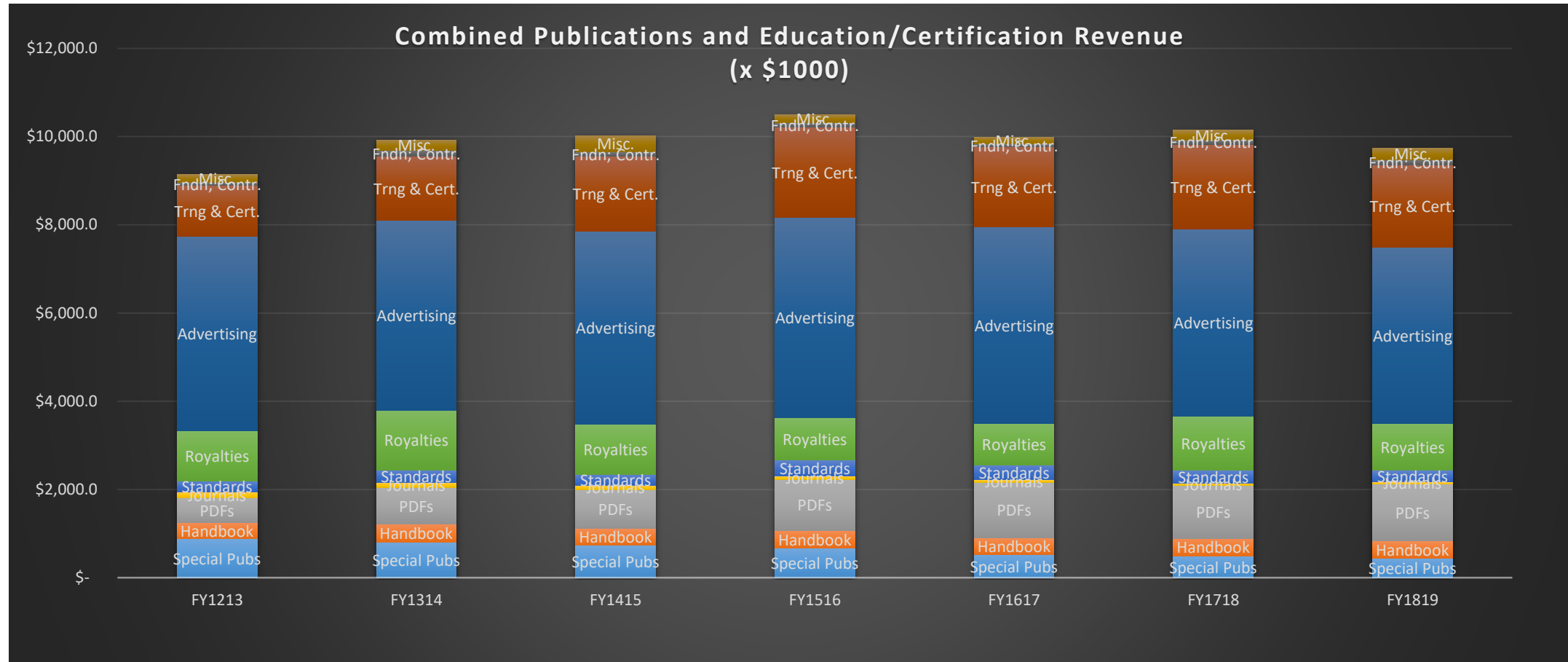
Nothing New



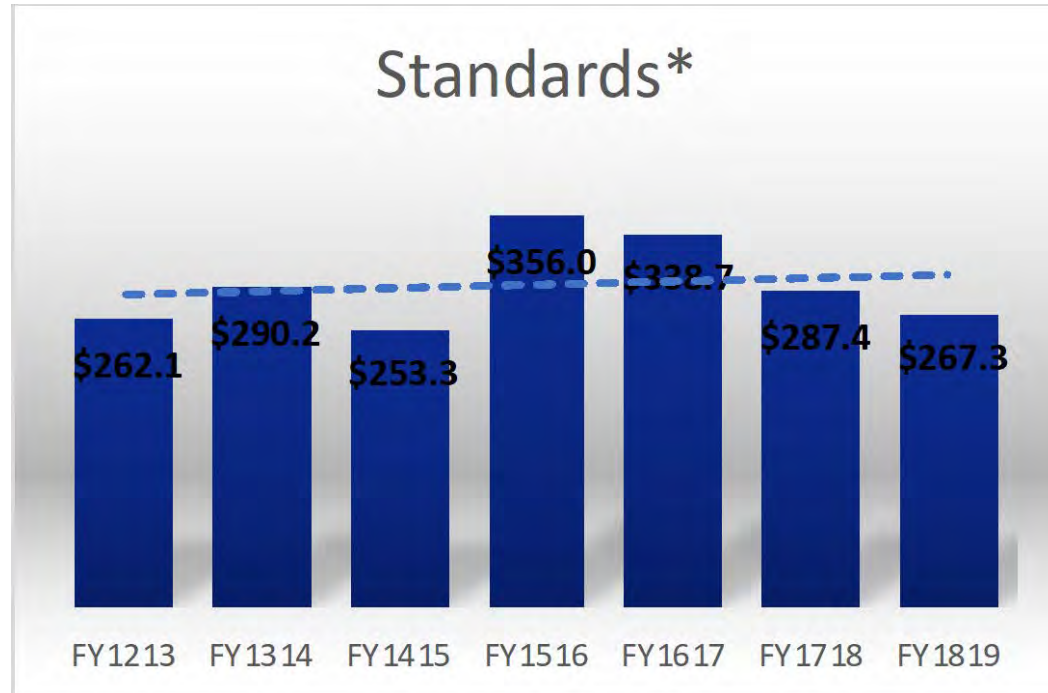
Source of Funds

| | | |
|---------------------|-----------|------|
| Membership Dues | \$7,624.3 | 31% |
| Exposition Income | 4,475.8 | 18% |
| Advertising Income | 3,958.2 | 16% |
| Publication Sales | 3,447.6 | 14% |
| Certification | 218.7 | 1% |
| Education | 1,642.7 | 7% |
| Contributions | 141.8 | 1% |
| Meetings & Seminars | 1,548.2 | 6% |
| Other | 1,569.5 | 6% |
| REVENUES | \$ 24,627 | 100% |

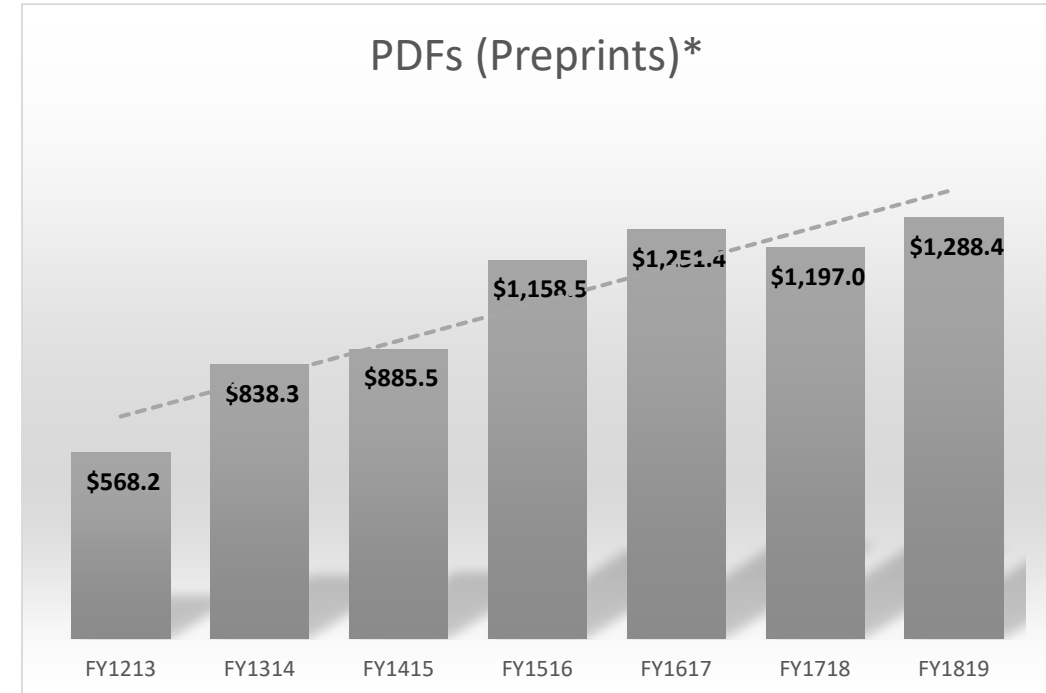
Nothing New



Nothing New

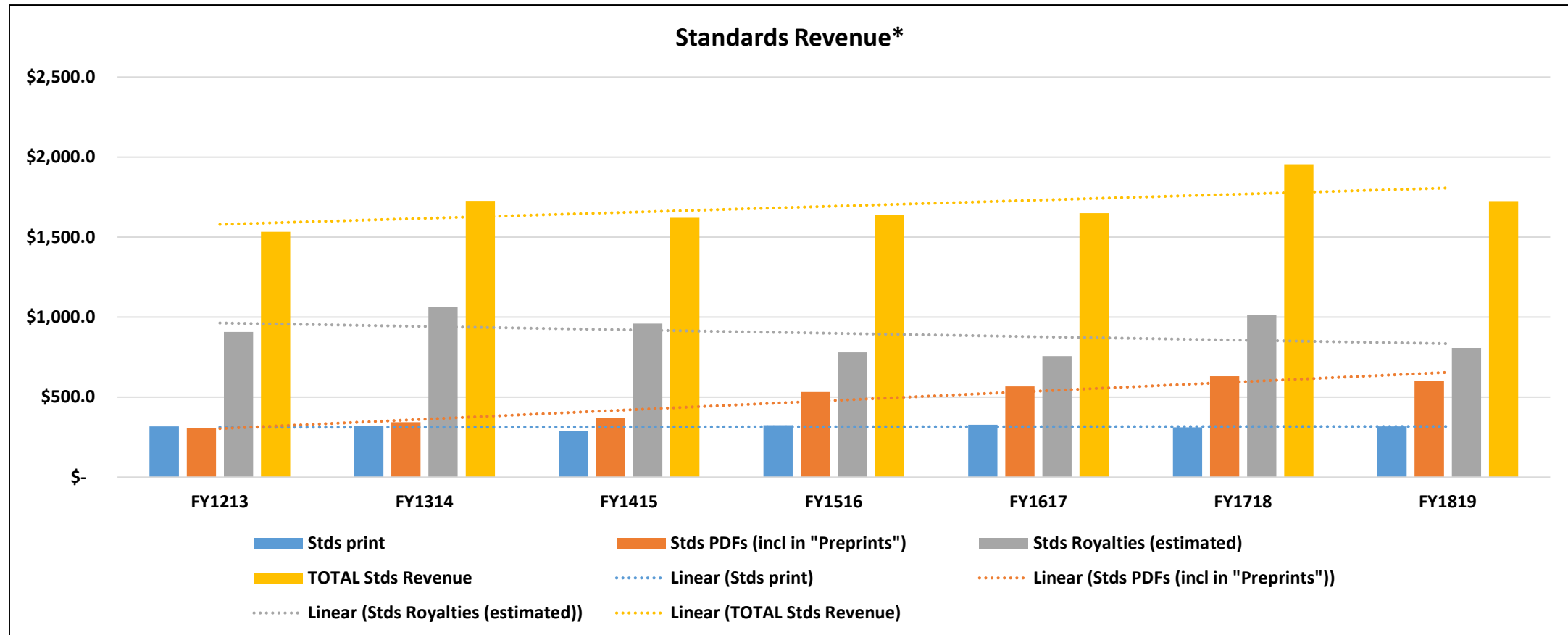


*Print only. PDF's are in Preprints

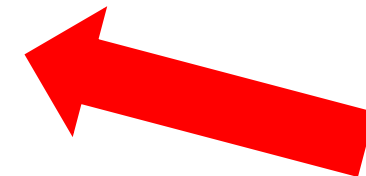


*includes PDF's of standards

Nothing New



*Does not include Overhead or BOD Council allocated costs (\$8.5MM in FY18-19)



Nothing New

- Overhead are costs that support the business but do not generate revenue
- ASHRAE has about \$8M US in overhead
- Overhead is assigned to Councils based upon staff assignment
- PEC has portions of an additional 17 staff assigned to the Council from support areas
 - Mail room
 - Accounting
 - Etc.
- Overhead is then assigned on the total staff, support staff included



OVERHEAD

Nothing New

Pub/Ed Council Surplus/Deficit Report

| | 2017 Thousands USD | 2018 Thousands USD | 2019 Thousands USD | Trend versus 2017 |
|---|-----------------------|-----------------------|-----------------------|----------------------|
| Total Revenue | 9,955.6 | 10,108.9 | 9,691.3 | ↓ |
| Total Expenses Incl OH & BOD | 12,484.2 | 13,361.7 | 13,234.8 | ↑ |
| Total (Deficit) after OH + BOD after | 2,528.6 | 3,252.8 | 3,543.5 | ↑ |

Note: All figures taken from Society Financial Reports.

Nothing New

Society Surplus/Deficit Reports

| Fiscal Year | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | AVE |
|------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| Budget Surplus/(Deficit) | \$ (158) | \$ (335) | \$ 674 | \$ (449) | \$ (283) | \$ (301) | \$ (13) | |
| Actual Surplus/(Deficit) | \$ 320 | \$ 404 | \$ 1,231 | \$ 702 | \$ 411 | \$ (175) | \$ 75 | |
| Positive/Negative Difference | + | + | + | + | + | + | + | |
| Difference (absolute) | \$ 478 | \$ 739 | \$ 558 | \$ 1,151 | \$ 694 | \$ 126 | \$ 88 | |
| % Error | 149% | 183% | 45% | 164% | 169% | 72% | 118% | 129% |

Nothing New

- What picture does this data paint for the Board?



And now for something completely different



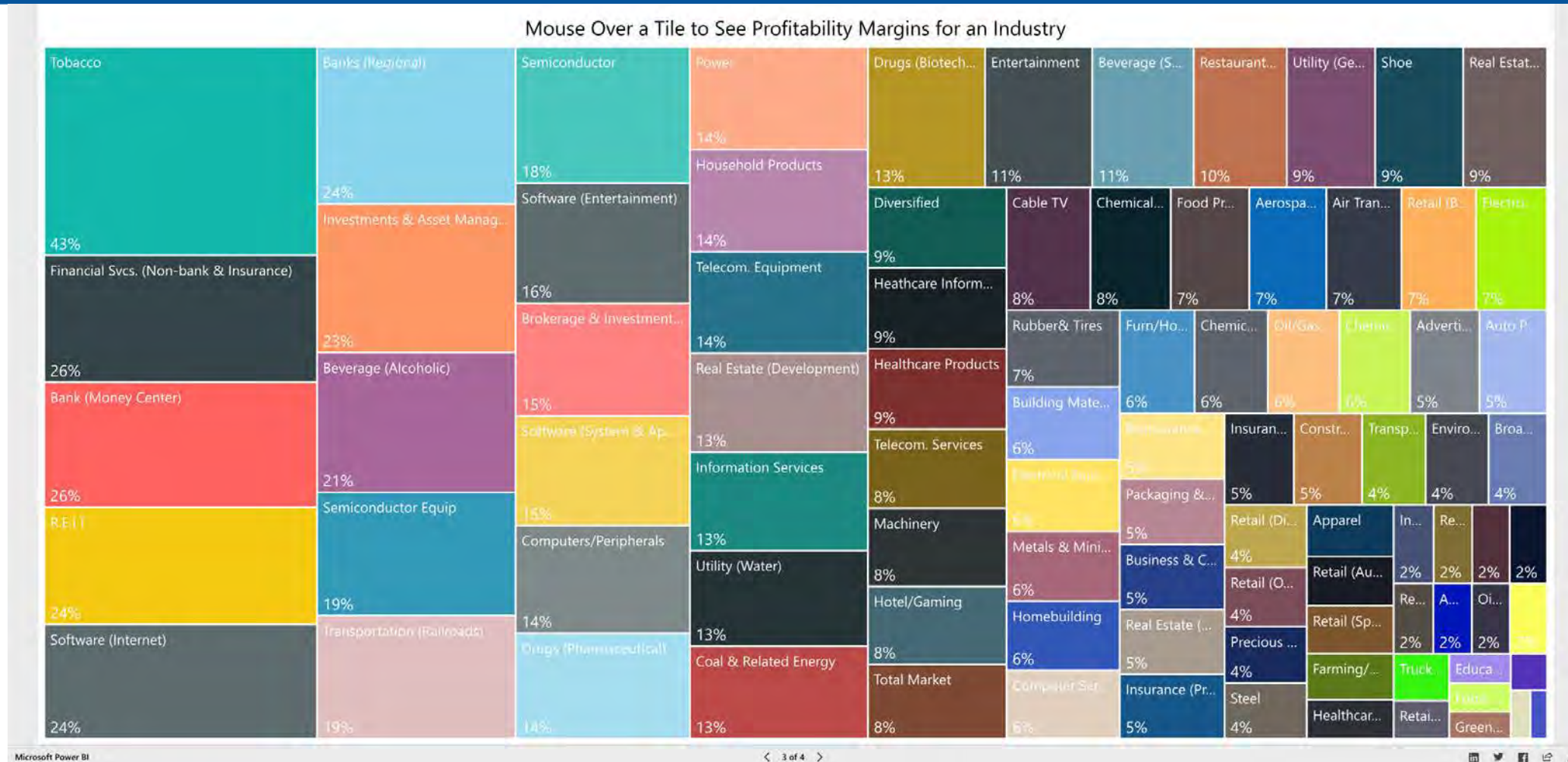
A Monty Python Moment

And now for something completely different

- ASHRAE has a very strong and robust accounting system
 - Accurately records revenue and expenses in a consistent manner in accordance with generally accepted accounting rules
- Significant difference between accounting and finance
 - Finance - Management discipline focusing on margins



The World of Margins



From Financial Rhythm by Phillip Campbell, based on data from Prof. Aswath Damodaran, Stern School of Business, New York University, 2019



How the Picture Changes

- The language of finance

Revenue = Sales for a product or service (\$US)

Variable Margin = Revenue

- Direct costs of product/service that vary with volume

Gross Margin = Revenue

- Direct costs of product/service that vary with volume

- Staff labor directly associated with product/service



How the Picture Changes

| Revenue Source | Gross Margin | | |
|----------------------|--------------|-------|-------|
| | 16-17 | 17-18 | 18-19 |
| Dues | 16% | 20% | 18% |
| Publications | 40% | 30% | 32% |
| Advertising | 12% | 7% | 4% |
| Meetings/Conferences | -21% | -54% | -53% |
| Education | 9% | 14% | 8% |
| Certification | -87% | -52% | -63% |
| AHR Expo | 100% | 100% | 100% |

| Pub/Ed Council | | | | |
|-----------------------|----------------|-------------|-----------|---------------|
| SY 18-19 | Publications** | Advertising | Education | Certification |
| Revenue | \$3,041.8 | \$4,073.6 | \$1,870.2 | \$225.7 |
| Direct Expenses | | | | |
| Staff Labor | 869.5 | 1,567.5 | 464.6 | 162.8 |
| Promotion | 64.8 | 96.1 | 31.7 | 8.9 |
| Materials | 358.5 | 657.3 | 109.6 | - |
| Commissions | - | 742.5 | | |
| Shipping/Postage | 162.9 | 566.5 | 33.0 | 4.9 |
| Meeting/Training | | | | |
| Costs | 21.7 | 3.3 | 715.6 | - |
| Travel | 33.3 | 26.2 | 17.6 | 5.4 |
| Dev/Outside | | | | |
| Services | 510.1 | 124.2 | 267.2 | 178.6 |
| Credit Card | | | | |
| Charges | 44.4 | 1.4 | 53.5 | 6.1 |
| Bad Debt | 7.0 | 79.4 | | |
| Other/Misc. | 0.2 | 64.6 | 28.9 | 0.3 |
| Total Direct Expenses | 2,072.4 | 3,929.0 | 1,721.7 | 367.0 |
| Variable Margin \$ | 1,838.9 | 1,712.1 | 613.1 | 21.5 |
| Variable Margin % | 60% | 42% | 33% | 10% |
| Gross Margin \$ | \$969.4 | \$144.6 | \$148.5 | \$(141.3) |
| Gross Margin % | 32% | 4% | 8% | -63% |

How the Picture Changes

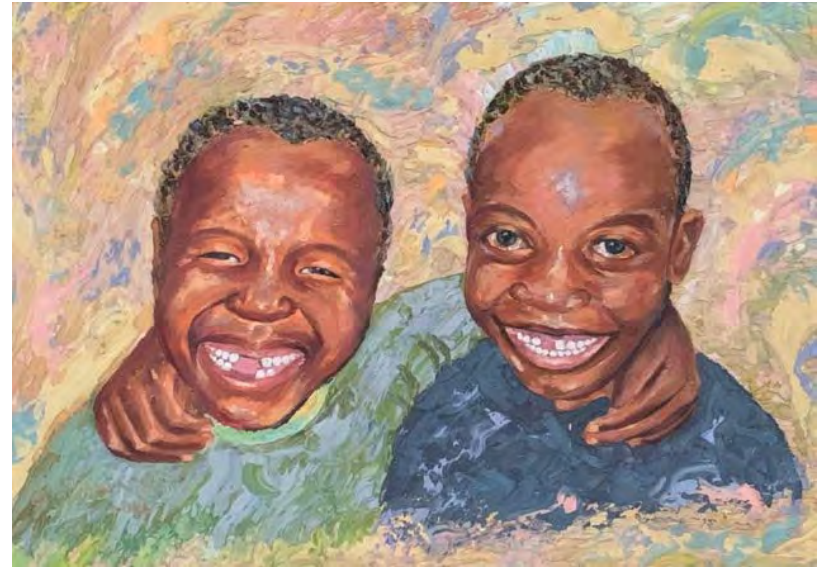
We can see clearly now (apologies to Johnny Nash):

- Publications operates at a strong gross margin
- Advertising operates at a low gross margin
 - This is OK, as advertising as ASHRAE is required to pay tax on “business unrelated to its primary business”.
- Education is operating at a low gross margin
- Certification is operating at a negative gross margin



How the Picture Changes

- Looking at ASHRAE's products through the lens of finance paints a much different picture



How the Picture Changes

- A focus on margins
 - Revenue is only important only in that it allows you to identify and analyze margins
 - Improves clarity and transparency – an ASHRAE core value
 - Better decision-making owing to deeper understanding of product contributions
 - Greater ability to identify and seize strategic opportunities
 - The path forward on product evaluation becomes much simpler



How the Picture Changes

- Future work of the ad hoc is cast in a completely new light
 - For products and services with low margins, make recommendation on how to lower cost or raise price (or both)
 - For products with good margins make recommendations on how to increase sales
 - Are we already high in market share or is there room to grow?
 - Look at other revenue streams (new products and services) based on what we see other organizations offering and emerging needs in the marketplace) and evaluate by margin



How the Picture Changes

Enhanced Goal Setting – Where We Want To Be

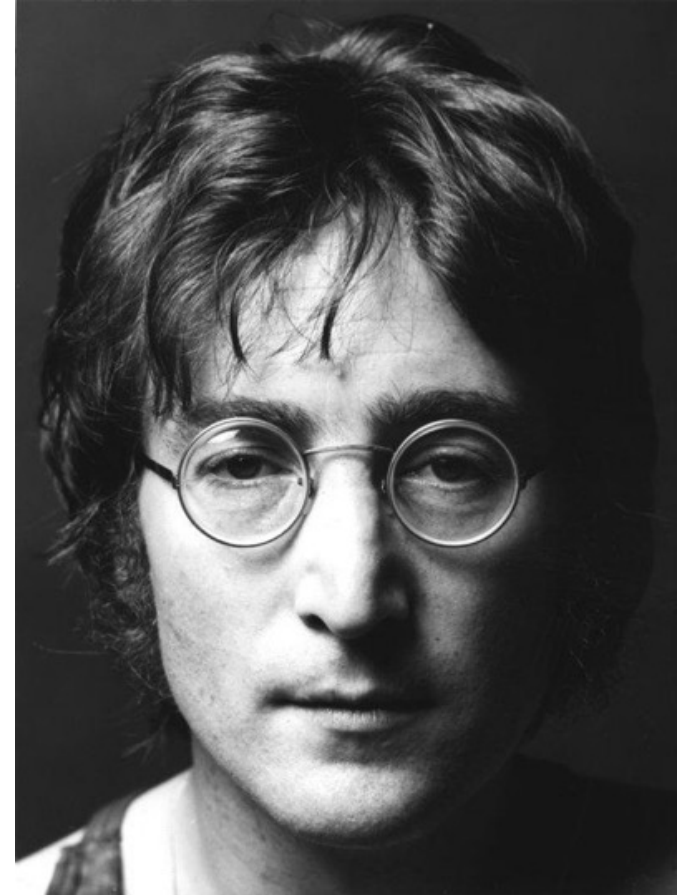
| | Publications | Advertising | Education | Certification | Goal | Current Value |
|------------------------------|--------------|-------------|-----------|---------------|----------|---------------|
| Proposed Revenue Goal | \$4,500 | \$4,300 | \$2,600 | \$600 | \$12,000 | \$9,211 |
| Proposed Gross Margin | \$1,440 | \$215 | \$625 | \$120 | \$2,400 | \$1,121 |
| Proposed Gross Margin | 32% | 5% | 24% | 20% | 20% | 12% |

*In \$1,000 US



How the Picture Changes

- Imagine an ASHRAE better focused on financial performance:
 - Expanded and enhanced revenue streams
 - Less reliance on expo income
 - More resilient to large economic swings
 - Faster, more agile in seizing opportunities
 - Better forecasting of financial position
 - Greatly enhanced decision-making



Questions



ASHRAE
Consolidated
12 Months ended June 30, 2019

REVENUES

| | |
|--|-----------|
| 31 Membership Dues Earned Income | \$7,779.9 |
| 32 Publication Sales Income | 3,447.6 |
| 34 Advertising Income - Display | 3,078.7 |
| 34 Advertising Income - Classified | 10.9 |
| 34 Advertising Income - On-line | 868.6 |
| 35.1 Meeting & Seminar Income | 1,548.2 |
| 35.2 Certification Registration | 218.7 |
| 35.3 Education Registration | 1,642.7 |
| 37 Special Project Income | 74.3 |
| 38 Contribution Income | 2,295.3 |
| 41.1 AHR Exposition Income | 5,741.8 |
| 41.2 Contributions and Matching Gifts | 109.5 |
| 41.3 Exposition Income - Other Countries | 234.0 |
| 44 Reserve Transfers | 890.0 |
| 46 Miscellaneous Income | 805.2 |

TOTAL REVENUES **28,745.4**

EXPENSES:

| | |
|--|---------|
| 51 Salary Expense | 9,616.2 |
| 52 Payroll Taxes, Benefits, Personnel Exp | 2,607.8 |
| 61 Publishing and Promotion Expense | 3,238.6 |
| 64 Meetings & Conferences Expense | 2,477.7 |
| 66 Travel Expense | 2,169.0 |
| 68 Awards, Certif, Logo Cost of Goods Sold | 232.6 |
| 71 Research Projects & Grants Expense | 2,226.6 |
| 73 Special Projects Expense | 111.4 |
| 76 Public Relations Expense | 70.5 |
| 78 Occupancy & Insurance | 768.3 |
| 82 Office Expense and Organizational Dues | 1,628.9 |
| 84 Outside Services Expense | 2,242.6 |
| 88 Other Expense | 798.0 |
| 88.1 Prepaid Expense (contra acct) | (46.3) |
| 89 Opportunity Fund | 150.0 |
| 90 Depreciation Expense | 379.1 |

TOTAL EXPENSES **28,671.0**

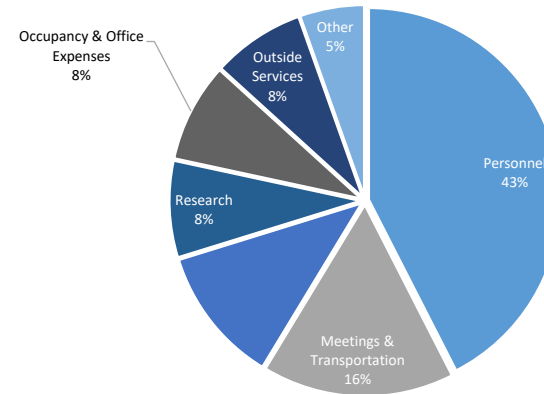
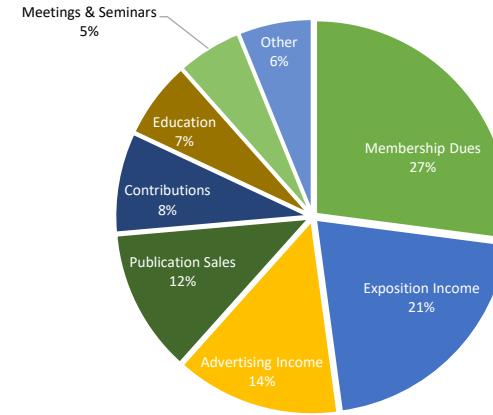
SURPLUS (DEFICIT) before reserve income 74.4

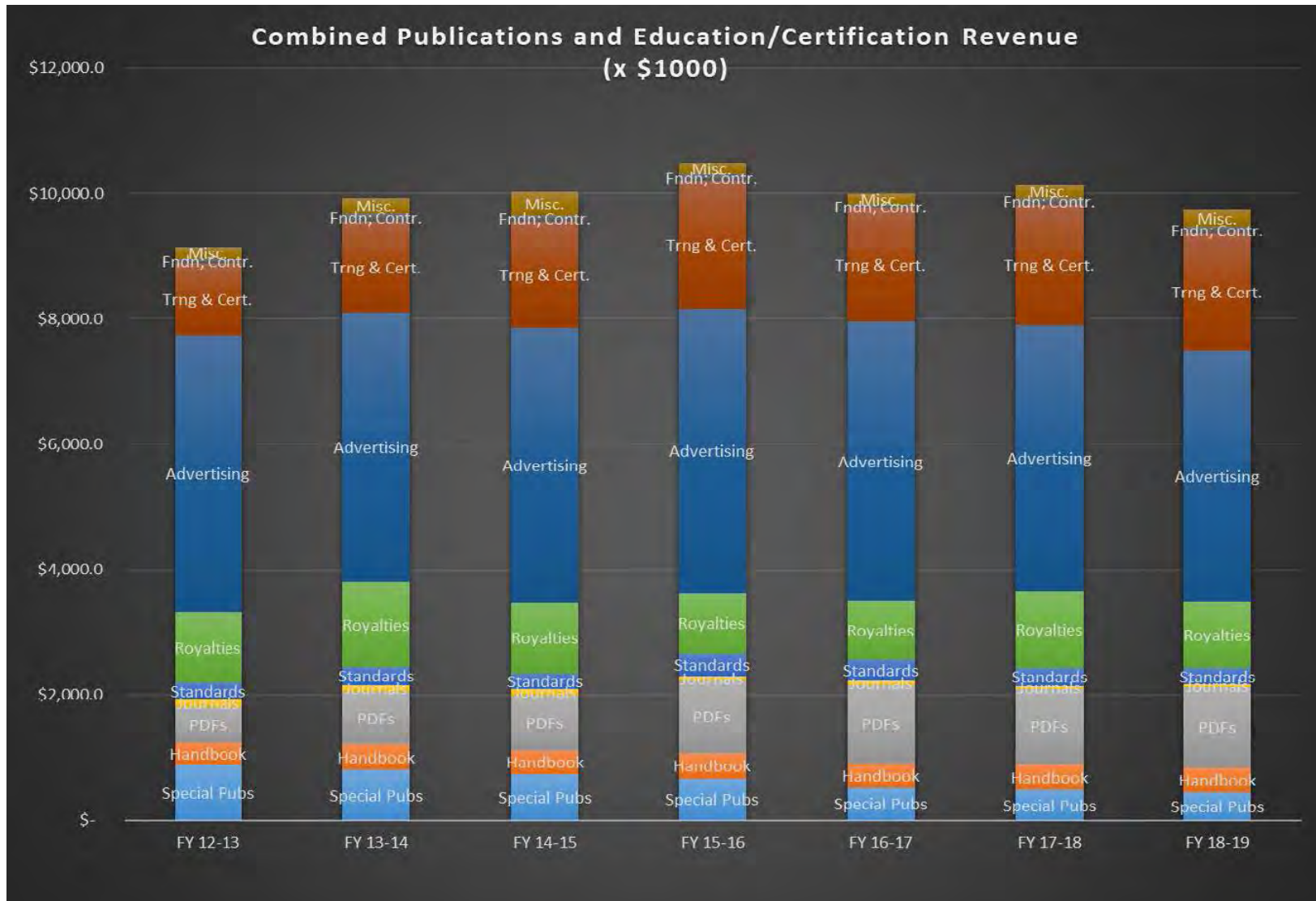
| | | |
|---------------------|-----------|------|
| Source of Funds | | |
| Membership Dues | \$7,779.9 | 27% |
| Exposition Income | 5,975.8 | 21% |
| Advertising Income | 3,958.2 | 14% |
| Publication Sales | 3,447.6 | 12% |
| Contributions | 2,404.8 | 8% |
| Education | 1,861.4 | 6% |
| Meetings & Seminars | 1,548.2 | 5% |
| Other | 1,769.5 | 6% |
| REVENUES | \$ 28,745 | 100% |

| | | |
|--------------------------------|-----------|------|
| Application of Funds | | |
| Personnel | 12,177.7 | 42% |
| Meetings & Transportation | 4,646.7 | 16% |
| Publications, Communications & | 3,309.1 | 12% |
| Research | 2,338.0 | 8% |
| Occupancy & Office Expenses | 2,397.2 | 8% |
| Outside Services | 2,242.6 | 8% |
| Other | 1,559.7 | 5% |
| EXPENSES | \$ 28,671 | 100% |

Attachment A

Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando





Definitions

Revenue

Sales for a product or service in \$US

Variable Margin

Revenue - direct costs to provide product/service that vary with volume e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship = \$45 Variable Margin or 45% Variable Margin

Gross Margin

Revenue - direct costs to provide product/service that vary with volume - staff labor directly associated with product of service e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship - \$25 Staff Labor = \$20 Gross Margin or 20% Gross Margin

Attachment A
Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

| SY 18-19 | Members Council | | Pub/Ed Council | | Corporate | |
|-----------------------|--------------------------|----------------------|----------------|-------------|------------|---------------|
| | Membership Dues/Handbook | Meetings/Conferences | Publications | Advertising | Education | Certification |
| Revenue | \$ 8,151.2 | \$ 1,589.2 | \$ 3,041.8 | \$ 4,073.6 | \$ 1,870.2 | \$ 225.7 |
| Direct Expenses | | | | | | |
| Staff Labor | 3,112.4 | 771.1 | 869.5 | 1,567.5 | 464.6 | 162.8 |
| Promotion | 435.6 | 34.7 | 64.8 | 96.1 | 31.7 | 8.9 |
| Materials | 769.2 | - | 358.5 | 657.3 | 109.6 | - |
| Commissions | - | 8.6 | - | 742.5 | - | - |
| Shipping/Postage | 376.9 | 0.6 | 162.9 | 566.5 | 33.0 | 4.9 |
| Meeting/Training Cost | 281.7 | 1,310.1 | 21.7 | 3.3 | 715.6 | - |
| Travel | 846.1 | 69.8 | 33.3 | 26.2 | 17.6 | 5.4 |
| Dev/Outside Services | 501.4 | 113.0 | 510.1 | 124.2 | 267.2 | 178.6 |
| Credit Card Charges | 221.0 | 44.9 | 44.4 | 1.4 | 53.5 | 6.1 |
| Bad Debt | - | - | 7.0 | 79.4 | - | - |
| Other/Misc. | 136.7 | 82.5 | 0.2 | 64.6 | 28.9 | 0.3 |
| Total Direct Expenses | 6,881.0 | 2,455.3 | 2,072.4 | 3,629.0 | 1,721.7 | 367.0 |
| Variable Margin \$ | 4,582.6 | (75.0) | 1,838.9 | 1,712.1 | 613.1 | 21.5 |
| Variable Margin % | 56% | -5% | 60% | 42% | 33% | 10% |
| Gross Margin \$ | 1,470.2 | (846.1) | 969.4 | 144.6 | 148.5 | (141.3) |
| Gross Margin % | 18% | -53% | 32% | 4% | 8% | -63% |

NOTES

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

There is \$8M in corp overhead. Cost is spread across all councils Corp overhead includes exec staff, BOD, marketing IT, Business Dev etc

Corp Overhead is allocated based on salaries. For PEC the allocation drives it into a loss position

Membership labor is high because it includes MC staff, TC staff PEC staff associated with Handbook Handbook printing and frt cost included in MC as it is a member benefit

\$466k in Handbook revenue in MC (\$466k copies sold to non members)

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

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Corp Overhead is allocated based on salaries. For PEC the allocation drives it into a loss position

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

There is \$8M in corp overhead. Cost is spread across all councils Corp overhead includes exec staff, BOD, marketing IT, Business Dev etc

Corp Overhead is allocated based on salaries. For PEC the allocation drives it into a loss position

Publication Revenue include ~\$1M in royalties

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

There is \$8M in corp overhead. Cost is spread across all councils Corp overhead includes exec staff, BOD, marketing IT, Business Dev etc

Corp Overhead is allocated based on salaries. For PEC the allocation drives it into a loss position

The revenue for Advertising comes from advertising sales in Journal, HPB Cost of journal, Research Journal and HPB is in advertising (PEC) There is no revenue from the Journal issues given to members because it is considered a member benefit

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

There is \$8M in corp overhead. Cost is spread across all councils Corp overhead includes exec staff, BOD, marketing IT, Business Dev etc

Corp Overhead is allocated based on salaries. For PEC the allocation drives it into a loss position

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

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"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

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Corp Overhead is allocated based on salaries. For PEC the allocation drives it into a loss position

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

There is \$8M in corp overhead. Cost is spread across all councils Corp overhead includes exec staff, BOD, marketing IT, Business Dev etc

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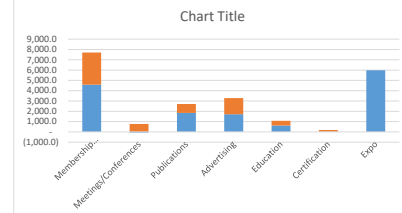
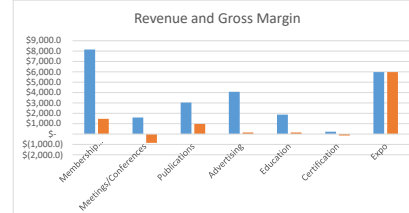
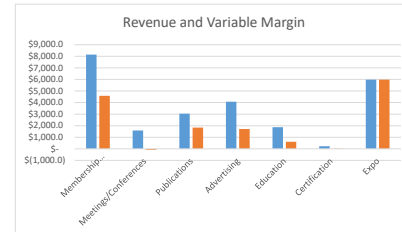
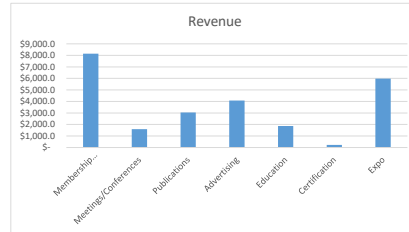
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BOD/Respective Committees and Overhead costs not included in Margin Analysis

There is \$8M in corp overhead. Cost is spread across all councils Corp overhead includes exec staff, BOD, marketing IT, Business Dev etc

Corp Overhead is allocated based on salaries. For PEC the allocation drives it into a loss position



Definitions
Revenue
Variable Margin
Gross Margin

Sales for a product or service in \$US
Revenue - direct costs to provide product/service that vary with volume e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship = \$45 Variable Margin or 45% Variable Margin
Revenue - direct costs to provide product/service that vary with volume - staff labor directly associated with product of service e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship - \$25 Staff Labor = \$20 Gross Margin or 20% Gross Margin

Attachment A
Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

PEC Revenue and Margin

| Current Situation | | Publications | | Advertising | | Education | | Certification | | TOTAL |
|-------------------|-------------------------------|--------------|-------|-------------|-------|-----------|-------|---------------|-------|----------|
| | Current Revenue | \$ | 3,042 | \$ | 4,074 | \$ | 1,870 | \$ | 226 | \$ 9,211 |
| | Current Gross margin (\$1000) | \$ | 969 | \$ | 145 | \$ | 149 | \$ | (141) | \$ 1,121 |
| | Current Gross Margin % | | 32% | | 4% | | 8% | | -63% | 12% |
| | | | | | | | | | | |

| Proposed Goals | | Publications | | Advertising | | Education | | Certification | | TOTAL |
|----------------|------------------------------------|--------------|-------|-------------|-------|-----------|-------|---------------|-----|-----------|
| | Proposed Revenue Goal | \$ | 4,000 | \$ | 4,100 | \$ | 2,500 | \$ | 500 | \$ 11,100 |
| | Proposed Gross Margin (\$1000) | \$ | 1,280 | \$ | 205 | \$ | 800 | \$ | 100 | \$ 2,385 |
| | Proposed Gross Margin (%) | | 32% | | 5% | | 32% | | 20% | 21% |
| | Proposed Revenue Goal - AY | \$ | 3,500 | \$ | 4,200 | \$ | 2,600 | \$ | 500 | \$ 10,800 |
| | Proposed Gross Margin (\$1000) -AY | \$ | 1,150 | \$ | 252 | \$ | 858 | \$ | 100 | \$ 2,360 |
| | Proposed Gross Margin (%) -AY | | 33% | | 6% | | 33% | | 20% | 22% |

Hugh

Alice

| | | | | | | |
|------------------|--|--|--|---|--|---|
| Hugh's Thoughts; | | Very good business model. Margins are good. Focus on growing revenue | Numbers paint bad picture but remember the Journal is given away as a member benefit. Change away from print makes advertising revenue more difficult. Work to maintain busies and have advertising cover cost of printing journal | Lots of upside on Revenue. Margin is disappointing. Need to understand and resolve our high cost. | Other organizations do not make much money with Certification but make it up with training. Certification cost is too high. Reconsider our business model and see if we can get cost out (i.e. do we really need to have "ANSI ready" tests? | PEC Generates \$1121k in margin dollars to operate ASHRAE. ASHRAE Corp allocations are based on Staff salary so PEC gets a large amount of corp cost which drives PEC to a loss position. This is just an allocation issue - what is important is margin Dollars which can fund programs. |
|------------------|--|--|--|---|--|---|

| | | | | | |
|-------------------|--|---|---|---|---|
| Alice's Thoughts: | | I'm less bullish than Hugh on publications because of potential revenue loss due to statutory changes (e.g., loss of copyright protection) and increasing access to no-cost publications; I do think revenues could grow by better targeting publications and NOT investing in publications unlikely to sell. | If advertising includes sponsorships, I believe we can do even better here. While there is downward pressure on print sales, sponsorship opportunities and online advertising present growth potential. | I here is tremendous potential with growing our education and training revenues, including through selling these courses to government entities, and partnering with other organizations to leverage our resources, and developing better (and more modern) online courses as there is a demand especially by young people for 365-24-7 access. We could also better leverage our certification program potentially through requiring an ASHRAE course or courses (e.g., this is done by the Association of Energy Engineers) | Possible opportunity to tie regulations to certification requirements. For example, as cities and states work to meet various carbon goals, they may choose to require facility managers to have training and/or certification, or building auditors to be certified. Another opportunity exists to work with DOE to better leverage their "Better Buildings Program" to generate more interest in ASHRAE certifications. |
|-------------------|--|---|---|---|---|

| | | | | | |
|-------------------|--|---|---|---|--|
| Steve's Thoughts: | | Agree good business model but not that easy. Will involve working with partners to execute this. Suggest a more modest goal than what Hugh suggested. The Steve goal is in two fiscal years. After that growth might be more aggressive. Objective is how to provide digital content in usable form to the individual member and not just corporate license holder. | Agree with Hugh's target. but could be higher. Emphasis shifts from selling space to giving branding opportunities and thought leadership exposure. This is tied to integrated marketing of online and print exposure. Both have to work hand in glove. If more electronic opportunities are offered (such as sponsored blogs) revenue can grow more quickly. Also development of regional market opportunities can further offer opportunities. We are weak in doing this now. | Too aggressive because of the member/volunteer nature of ASHRAE. What Hugh suggested is reasonable IF there was not concern for chapters in developing countries to offer training at ASHRAE prices and more decentralization of educational offerings. Also, we compete with ourselves with DL program and webinar program form CTTC. If all educational activities were centralized, Hugh's suggestion would work; but if not, I would go with my suggestion. | I think many organizations make money from certification and for sure it is attached to training. That is the number 1 opportunity for ASHRAE in my view. This is not just a fiscal comment but a comment that relates to the value proposition globally and contribution to the industry. |
|-------------------|--|---|---|---|--|

Society Level Revenue and Margin

| | Current Model | | | | | Proposed Model | | | | |
|------------|----------------|-------------|-------------------|------------------|--------|----------------|-------------|-------------------|------------------|--------|
| | Revenue (\$US) | Revenue (%) | Gross Margin (\$) | Gross Margin (%) | | Revenue (\$US) | Revenue (%) | Gross Margin (\$) | Gross Margin (%) | |
| Membership | \$ 9,740.40 | | 39.1% | \$ 624.1 | 8.1% | \$ 9,740.40 | | 36.3% | \$ 624.1 | 6.9% |
| Expo | \$ 5,975.8 | | 24.0% | \$ 5,975.8 | 77.4% | \$ 5,975.8 | | 22.3% | \$ 5,975.8 | 66.5% |
| PEC | \$ 9,211.30 | | 37.0% | \$ 1,121.20 | 14.5% | \$ 11,100.00 | | 41.4% | \$ 2,385.00 | 26.5% |
| Total | \$ 24,927.50 | | 100.0% | \$ 7,721.1 | 100.0% | \$ 26,816.20 | | 100.0% | \$ 8,984.9 | 100.0% |

ASHRAE
CONSOLIDATED (General and Research)
12 Months Ended June 30

Attachment A
Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

| | Actual | Actual | Actual | Actual | Actual | Budget | DRAFT Budget | DRAFT Budget | DRAFT Budget |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | FY 2015 | FY 2016 | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 |
| REVENUES | | | | | | | | | |
| 31 Membership Dues Earned Income | \$7,430.5 | \$7,634.5 | \$7,663.7 | \$7,772.8 | \$7,779.9 | \$8,151.3 | \$8,419.4 | \$8,650.9 | \$8,867.2 |
| 32 Publication Sales Income | 3,483.9 | 3,626.1 | 3,504.1 | 3,664.0 | 3,447.6 | 3,783.7 | 3,864.3 | 3,975.2 | 3,977.2 |
| 34 Advertising Income - Display | 3,710.8 | 3,779.4 | 3,577.7 | 3,294.3 | 3,078.7 | 3,103.1 | 3,008.8 | 2,956.8 | 2,956.8 |
| 34 Advertising Income - Classified | 32.0 | 19.3 | 18.0 | 14.0 | 10.9 | 10.0 | 12.0 | 15.0 | 15.0 |
| 34 Advertising Income - On-line | 595.6 | 715.8 | 821.2 | 899.2 | 868.6 | 1,070.0 | 1,115.0 | 1,160.0 | 1,160.0 |
| 35.1 Meetings/Conferences Income | 1,578.5 | 1,529.9 | 2,151.9 | 1,737.6 | 1,548.2 | 2,426.1 | 2,425.5 | 2,191.7 | 1,981.1 |
| 35.2 Certification Registration | 183.3 | 187.6 | 196.8 | 213.2 | 218.7 | 280.0 | 290.0 | 300.0 | 300.0 |
| 35.3 Education Registration | 1,504.5 | 1,844.8 | 1,611.1 | 1,700.6 | 1,642.7 | 1,960.0 | 2,078.3 | 2,200.5 | 2,200.5 |
| 37 Special Project Income | 316.6 | 3.2 | 14.3 | 62.9 | 74.3 | 98.0 | | | |
| 38 Contribution Income | 2,116.6 | 2,215.6 | 2,223.6 | 2,312.7 | 2,295.3 | 2,577.2 | 2,629.0 | 2,761.9 | 2,761.9 |
| 41.1 AHR Exposition Income | 5,146.6 | 5,168.0 | 5,623.7 | 6,085.7 | 5,741.8 | 6,300.0 | 6,450.0 | 6,500.0 | 6,500.0 |
| 41.2 Contributions and Matching Gifts | 115.0 | 57.0 | 100.0 | 74.5 | 109.5 | 171.3 | 121.5 | 122.1 | 122.1 |
| 41.3 Exposition Income - Other Countries | 145.9 | 34.0 | 162.3 | | 234.0 | | 175.0 | 100.0 | 250.0 |
| 44 Reserve Transfers | 885.7 | 655.3 | 1,089.7 | 1,199.3 | 890.0 | 1,278.7 | 760.0 | 770.0 | 770.0 |
| 46 Miscellaneous Income | 534.4 | 322.7 | 330.7 | 364.7 | 805.2 | 554.7 | 405.4 | 419.3 | 399.3 |
| TOTAL REVENUES | 27,779.9 | 27,793.2 | 29,088.8 | 29,395.5 | 28,745.4 | 31,764.1 | 31,754.2 | 32,123.4 | 32,261.1 |
| EXPENSES: | | | | | | | | | |
| 51 Salaries | 7,910.9 | 8,780.7 | 9,182.9 | 9,730.4 | 9,720.9 | 9,813.6 | 10,051.2 | 10,363.8 | 10,669.6 |
| 52 Payroll Taxes, Benefits, Personnel | 2,536.2 | 2,738.8 | 2,650.4 | 2,875.3 | 2,636.9 | 2,772.7 | 3,059.4 | 3,124.3 | 3,172.8 |
| 61 Publishing and Promotion | 3,776.9 | 3,827.9 | 3,606.9 | 3,411.8 | 3,238.6 | 3,660.5 | 3,585.9 | 3,658.4 | 3,664.4 |
| 64 Meetings/Conferences/Trainings | 2,199.2 | 2,362.8 | 2,657.9 | 2,871.1 | 2,477.7 | 3,156.3 | 3,143.6 | 2,995.8 | 2,791.4 |
| 66 Travel | 2,076.6 | 1,863.8 | 2,263.0 | 2,228.8 | 2,169.0 | 2,413.0 | 2,464.0 | 2,584.7 | 2,580.2 |
| 68 Awards, Certif, Logo Cost of Goods Sold | 164.6 | 158.5 | 212.2 | 175.2 | 232.6 | 173.7 | 177.3 | 186.2 | 186.2 |
| 71 Research Projects & Grants | 2,469.6 | 2,321.1 | 2,725.3 | 2,941.5 | 2,226.6 | 3,002.9 | 2,878.3 | 2,938.7 | 2,938.7 |
| 73 Special Projects | 72.5 | 101.3 | 157.4 | 107.7 | 111.4 | 198.0 | 240.0 | 70.0 | 70.0 |
| 76 Public Relations | 51.0 | 79.4 | 66.7 | 58.1 | 70.5 | 74.6 | 75.9 | 79.1 | 79.1 |
| 78 Occupancy & Insurance | 559.2 | 588.6 | 553.9 | 639.3 | 768.3 | 932.6 | 757.1 | 782.8 | 782.8 |
| 82 Office Expense and Organizational Dues | 1,840.2 | 1,862.7 | 1,778.9 | 1,633.0 | 1,631.3 | 1,816.9 | 1,892.1 | 1,954.9 | 1,954.9 |
| 84 Outside Services | 1,659.7 | 1,713.1 | 1,967.0 | 1,906.3 | 2,243.0 | 2,385.1 | 2,115.8 | 2,240.4 | 2,227.4 |
| 88 Other Expenses | 530.8 | 673.6 | 720.1 | 786.7 | 798.0 | 763.5 | 833.3 | 806.8 | 801.7 |
| 88.1 Prepaid Expenses (contra acct) | 33.8 | (560.5) | (535.1) | (491.5) | (182.9) | | | | |
| 89 Opportunity Fund | 35.5 | | 140.0 | 140.0 | 150.0 | 50.0 | 150.0 | 150.0 | 150.0 |
| 90 Depreciation | 631.9 | 579.3 | 529.5 | 556.9 | 379.1 | 360.0 | 785.0 | 921.9 | 921.9 |
| 91 Allocation of Overhead & BOD | | 0.0 | 0.3 | | | (0.1) | 0.0 | | |
| TOTAL EXPENSES | 26,548.6 | 27,091.1 | 28,677.3 | 29,570.6 | 28,671.0 | 31,573.3 | 32,208.9 | 32,857.8 | 32,991.1 |
| SURPLUS (DEFICIT) before reserve income | 1,231.3 | 702.1 | 411.5 | (175.1) | 74.4 | 190.8 | (454.7) | (734.4) | (730.0) |
| 91.2 Gain on Sale of HQ | | | | | 6,174.5 | | | | |
| 91.5 Headquarters Building Contributions | 153.9 | | | | 361.0 | | | | |
| 92 Non-recurring Expenses | 639.5 | 477.9 | 69.5 | 163.4 | 114.5 | 60.0 | | | |
| Reserve Investment Income: | | | | | | | | | |
| 95 Investmt Income - Reserves (net of exp) | 222.5 | (186.1) | 2,219.6 | 1,402.9 | 742.7 | 895.6 | 913.5 | 959.2 | 959.2 |
| 96 Transfer Reserves Portion Used Currently | (885.7) | (655.3) | (1,089.7) | (1,244.3) | (1,122.2) | (1,260.2) | (760.0) | (770.0) | (770.0) |
| Remaining Reserve Investment Income | (663.2) | (841.4) | 1,129.9 | 158.6 | (379.5) | (364.6) | 153.5 | 189.2 | 189.2 |
| OVERALL SURPLUS (DEFICIT) after reserve income | 82.5 | (617.2) | 1,471.9 | (179.9) | 6,115.9 | (233.8) | (301.2) | (545.2) | (540.8) |

Attachment A

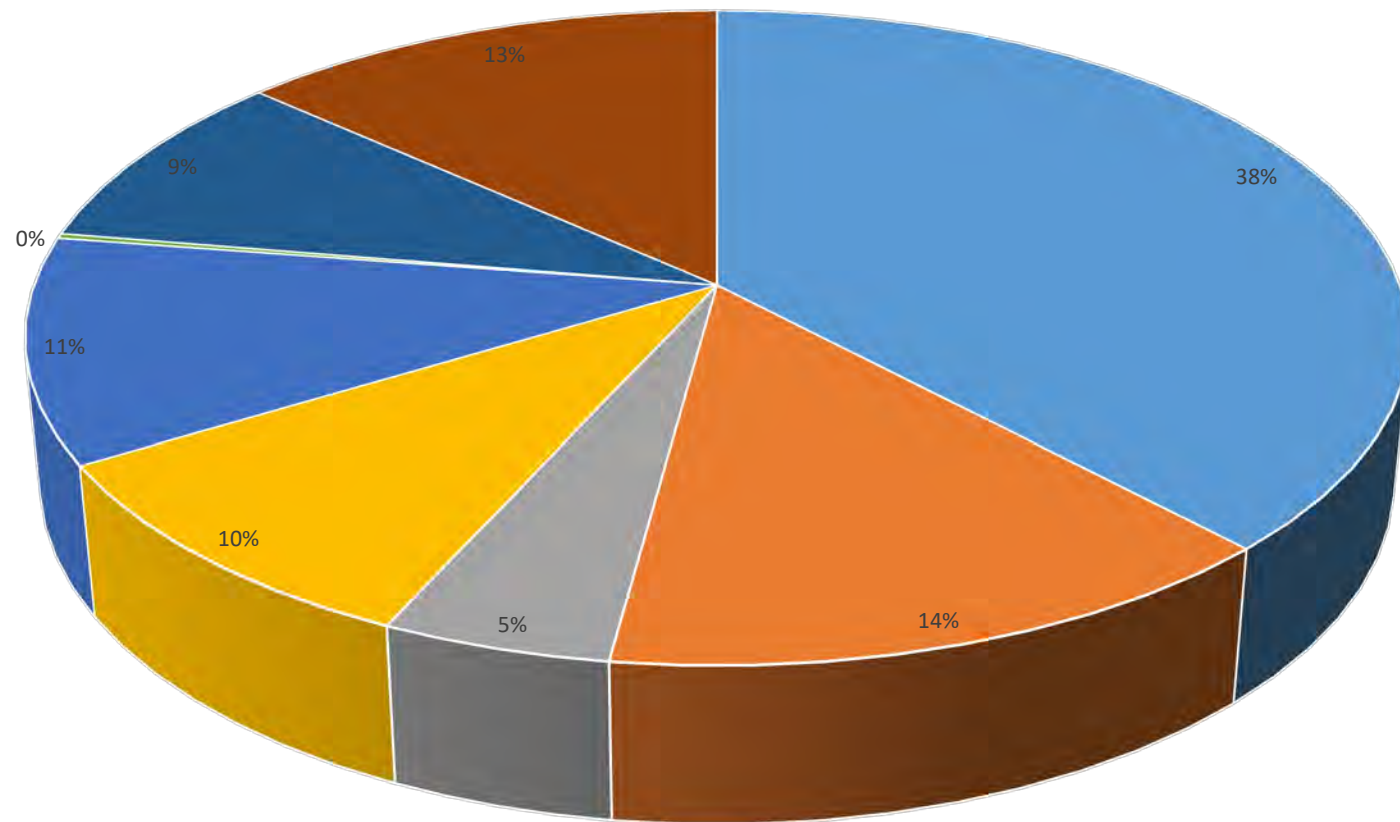
Strategic Business Development Ad Hoc Report to PEC

Margin Analysis - Compiled list for Orlando

| | | |
|---------------------------|-------|-------|
| 1 Consulting Engineer | 18445 | 32.9% |
| Student | 6226 | 11.1% |
| Manufacturer | 5057 | 9.0% |
| 1 Contractor | 4995 | 8.9% |
| 1 Manu. Rep | 3774 | 6.7% |
| Other | 3204 | 5.7% |
| Gov't | 3159 | 5.6% |
| 1 Design Build | 2923 | 5.2% |
| 1 Architect | 2874 | 5.1% |
| 1 Sales Engineer | 915 | 1.6% |
| 1 Commerical Facility | 759 | 1.4% |
| 1 Industrial Facility | 746 | 1.3% |
| 1 Property Manager | 723 | 1.3% |
| 1 Distributor | 663 | 1.2% |
| Utility | 575 | 1.0% |
| Association | 530 | 0.9% |
| 1 Educational Institution | 380 | 0.7% |
| 1 Research | 134 | 0.2% |
| Library | 11 | 0.0% |
| | 56093 | 100% |

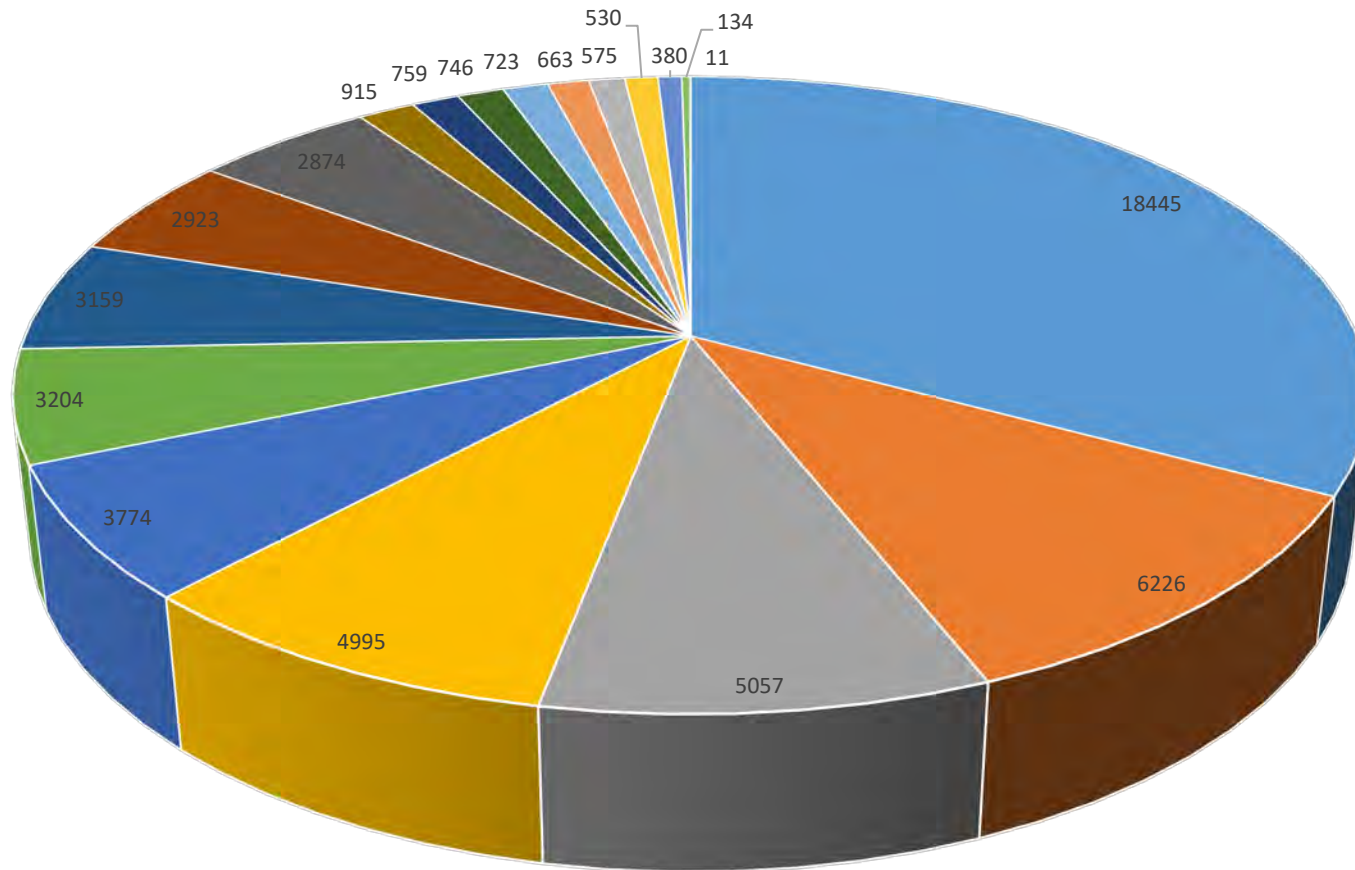
| | | |
|----------------------|-------|-----|
| Design | 21319 | 38% |
| Construction | 7918 | 14% |
| Operations and Maint | 2608 | 5% |
| Sales | 5352 | 10% |
| Student | 6226 | 11% |
| Research | 134 | 0% |
| Manufacturer | 5057 | 9% |
| Misc | 7479 | 13% |

Membership Percent



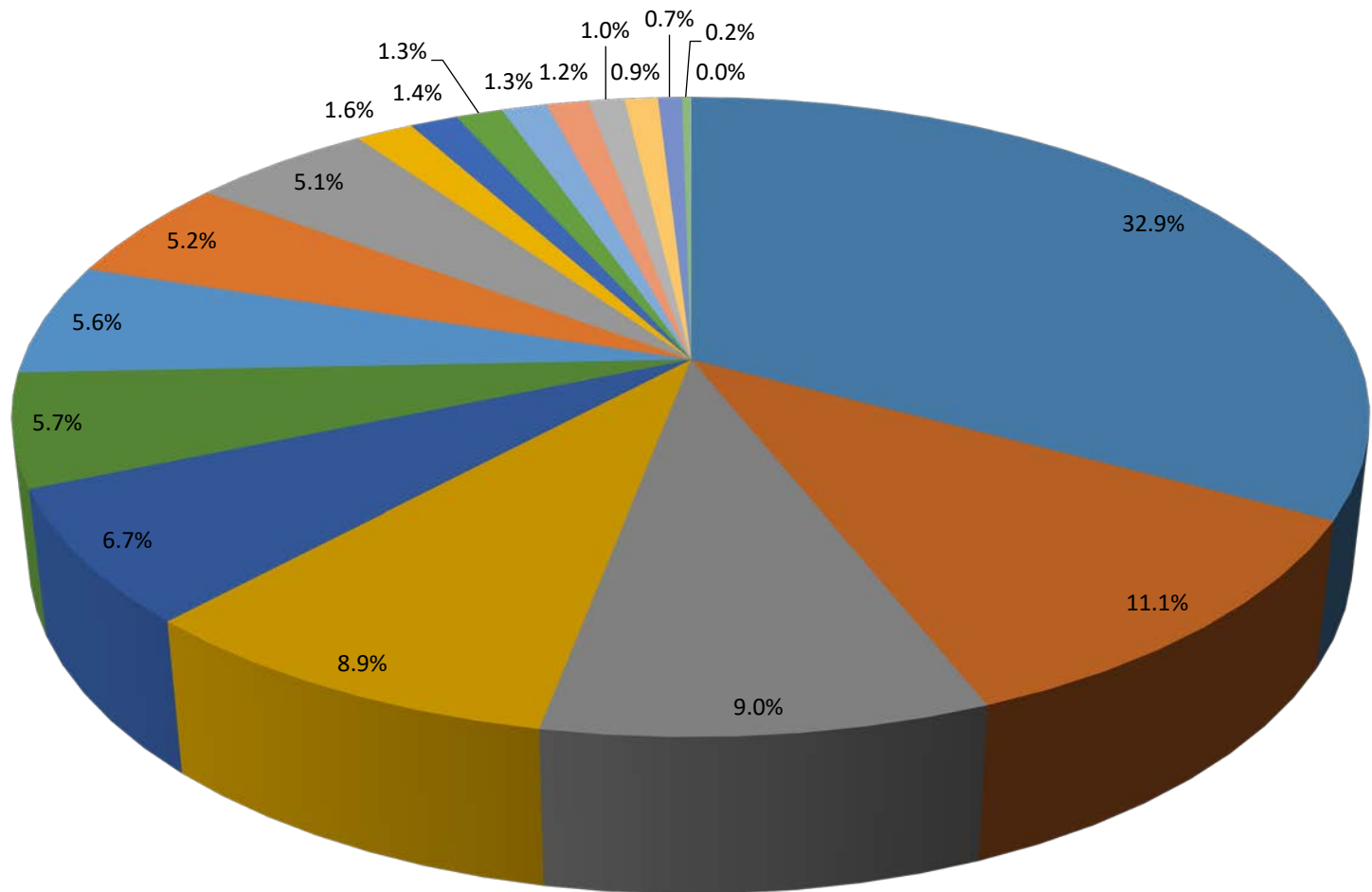
■ Design ■ Construction ■ Operations and Maint ■ Sales ■ Student ■ Research ■ Manufacturer ■ Misc

Membership headcount



- | | | | | |
|---------------------|-------------------------|------------------|-------------|----------------|
| Consulting Engineer | Student | Manufacturer | Contractor | Manu. Rep |
| Other | Gov't | Design Build | Architect | Sales Engineer |
| Commerical Facility | Industrial Facility | Property Manager | Distributor | Utility |
| Association | Educational Institution | Research | Library | |

Membership Percent



- | | | | | |
|-----------------------|---------------------------|--------------------|---------------|------------------|
| ■ Consulting Engineer | ■ Student | ■ Manufacturer | ■ Contractor | ■ Manu. Rep |
| ■ Other | ■ Gov't | ■ Design Build | ■ Architect | ■ Sales Engineer |
| ■ Commercial Facility | ■ Industrial Facility | ■ Property Manager | ■ Distributor | ■ Utility |
| ■ Association | ■ Educational Institution | ■ Research | ■ Library | |

CONFIDENTIAL

Global Training Center Report for the period 1 July 2019 – 31 December 2019

Prepared for Global Training Center Volunteer Oversight Subcommittee
Publishing and Education Council
January 2020

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CONFIDENTIAL

Global Training Center Report for the period 1 July 2019 – 31 December 2019

January 2020

1. Performance Summary for the period July – December 2019

July – December 2019: The GTC presented 10 courses and trained 206 people, achieving a fiscal net performance of **\$35,515.10**

This was achieved by further developing sales channels through the Global Training Center, hosts (ASHRAE chapters, local societies, conference organizers), commercial companies and host combinations.

Instructor performances were generally well received by attendees. It should also be noted that instructor flexibility, responsiveness and ability to adjust their schedules is crucial. Reinforce the sales dynamic making distinction between business commitment rather than internal chapter activities. Samir Traboulsi and Hassan Younes have been extremely accommodating in that regard.

The base instructor honorarium during the period was **\$850** per day.

The base registration fee per registrant during the period was (Fees charged when courses are organized in Dubai; from which all other discounted fees, etc. are derived from).

| | |
|--------------|----------------------------------|
| 1-day course | \$311 (\$405 Non-members) |
| 2-day course | \$524 (\$641 Non-members) |
| 3-day course | \$757 (\$948 Non-members) |

Average revenue per registrant ranged from **\$156** to **\$763**.

Average cost per registrant ranged from **\$46** to **\$566.73**.

Variations in average revenue and cost per registrant as a result of different registration fees is due to the following factors:

1. Member/Non-member pricing
2. Attendees from developing economies
3. Chapter/ developing economy chapter hosts
4. Group discounts
5. Multiple course registration

The following represents the cost breakdown for all courses during the period:

- Honorariums \$31,450.00
- Training venue \$6,817.68
- Printing \$1,906.96
- Airfare \$6,232.97
- Hotel \$5,360.69
- Visa \$2,305.00

2. Business Model

Basic premise of our strategy is to offer training specifically for the Middle East, Africa and parts of Asia markets that is customized, suitably priced, sold and valued.

The following shows what is currently being done and what will be changed based on what has been learned from experience.

1. During the past year, more training distributors (chapters/hosts) have been identified and used taking our training to 9 different cities in 7 countries.

Plan is to pursue more distributors (chapters/hosts) whom are more knowledgeable about their market trends and needs, to make ASHRAE courses accessible in more locations. Training organized by different hosts are offered reduced fees since a bulk of our costs are eliminated.

- A lot of potential in the Saudi market. Worth considering other hosts in addition to the Saudi Council of Engineers.
 - Engage more chapters to organize local training by continuously reminding them of the value of offering ASHRAE content in their countries. Efforts require chapter commitments which is not always present.
2. Identify more GTC instructors in different countries.
 - Reduces travel time and costs (flight, hotel, visa etc.)
 - Ensures we are more responsive to potential opportunities.
 3. Attachment A (page 11) shows the documents used to screen potential instructors. To be used as new instructors are added or re-confirmed.
 4. Organize courses based on market trends
 - Planned topics in 2020: Data Centres, Refrigerant Updates, District Cooling.
 5. Eliminate cost associated with paper-based course books and certificates during training organized in Dubai starting 2020.
 6. Ensure evaluation forms are completed by all training attendees by utilising online evaluations. Attendees will be required to complete the evaluation forms to receive their soft copy certificates. Attachment B (page 13) shows a sample of the evaluation forms used.
 7. Working with different hosts has presented some logistical challenges hence the following:
 - More control over content and secured certificates sent to chapters/hosts. Certificates will either need to be filled out by the Dubai office, secured then sent to the organizer. Or set a limit to how many times a certificate template can be filled.
 - General guidelines pertaining to facilities used by hosts/chapters for ASHRAE courses are needed.
Facilities Guidelines:
 - Attendees should be seated comfortably and not too close to each other.
 - Training room should have good indoor air quality with the ability to control the air temperature and air flow in the room.
 - Training room should be well lit.

- Data projector should be centred at the front, complete with suitable sound system (lavaliere microphone,
- Training room should be well insulated from any disruptions from neighbouring rooms.
- Restrooms, break, and lunch areas should be easily accessible by all attendees.
- Chapter organizers are encouraged to bring in training sponsors which is crucial to help further reduce fees for attendees and cover chapter related costs. To ensure compliance with ASHRAE commercial policies, the following is included in all chapter agreements.

Promotion & Sponsorship Conditions

- All course(s) promotions should include the ASHRAE chapter name and logo. (If a distributor is cooperating with an ASHRAE chapter to organize the course(s)).
 - Training room must be free from all commercial branding (i.e. corporate sponsors). All sponsor related marketing must be placed outside of the training room.
 - If courses are organized alongside a conference, the below conditions must be adhered to:
 - No logos, banners or any promotional materials relevant to sponsor(s) can be placed inside the ASHRAE training room.
 - Sponsor(s) promotional displays and materials (if any) can be placed outside of the ASHRAE training room.
 - Advertising sponsor(s) on any of the conference organizers websites must be in a separate section than the ASHRAE course(s).
 - Advertising sponsor(s) on chapter websites must be in a separate section of the web site and must comply with all requirements of the ASHRAE Policy for Chapter Websites.
8. To meet Region-At-Large's diverse needs, having a pricing structure to meet conditions of Minimum Advertised Price Policy (MAP) and Resale Price Maintenance (RPM) are being set to reduce price disparities offered by distributors (hosts/chapters) in different countries, encourage distributors to invest in promotion and customer-friendly experiences and to encourage global competition among potential distributors.

Pricing Structure:

Non-Developing Economies:

- Individual fees charged when courses are organized by the Dubai office (25% less than US fees)

- Chapter fees charged when any non-developing economy chapter organizes an ASHRAE course (50% less than base member fee)
- In-House fees (50% less than base non-member fee)

Developing Economies:

Determined based on the countries listed under “Low-income economies” and “Lower-Middle-Income economies” published by the World Bank.

- Individual DE fees charged when individuals from DE would like to attend courses organized in Dubai (50% less than US fees)
- Chapter fees charged when any developing economy chapter organizes an ASHRAE course (50% less than DE member fee)
- In-House fees (50% less than base non-member fee)

Distributors:

- Prices for different distributors in the region (hosts and/or chapters) are charged a flat fee based on a minimum number of attendees. Additional attendees are charged extra.

Pricing Conditions for Distributors:

The distributor whether host or chapter can determine the course fees charged per registrant provided the below conditions are met:

- The distributor cannot advertise the per registrant price of course(s) below what ASHRAE is charging the distributor per person.
- The distributor cannot charge each registrant below what ASHRAE is charging the distributor per person.
- If the distributor is a developing economy chapter, course(s) promotions should clearly include the term “developing economy price”.
- If a distributor is a chapter wanting to bring in a sponsor to the course(s) to help reduce the fee per person even further, course(s) promotions should clearly state that the fees have been reduced due to sponsor.

3. Metrics for the period (Training Summary July – December 2019)

| | Date | Training | Instructor(s) | Location | Final Reg. No. | Total Revenue | Total Cost | Net Profit | Comments |
|----|----------------|--|--|---------------------|----------------|---------------|-------------|--------------|------------------------------|
| 1 | 4-5 Sept 2019 | HVAC Design: Level I - Essentials (MENA) | Omar Abdelaziz & Hassan Younes | Cairo | 18 | \$ 6,300.00 | \$ 5,710.50 | \$ 589.50 | DE Chapter fees are charged |
| 2 | 13-15 Oct 2019 | HVAC Design: Level I - Essentials (MENA) | Samir Traboulsi & Hassan Younes | Riyadh, KSA | 19 | \$ 8,415.00 | \$ 6,458.95 | \$ 1,956.05 | Host: SCE* |
| 3 | 16-17 Oct 2019 | HVAC Design: Level II – Applications (MENA) | Samir Traboulsi & Hassan Younes | Riyadh, KSA | 17 | \$ 5,700.00 | \$ 4,114.39 | \$ 1,585.61 | Host: SCE* |
| 4 | 27-29 Oct 2019 | HVAC Design: Level I - Essentials (MENA) | Samir Traboulsi & Hassan Younes | Dubai, UAE | 29 | \$ 21,643.84 | \$11,353.32 | \$ 10,290.52 | GTC |
| 5 | 30-31 Oct 2019 | HVAC Design: Level II – Applications (MENA) | Samir Traboulsi | Dubai, UAE | 27 | \$ 11,039.56 | \$ 5,132.32 | \$ 5,907.24 | GTC |
| 6 | 3-5 Nov 2019 | HVAC Design: Level I - Essentials (MENA) | Alkis Triantafyllopoulos & Hesham Safwat | Jeddah, KSA | 12 | \$ 8,910.00 | \$ 6,800.77 | \$ 2,109.23 | Host: SCE* |
| 7 | 6-7 Nov 2019 | HVAC Design: Level II – Applications (MENA) | Alkis Triantafyllopoulos | Jeddah, KSA | 13 | \$ 5,400.00 | \$ 3,037.68 | \$ 2,362.32 | Host: SCE* |
| 8 | 16-18 Nov 2019 | HVAC Design: Level I - Essentials (MENA) | Samir Traboulsi & Hassan Younes | Kuwait City, Kuwait | 26 | \$ 9,828.00 | \$ 5,737.83 | \$ 4,090.17 | Host: KSE** & Kuwait Chapter |
| 9 | 18 Nov 2019 | Designing for IAQ: Complying with Standard 62.1 (MENA) | Samir Traboulsi & Hassan Younes | Kuwait City, Kuwait | 10 | \$ 3,900.00 | \$ 2,138.64 | \$ 1,761.36 | Host: KSE** & Kuwait Chapter |
| 10 | 21 Nov 2019 | Variable Refrigerant Flow Systems (MENA) | Hesham Safwat | Kuwait City, Kuwait | 35 | \$ 5,460.00 | \$ 1,596.90 | \$ 3,863.10 | Host: KSE** & Kuwait Chapter |

| | | | | |
|--------------|------------|---------------------|---------------------|---------------------|
| TOTAL | 206 | \$ 86,596.40 | \$ 52,081.30 | \$ 34,515.10 |
|--------------|------------|---------------------|---------------------|---------------------|

*Saudi Council of Engineers

** Kuwait Society of Engineers

5. Attachments

Attachment A: Instructor Application Form

ASHRAE Africa, Middle East & Southwest Asia Training Initiative Application to Be an ASHRAE Instructor

1. Biographical and Contact Information

- Name (as you wish it to appear in promotional materials):
- Credentials (that you wish listed in order of Doctorate Degree, Engineering License, ASHRAE Certifications, Accreditations, Other Certifications)
- Email address:
- Phone number:
- Grade of ASHRAE Membership:
- Year Joined ASHRAE
- Past and Current ASHRAE Technical Committee Memberships (This is not a requirement but membership is encouraged. Corresponding memberships are offered.):
- In what country do you work:
- In what other countries have you worked:
- Where did you attend university/college:
- What types of work positions have you held:
- Current employer:
- What types of employers have you worked for:

2. Professional Background Information

- In what fields do you feel qualified to instruct? (for example, psychrometrics, indoor environmental quality, system design, building performance, modeling, building automation, equipment selection, air distribution, refrigerant selection, refrigerant management, commissioning, engineering sales, project management, energy management).
- In what applications do you have experience? (for example, large buildings, hospitals, laboratories, manufacturing facilities, data centers, food handling and transportation, commercial refrigeration, district energy systems)
- Who You Are Paragraph (Using the sample below write a paragraph that describes your experience, phrased to emphasize your qualifications to be an ASHRAE Instructor. Don't worry about grammar or style; focus on why someone would want to register for a course that you instruct.)

Sample: Nathalie Smith has more than XX years experience in the HVAC&R industry. She holds an engineering degree from XXXX University and has received awards for her engineering accomplishments from XXXXX and XXXXXX. She specializes in XXXXXXX applications and is a recognized authority in the fields of XXXXXX. Ms Smith has XXXXX years of experience as an instructor teaching courses on XXXXXXX and XXXXXXX. She is

currently employed as XXXXXXX by a supplier of building automation solutions and resides in Belgium. Ms Smith believes the greatest challenge facing engineers in the field of building and environmental technologies is applying cloud-based management of building services equipment and using performance data to improve building design.

Your Paragraph:

3. Photograph

Return with a Photograph as a JPEG (Photo should be head and shoulders, either a portrait or in a professional setting. You should appear happy, encouraging someone to want to take your course).

Anything else a registrant should know about your background and experience?

CONFIDENTIAL

Attachment B: Sample Training Evaluation Form

Course Name
Training Location
Training Date

Strongly Agree

Undecided

Strongly Disagree

Instructor 1: xxx

- | | | | | | |
|---|---|---|---|---|---|
| 1. Instructor was knowledgeable in the subject. | 5 | 4 | 3 | 2 | 1 |
| 2. Instructor presented the concepts and principles clearly and understandably. | 5 | 4 | 3 | 2 | 1 |
| 3. Instructor related the material to practical applications. | 5 | 4 | 3 | 2 | 1 |

Instructor 2: xxx

- | | | | | | |
|---|---|---|---|---|---|
| 1. Instructor was knowledgeable in the subject. | 5 | 4 | 3 | 2 | 1 |
| 2. Instructor presented the concepts and principles clearly and understandably. | 5 | 4 | 3 | 2 | 1 |
| 3. Instructor related the material to practical applications. | 5 | 4 | 3 | 2 | 1 |

COURSE CONTENT

- | | | | | | |
|--|---|---|---|---|---|
| 1. Objectives of the training were clearly stated. | 5 | 4 | 3 | 2 | 1 |
| 2. Content quality and format make the course notes valuable for future reference. | 5 | 4 | 3 | 2 | 1 |
| 3. Quality and clarity of the audio visuals enhanced my ability to understand the course concepts. | 5 | 4 | 3 | 2 | 1 |
| 4. Organization and order of the presentation supported effective mastery of the training topic. | 5 | 4 | 3 | 2 | 1 |
| 5. Material presented will be of practical use in my work. | 5 | 4 | 3 | 2 | 1 |
| 6. Training level met my needs and expectations. | 5 | 4 | 3 | 2 | 1 |

GENERAL

1. Are you an individual ASHRAE member? ____ YES ____ NO

2. Which of the following best characterizes your primary job function?
- ☐ Consulting Engineer ☐ Facilities Engr/Mgr ☐ Sales Engineer ☐ Regulator
- ☐ Educator/Research ☐ Utility Representative ☐ Design Engineer ☐ Student
- ☐ Code Official ☐ Contractor/Installer ☐ Architect ☐ Other _____
3. What is the principal activity of your firm?
- ☐ Consulting (Engineering or Architectural) ☐ Manufacturing
- ☐ Contracting/Design-Build ☐ Manufacturing Representative
- ☐ Building Owner & Facility Management ☐ Other _____
4. Which describes your highest level of education?
- ☐ High School ☐ Associates Degree/Certificate Program ☐ Bachelor's Degree
- ☐ Masters Degree ☐ Doctoral Degree
5. Why did you attend? (Check one) ☐ Personal choice ☐ Employer recommendation
6. Would you prefer for Middle East/Northern Africa courses to start on Saturday or on Sunday? ☐ Saturday ☐ Sunday
7. How did you become aware of this training?
- ☐ Associate at work ☐ ASHRAE/Newsletter/Publication ☐ ASHRAE web site
- ☐ ASHRAE Chapter ☐ ASHRAE brochure mailing to members ☐ ASHRAE Social Media
- ☐ ASHRAE email ☐ Other _____
8. What was your primary reason to register for this training?
- ☐ New to HVAC&R industry ☐ Recent college graduate (1 year or less) ☐ Knowledge/CEUs/Credits
- ☐ New job or new job requirements ☐ Other _____
9. Was the course content suitable for the Middle East/Northern Africa region? ☐ YES ☐ NO
- Why or why not?
10. What changes would you make to this training?
11. What topics would you recommend for other ASHRAE courses or seminars?

GENERAL COMMENTS:

ASHRAE
Consolidated
12 Months ended June 30, 2019

REVENUES

| | |
|--|-----------|
| 31 Membership Dues Earned Income | \$7,779.9 |
| 32 Publication Sales Income | 3,447.6 |
| 34 Advertising Income - Display | 3,078.7 |
| 34 Advertising Income - Classified | 10.9 |
| 34 Advertising Income - On-line | 868.6 |
| 35.1 Meeting & Seminar Income | 1,548.2 |
| 35.2 Certification Registration | 218.7 |
| 35.3 Education Registration | 1,642.7 |
| 37 Special Project Income | 74.3 |
| 38 Contribution Income | 2,295.3 |
| 41.1 AHR Exposition Income | 5,741.8 |
| 41.2 Contributions and Matching Gifts | 109.5 |
| 41.3 Exposition Income - Other Countries | 234.0 |
| 44 Reserve Transfers | 890.0 |
| 46 Miscellaneous Income | 805.2 |

TOTAL REVENUES **28,745.4**

EXPENSES:

| | |
|--|---------|
| 51 Salary Expense | 9,616.2 |
| 52 Payroll Taxes, Benefits, Personnel Exp | 2,607.8 |
| 61 Publishing and Promotion Expense | 3,238.6 |
| 64 Meetings & Conferences Expense | 2,477.7 |
| 66 Travel Expense | 2,169.0 |
| 68 Awards, Certif, Logo Cost of Goods Sold | 232.6 |
| 71 Research Projects & Grants Expense | 2,226.6 |
| 73 Special Projects Expense | 111.4 |
| 76 Public Relations Expense | 70.5 |
| 78 Occupancy & Insurance | 768.3 |
| 82 Office Expense and Organizational Dues | 1,628.9 |
| 84 Outside Services Expense | 2,242.6 |
| 88 Other Expense | 798.0 |
| 88.1 Prepaid Expense (contra acct) | (46.3) |
| 89 Opportunity Fund | 150.0 |
| 90 Depreciation Expense | 379.1 |

TOTAL EXPENSES **28,671.0**

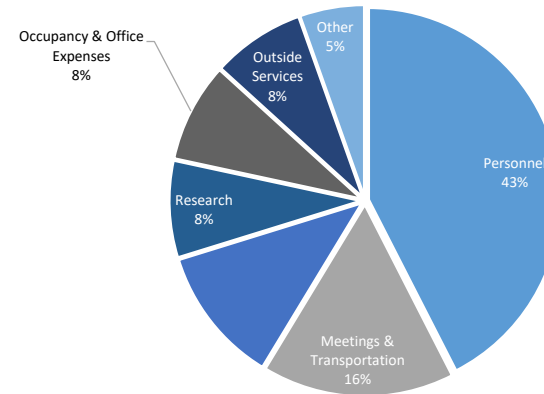
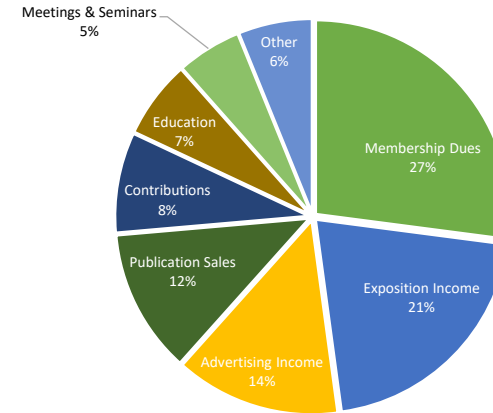
SURPLUS (DEFICIT) before reserve income 74.4

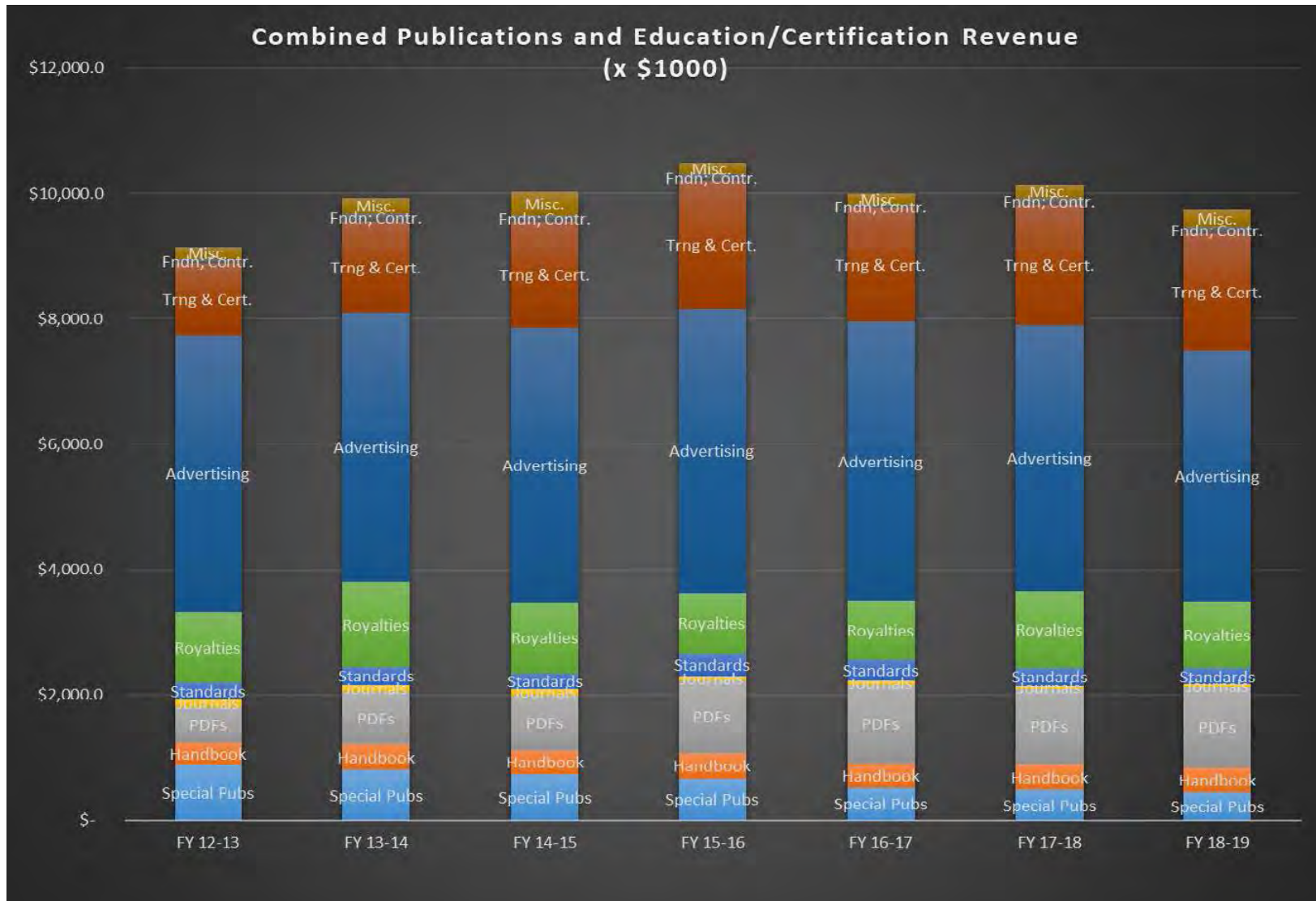
| | | |
|---------------------|-----------|------|
| Source of Funds | | |
| Membership Dues | \$7,779.9 | 27% |
| Exposition Income | 5,975.8 | 21% |
| Advertising Income | 3,958.2 | 14% |
| Publication Sales | 3,447.6 | 12% |
| Contributions | 2,404.8 | 8% |
| Education | 1,861.4 | 6% |
| Meetings & Seminars | 1,548.2 | 5% |
| Other | 1,769.5 | 6% |
| REVENUES | \$ 28,745 | 100% |

| | | |
|--------------------------------|-----------|------|
| Application of Funds | | |
| Personnel | 12,177.7 | 42% |
| Meetings & Transportation | 4,646.7 | 16% |
| Publications, Communications & | 3,309.1 | 12% |
| Research | 2,338.0 | 8% |
| Occupancy & Office Expenses | 2,397.2 | 8% |
| Outside Services | 2,242.6 | 8% |
| Other | 1,559.7 | 5% |
| EXPENSES | \$ 28,671 | 100% |

Attachment A

Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando





Definitions

Revenue

Sales for a product or service in \$US

Variable Margin

Revenue - direct costs to provide product/service that vary with volume e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship = \$45 Variable Margin or 45% Variable Margin

Gross Margin

Revenue - direct costs to provide product/service that vary with volume - staff labor directly associated with product of service e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship - \$25 Staff Labor = \$20 Gross Margin or 20% Gross Margin

Attachment A

Strategic Business Development Ad Hoc Report to PEC

Margin Analysis - Compiled list for Orlando

| SY 18-19 | Members Council | | Pub/Ed Council | | Corporate | |
|-----------------------|--------------------------|----------------------|----------------|-------------|------------|---------------|
| | Membership Dues/Handbook | Meetings/Conferences | Publications | Advertising | Education | Certification |
| Revenue | \$ 8,151.2 | \$ 1,589.2 | \$ 3,041.8 | \$ 4,073.6 | \$ 1,870.2 | \$ 225.7 |
| Direct Expenses | | | | | | |
| Staff Labor | 3,112.4 | 771.1 | 869.5 | 1,567.5 | 464.6 | 162.8 |
| Promotion | 435.6 | 34.7 | 64.8 | 96.1 | 31.7 | 8.9 |
| Materials | 769.2 | - | 358.5 | 657.3 | 109.6 | - |
| Commissions | - | 8.6 | - | 742.5 | - | - |
| Shipping/Postage | 376.9 | 0.6 | 162.9 | 566.5 | 33.0 | 4.9 |
| Meeting/Training Cost | 281.7 | 1,310.1 | 21.7 | 3.3 | 715.6 | - |
| Travel | 846.1 | 69.8 | 33.3 | 26.2 | 17.6 | 5.4 |
| Dev/Outside Services | 501.4 | 113.0 | 510.1 | 124.2 | 267.2 | 178.6 |
| Credit Card Charges | 221.0 | 44.9 | 44.4 | 1.4 | 53.5 | 6.1 |
| Bad Debt | - | - | 7.0 | 79.4 | - | - |
| Other/Misc. | 136.7 | 82.5 | 0.2 | 64.6 | 28.9 | 0.3 |
| Total Direct Expenses | 6,881.0 | 2,455.3 | 2,072.4 | 3,629.0 | 1,721.7 | 367.0 |
| Variable Margin \$ | 4,582.6 | (75.0) | 1,838.9 | 1,712.1 | 613.1 | 21.5 |
| Variable Margin % | 56% | -5% | 60% | 42% | 33% | 10% |
| Gross Margin \$ | 1,470.2 | (846.1) | 969.4 | 144.6 | 148.5 | (141.3) |
| Gross Margin % | 18% | -53% | 32% | 4% | 8% | -63% |

NOTES

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

There is \$8M in corp overhead. Cost is spread across all councils Corp overhead includes exec staff, BOD, marketing IT, Business Dev etc

Corp Overhead is allocated based on salaries. For PEC the allocation drives it into a loss position

Membership labor is high because it includes MC staff, TC staff PEC staff associated with Handbook Handbook printing and frt cost included in MC as it is a member benefit

\$466k in Handbook revenue in MC (\$466k copies sold to non members)

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

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Publication Revenue include ~\$1M in royalties

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

There is \$8M in corp overhead. Cost is spread across all councils Corp overhead includes exec staff, BOD, marketing IT, Business Dev etc

Corp Overhead is allocated based on salaries. For PEC the allocation drives it into a loss position

The revenue for Advertising comes from advertising sales in Journal, HPB Cost of journal, Research Journal and HPB is in advertising (PEC) There is no revenue from the Journal issues given to members because it is considered a member benefit

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

There is \$8M in corp overhead. Cost is spread across all councils Corp overhead includes exec staff, BOD, marketing IT, Business Dev etc

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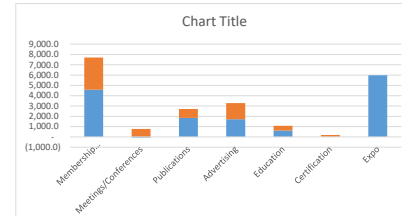
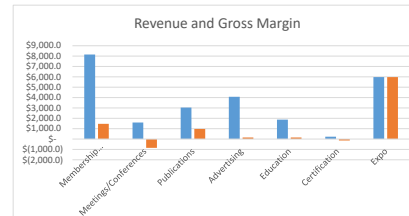
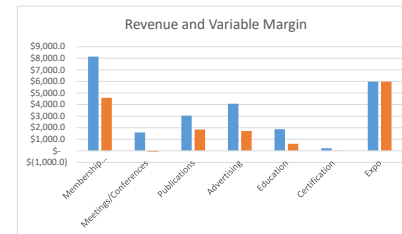
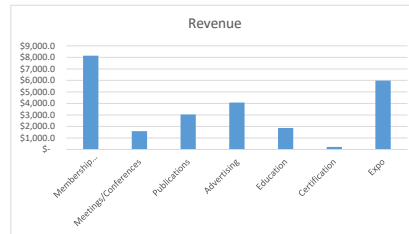
Corp Overhead is allocated based on salaries. For PEC the allocation drives it into a loss position

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

There is \$8M in corp overhead. Cost is spread across all councils Corp overhead includes exec staff, BOD, marketing IT, Business Dev etc

Corp Overhead is allocated based on salaries. For PEC the allocation drives it into a loss position



Definitions
Revenue
Variable Margin
Gross Margin

Sales for a product or service in \$US
Revenue - direct costs to provide product/service that vary with volume e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship = \$45 Variable Margin or 45% Variable Margin
Revenue - direct costs to provide product/service that vary with volume - staff labor directly associated with product of service e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship - \$25 Staff Labor = \$20 Gross Margin or 20% Gross Margin

Attachment A
Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

PEC Revenue and Margin

| Current Situation | | Publications | Advertising | Education | Certification | TOTAL |
|-------------------------------|----|--------------|-------------|-----------|---------------|----------|
| Current Revenue | \$ | 3,042 | \$ 4,074 | \$ 1,870 | \$ 226 | \$ 9,211 |
| Current Gross margin (\$1000) | \$ | 969 | \$ 145 | \$ 149 | \$ (141) | \$ 1,121 |
| Current Gross Margin % | | 32% | 4% | 8% | -63% | 12% |

| Proposed Goals | | Publications | Advertising | Education | Certification | TOTAL |
|------------------------------------|----|--------------|-------------|-----------|---------------|-----------|
| Proposed Revenue Goal | \$ | 4,000 | \$ 4,100 | \$ 2,500 | \$ 500 | \$ 11,100 |
| Proposed Gross Margin (\$1000) | \$ | 1,280 | \$ 205 | \$ 800 | \$ 100 | \$ 2,385 |
| Proposed Gross Margin (%) | | 32% | 5% | 32% | 20% | 21% |
| Proposed Revenue Goal - AY | \$ | 3,500 | \$ 4,200 | \$ 2,600 | \$ 500 | \$ 10,800 |
| Proposed Gross Margin (\$1000) -AY | \$ | 1,150 | \$ 252 | \$ 858 | \$ 100 | \$ 2,360 |
| Proposed Gross Margin (%) -AY | | 33% | 6% | 33% | 20% | 22% |

Hugh

Alice

| | | | | | |
|------------------|--|--|---|--|---|
| Hugh's Thoughts; | Very good business model. Margins are good. Focus on growing revenue | Numbers paint bad picture but remember the Journal is given away as a member benefit. Change away from print makes advertising revenue more difficult. Work to maintain busies and have advertising cover cost of printing journal | Lots of upside on Revenue. Margin is disappointing. Need to understand and resolve our high cost. | Other organizations do not make much money with Certification but make it up with training. Certification cost is too high. Reconsider our business model and see if we can get cost out (i.e. do we really need to have "ANSI ready" tests? | PEC Generates \$1121k in margin dollars to operate ASHRAE. ASHRAE Corp allocations are based on Staff salary so PEC gets a large amount of corp cost which drives PEC to a loss position. This is just an allocation issue - what is important is margin Dollars which can fund programs. |
|------------------|--|--|---|--|---|

| | | | | |
|-------------------|---|---|---|---|
| Alice's Thoughts: | I'm less bullish than Hugh on publications because of potential revenue loss due to statutory changes (e.g., loss of copyright protection) and increasing access to no-cost publications; I do think revenues could grow by better targeting publications and NOT investing in publications unlikely to sell. | If advertising includes sponsorships, I believe we can do even better here. While there is downward pressure on print sales, sponsorship opportunities and online advertising present growth potential. | I here is tremendous potential with growing our education and training revenues, including through selling these courses to government entities, and partnering with other organizations to leverage our resources, and developing better (and more modern) online courses as there is a demand especially by young people for 365-24-7 access. We could also better leverage our certification program potentially through requiring an ASHRAE course or courses (e.g., this is done by the Association of Energy Engineers) | Possible opportunity to tie regulations to certification requirements. For example, as cities and states work to meet various carbon goals, they may choose to require facility managers to have training and/or certification, or building auditors to be certified. Another opportunity exists to work with DOE to better leverage their "Better Buildings Program" to generate more interest in ASHRAE certifications. |
|-------------------|---|---|---|---|

| | | | | |
|-------------------|---|---|---|--|
| Steve's Thoughts: | Agree good business model but not that easy. Will involve working with partners to execute this. Suggest a more modest goal than what Hugh suggested. The Steve goal is in two fiscal years. After that growth might be more aggressive. Objective is how to provide digital content in usable form to the individual member and not just corporate license holder. | Agree with Hugh's target. but could be higher. Emphasis shifts from selling space to giving branding opportunities and thought leadership exposure. This is tied to integrated marketing of online and print exposure. Both have to work hand in glove. If more electronic opportunities are offered (such as sponsored blogs) revenue can grow more quickly. Also development of regional market opportunities can further offer opportunities. We are weak in doing this now. | Too aggressive because of the member/volunteer nature of ASHRAE. What Hugh suggested is reasonable IF there was not concern for chapters in developing countries to offer training at ASHRAE prices and more decentralization of educational offerings. Also, we compete with ourselves with DL program and webinar program form CTTC. If all educational activities were centralized, Hugh's suggestion would work; but if not, I would go with my suggestion. | I think many organizations make money from certification and for sure it is attached to training. That is the number 1 opportunity for ASHRAE in my view. This is not just a fiscal comment but a comment that relates to the value proposition globally and contribution to the industry. |
|-------------------|---|---|---|--|

Society Level Revenue and Margin

| | Current Model | | | | | Proposed Model | | | | |
|------------|----------------|-------------|-------------------|------------------|--|----------------|-------------|-------------------|------------------|--|
| | Revenue (\$US) | Revenue (%) | Gross Margin (\$) | Gross Margin (%) | | Revenue (\$US) | Revenue (%) | Gross Margin (\$) | Gross Margin (%) | |
| Membership | \$ 9,740.40 | | 39.1% \$ 624.1 | 8.1% | | \$ 9,740.40 | | 36.3% \$ 624.1 | 6.9% | |
| Expo | \$ 5,975.8 | | 24.0% \$ 5,975.8 | 77.4% | | \$ 5,975.8 | | 22.3% \$ 5,975.8 | 66.5% | |
| PEC | \$ 9,211.30 | | 37.0% \$ 1,121.20 | 14.5% | | \$ 11,100.00 | | 41.4% \$ 2,385.00 | 26.5% | |
| Total | \$ 24,927.50 | | 100.0% \$ 7,721.1 | 100.0% | | \$ 26,816.20 | | 100.0% \$ 8,984.9 | 100.0% | |

ASHRAE
CONSOLIDATED (General and Research)
12 Months Ended June 30

Attachment A
Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

| | Actual | Actual | Actual | Actual | Actual | Budget | DRAFT Budget | DRAFT Budget | DRAFT Budget |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | FY 2015 | FY 2016 | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 |
| REVENUES | | | | | | | | | |
| 31 Membership Dues Earned Income | \$7,430.5 | \$7,634.5 | \$7,663.7 | \$7,772.8 | \$7,779.9 | \$8,151.3 | \$8,419.4 | \$8,650.9 | \$8,867.2 |
| 32 Publication Sales Income | 3,483.9 | 3,626.1 | 3,504.1 | 3,664.0 | 3,447.6 | 3,783.7 | 3,864.3 | 3,975.2 | 3,977.2 |
| 34 Advertising Income - Display | 3,710.8 | 3,779.4 | 3,577.7 | 3,294.3 | 3,078.7 | 3,103.1 | 3,008.8 | 2,956.8 | 2,956.8 |
| 34 Advertising Income - Classified | 32.0 | 19.3 | 18.0 | 14.0 | 10.9 | 10.0 | 12.0 | 15.0 | 15.0 |
| 34 Advertising Income - On-line | 595.6 | 715.8 | 821.2 | 899.2 | 868.6 | 1,070.0 | 1,115.0 | 1,160.0 | 1,160.0 |
| 35.1 Meetings/Conferences Income | 1,578.5 | 1,529.9 | 2,151.9 | 1,737.6 | 1,548.2 | 2,426.1 | 2,425.5 | 2,191.7 | 1,981.1 |
| 35.2 Certification Registration | 183.3 | 187.6 | 196.8 | 213.2 | 218.7 | 280.0 | 290.0 | 300.0 | 300.0 |
| 35.3 Education Registration | 1,504.5 | 1,844.8 | 1,611.1 | 1,700.6 | 1,642.7 | 1,960.0 | 2,078.3 | 2,200.5 | 2,200.5 |
| 37 Special Project Income | 316.6 | 3.2 | 14.3 | 62.9 | 74.3 | 98.0 | | | |
| 38 Contribution Income | 2,116.6 | 2,215.6 | 2,223.6 | 2,312.7 | 2,295.3 | 2,577.2 | 2,629.0 | 2,761.9 | 2,761.9 |
| 41.1 AHR Exposition Income | 5,146.6 | 5,168.0 | 5,623.7 | 6,085.7 | 5,741.8 | 6,300.0 | 6,450.0 | 6,500.0 | 6,500.0 |
| 41.2 Contributions and Matching Gifts | 115.0 | 57.0 | 100.0 | 74.5 | 109.5 | 171.3 | 121.5 | 122.1 | 122.1 |
| 41.3 Exposition Income - Other Countries | 145.9 | 34.0 | 162.3 | | 234.0 | | 175.0 | 100.0 | 250.0 |
| 44 Reserve Transfers | 885.7 | 655.3 | 1,089.7 | 1,199.3 | 890.0 | 1,278.7 | 760.0 | 770.0 | 770.0 |
| 46 Miscellaneous Income | 534.4 | 322.7 | 330.7 | 364.7 | 805.2 | 554.7 | 405.4 | 419.3 | 399.3 |
| TOTAL REVENUES | 27,779.9 | 27,793.2 | 29,088.8 | 29,395.5 | 28,745.4 | 31,764.1 | 31,754.2 | 32,123.4 | 32,261.1 |
| EXPENSES: | | | | | | | | | |
| 51 Salaries | 7,910.9 | 8,780.7 | 9,182.9 | 9,730.4 | 9,720.9 | 9,813.6 | 10,051.2 | 10,363.8 | 10,669.6 |
| 52 Payroll Taxes, Benefits, Personnel | 2,536.2 | 2,738.8 | 2,650.4 | 2,875.3 | 2,636.9 | 2,772.7 | 3,059.4 | 3,124.3 | 3,172.8 |
| 61 Publishing and Promotion | 3,776.9 | 3,827.9 | 3,606.9 | 3,411.8 | 3,238.6 | 3,660.5 | 3,585.9 | 3,658.4 | 3,664.4 |
| 64 Meetings/Conferences/Trainings | 2,199.2 | 2,362.8 | 2,657.9 | 2,871.1 | 2,477.7 | 3,156.3 | 3,143.6 | 2,995.8 | 2,791.4 |
| 66 Travel | 2,076.6 | 1,863.8 | 2,263.0 | 2,228.8 | 2,169.0 | 2,413.0 | 2,464.0 | 2,584.7 | 2,580.2 |
| 68 Awards, Certif, Logo Cost of Goods Sold | 164.6 | 158.5 | 212.2 | 175.2 | 232.6 | 173.7 | 177.3 | 186.2 | 186.2 |
| 71 Research Projects & Grants | 2,469.6 | 2,321.1 | 2,725.3 | 2,941.5 | 2,226.6 | 3,002.9 | 2,878.3 | 2,938.7 | 2,938.7 |
| 73 Special Projects | 72.5 | 101.3 | 157.4 | 107.7 | 111.4 | 198.0 | 240.0 | 70.0 | 70.0 |
| 76 Public Relations | 51.0 | 79.4 | 66.7 | 58.1 | 70.5 | 74.6 | 75.9 | 79.1 | 79.1 |
| 78 Occupancy & Insurance | 559.2 | 588.6 | 553.9 | 639.3 | 768.3 | 932.6 | 757.1 | 782.8 | 782.8 |
| 82 Office Expense and Organizational Dues | 1,840.2 | 1,862.7 | 1,778.9 | 1,633.0 | 1,631.3 | 1,816.9 | 1,892.1 | 1,954.9 | 1,954.9 |
| 84 Outside Services | 1,659.7 | 1,713.1 | 1,967.0 | 1,906.3 | 2,243.0 | 2,385.1 | 2,115.8 | 2,240.4 | 2,227.4 |
| 88 Other Expenses | 530.8 | 673.6 | 720.1 | 786.7 | 798.0 | 763.5 | 833.3 | 806.8 | 801.7 |
| 88.1 Prepaid Expenses (contra acct) | 33.8 | (560.5) | (535.1) | (491.5) | (182.9) | | | | |
| 89 Opportunity Fund | 35.5 | | 140.0 | 140.0 | 150.0 | 50.0 | 150.0 | 150.0 | 150.0 |
| 90 Depreciation | 631.9 | 579.3 | 529.5 | 556.9 | 379.1 | 360.0 | 785.0 | 921.9 | 921.9 |
| 91 Allocation of Overhead & BOD | | 0.0 | 0.3 | | | (0.1) | 0.0 | | |
| TOTAL EXPENSES | 26,548.6 | 27,091.1 | 28,677.3 | 29,570.6 | 28,671.0 | 31,573.3 | 32,208.9 | 32,857.8 | 32,991.1 |
| SURPLUS (DEFICIT) before reserve income | 1,231.3 | 702.1 | 411.5 | (175.1) | 74.4 | 190.8 | (454.7) | (734.4) | (730.0) |
| 91.2 Gain on Sale of HQ | | | | | 6,174.5 | | | | |
| 91.5 Headquarters Building Contributions | 153.9 | | | | 361.0 | | | | |
| 92 Non-recurring Expenses | 639.5 | 477.9 | 69.5 | 163.4 | 114.5 | 60.0 | | | |
| Reserve Investment Income: | | | | | | | | | |
| 95 Investmt Income - Reserves (net of exp) | 222.5 | (186.1) | 2,219.6 | 1,402.9 | 742.7 | 895.6 | 913.5 | 959.2 | 959.2 |
| 96 Transfer Reserves Portion Used Currently | (885.7) | (655.3) | (1,089.7) | (1,244.3) | (1,122.2) | (1,260.2) | (760.0) | (770.0) | (770.0) |
| Remaining Reserve Investment Income | (663.2) | (841.4) | 1,129.9 | 158.6 | (379.5) | (364.6) | 153.5 | 189.2 | 189.2 |
| OVERALL SURPLUS (DEFICIT) after reserve income | 82.5 | (617.2) | 1,471.9 | (179.9) | 6,115.9 | (233.8) | (301.2) | (545.2) | (540.8) |

Attachment A

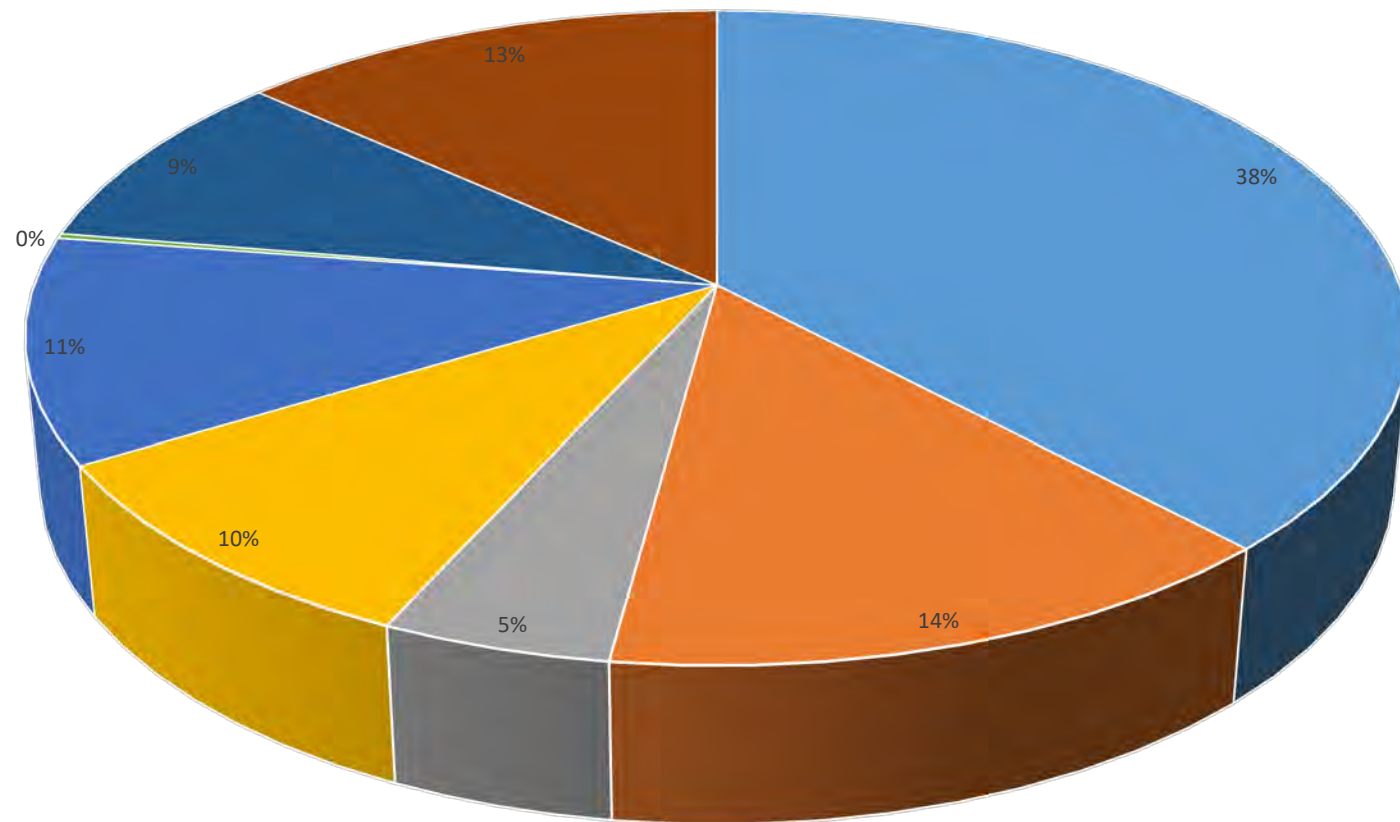
Strategic Business Development Ad Hoc Report to PEC

Margin Analysis - Compiled list for Orlando

| | | |
|---------------------------|-------|-------|
| 1 Consulting Engineer | 18445 | 32.9% |
| Student | 6226 | 11.1% |
| Manufacturer | 5057 | 9.0% |
| 1 Contractor | 4995 | 8.9% |
| 1 Manu. Rep | 3774 | 6.7% |
| Other | 3204 | 5.7% |
| Gov't | 3159 | 5.6% |
| 1 Design Build | 2923 | 5.2% |
| 1 Architect | 2874 | 5.1% |
| 1 Sales Engineer | 915 | 1.6% |
| 1 Commerical Facility | 759 | 1.4% |
| 1 Industrial Facility | 746 | 1.3% |
| 1 Property Manager | 723 | 1.3% |
| 1 Distributor | 663 | 1.2% |
| Utility | 575 | 1.0% |
| Association | 530 | 0.9% |
| 1 Educational Institution | 380 | 0.7% |
| 1 Research | 134 | 0.2% |
| Library | 11 | 0.0% |
| | 56093 | 100% |

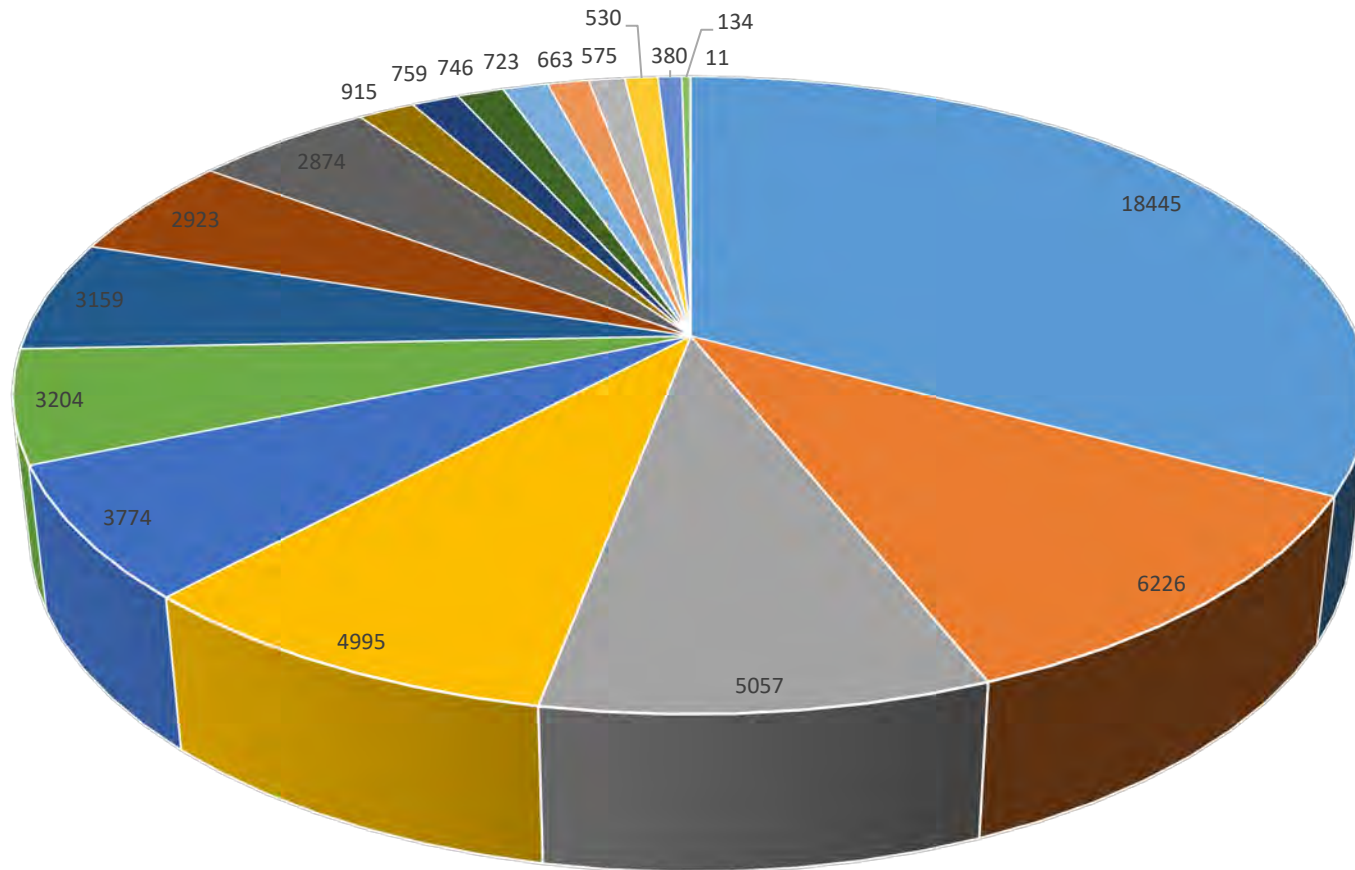
| | | |
|----------------------|-------|-----|
| Design | 21319 | 38% |
| Construction | 7918 | 14% |
| Operations and Maint | 2608 | 5% |
| Sales | 5352 | 10% |
| Student | 6226 | 11% |
| Research | 134 | 0% |
| Manufacturer | 5057 | 9% |
| Misc | 7479 | 13% |

Membership Percent



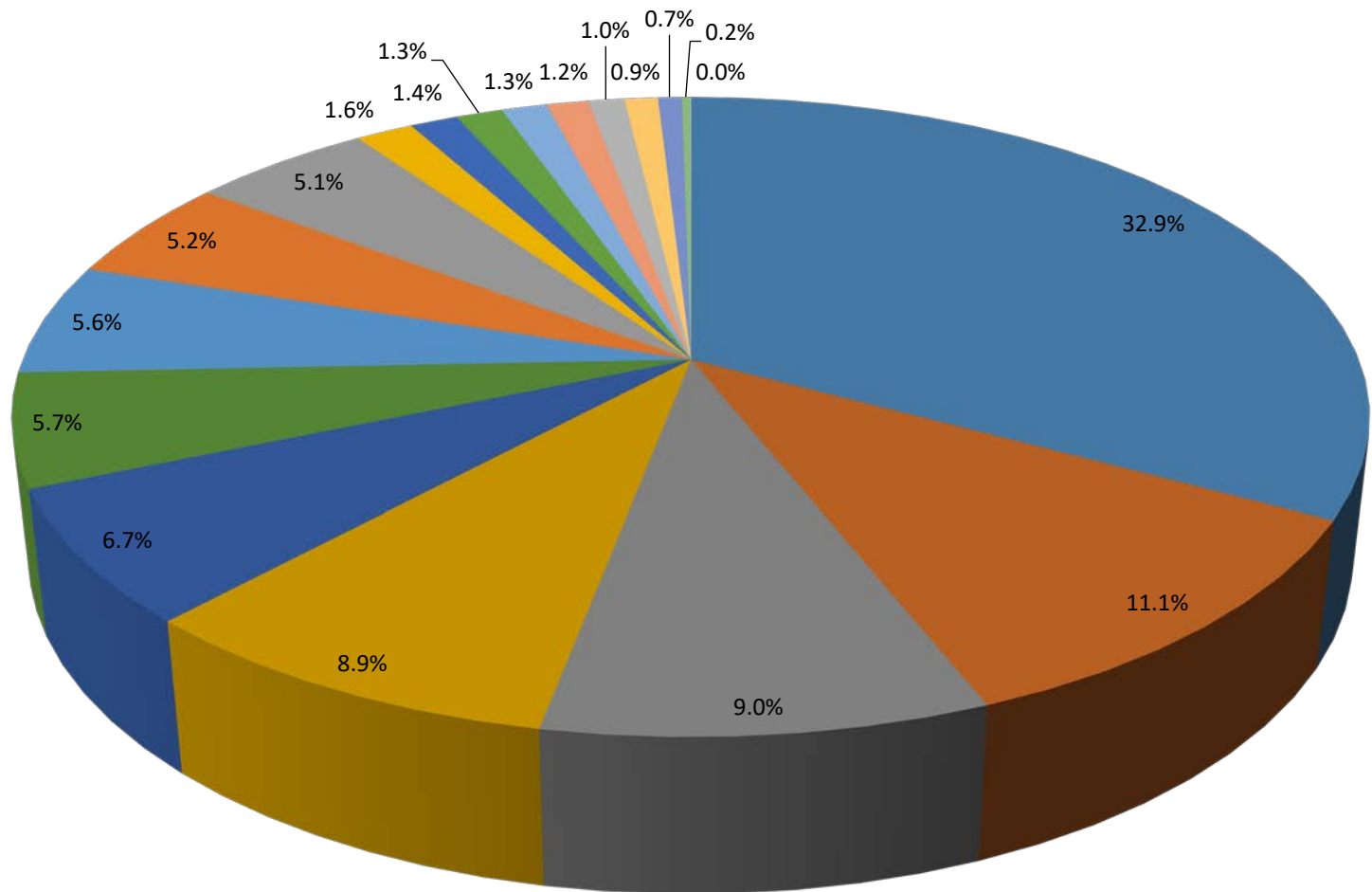
■ Design ■ Construction ■ Operations and Maint ■ Sales ■ Student ■ Research ■ Manufacturer ■ Misc

Membership headcount



- | | | | | |
|---------------------|-------------------------|------------------|-------------|----------------|
| Consulting Engineer | Student | Manufacturer | Contractor | Manu. Rep |
| Other | Gov't | Design Build | Architect | Sales Engineer |
| Commerical Facility | Industrial Facility | Property Manager | Distributor | Utility |
| Association | Educational Institution | Research | Library | |

Membership Percent



- | | | | | |
|-----------------------|---------------------------|--------------------|---------------|------------------|
| ■ Consulting Engineer | ■ Student | ■ Manufacturer | ■ Contractor | ■ Manu. Rep |
| ■ Other | ■ Gov't | ■ Design Build | ■ Architect | ■ Sales Engineer |
| ■ Commercial Facility | ■ Industrial Facility | ■ Property Manager | ■ Distributor | ■ Utility |
| ■ Association | ■ Educational Institution | ■ Research | ■ Library | |



Report to Pub/Ed Council

Winter Meeting
Orlando, Florida

Presenter: Timothy G. Wentz, PE, HBDP | Fellow/ Presidential Member ASHRAE

Charge to the Ad Hoc

- Review the current business models and operating practices to determine how revenues/profits could be enhanced.
- Survey members and customers to establish if a demand exists for products and services that ASHRAE may be able to provide
- Study products and services being provided by bodies similar to ASHRAE both in North America and internationally which ASHRAE can provide
- Recommend an outline of potential new offerings with ballpark costs and revenue projections.
- Ensure alignment with the Strategic Plan, particularly Goals 1a, 1b and 3a

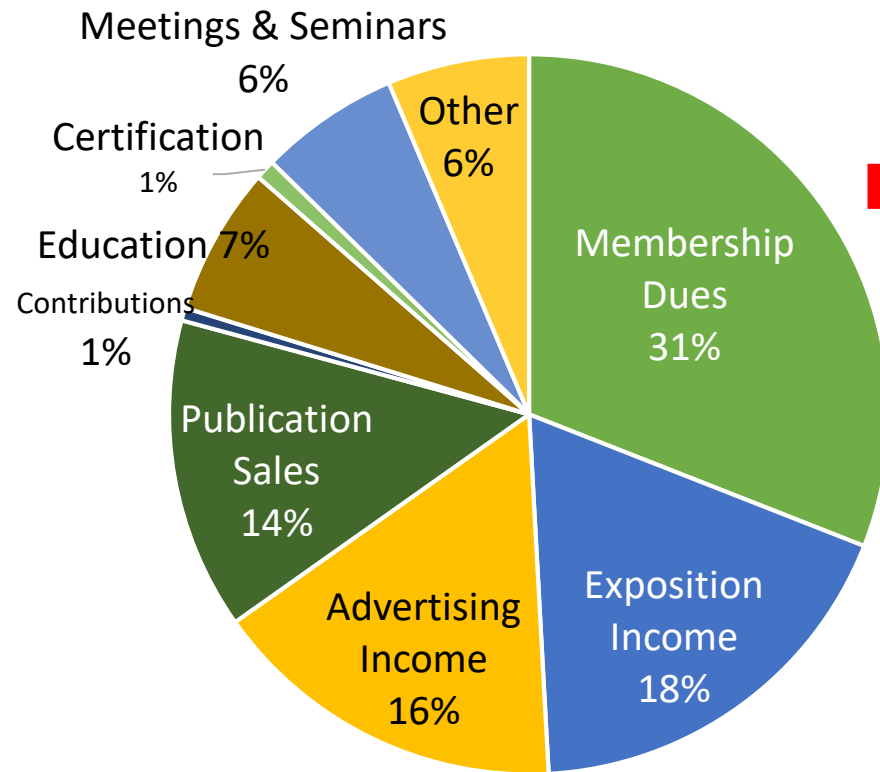


Charge to the Ad Hoc

- Determine where we are today
- Ascertain where we want to be
- Develop a plan to attain our goal



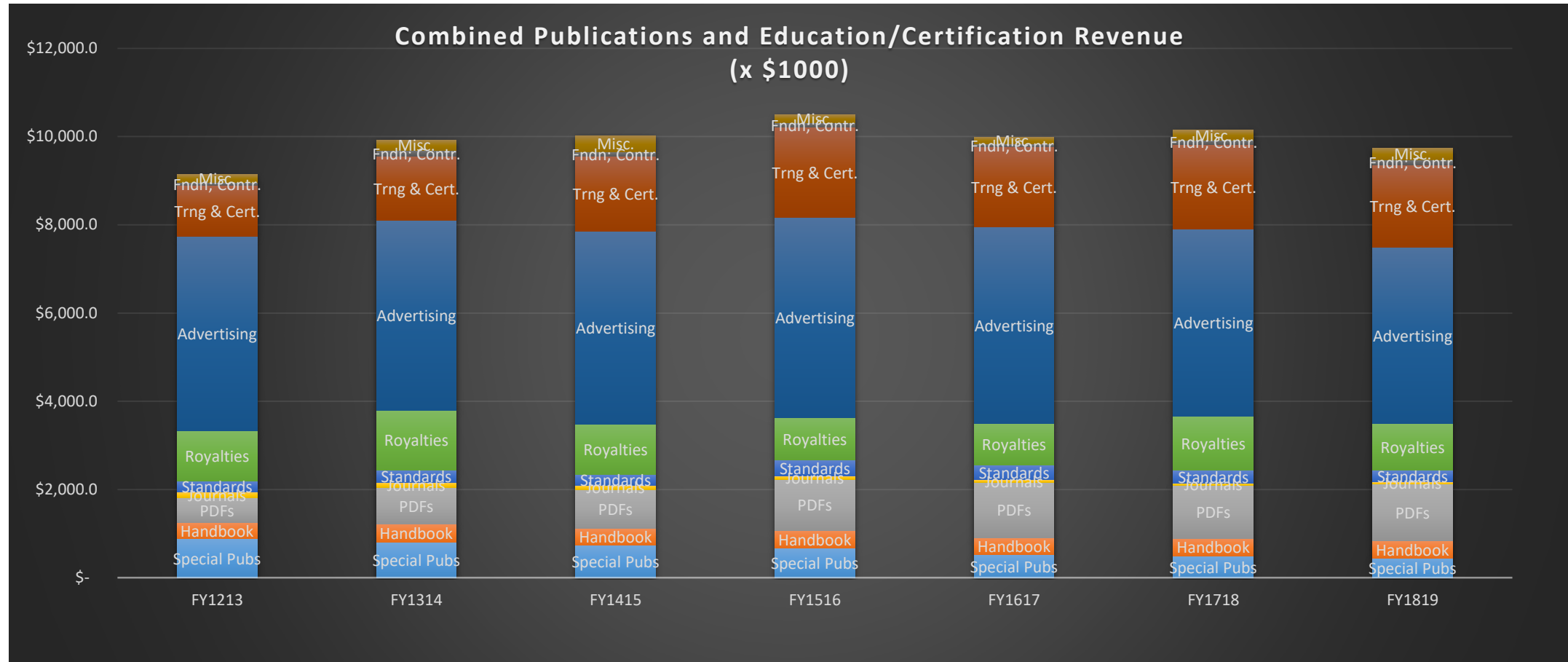
Nothing New



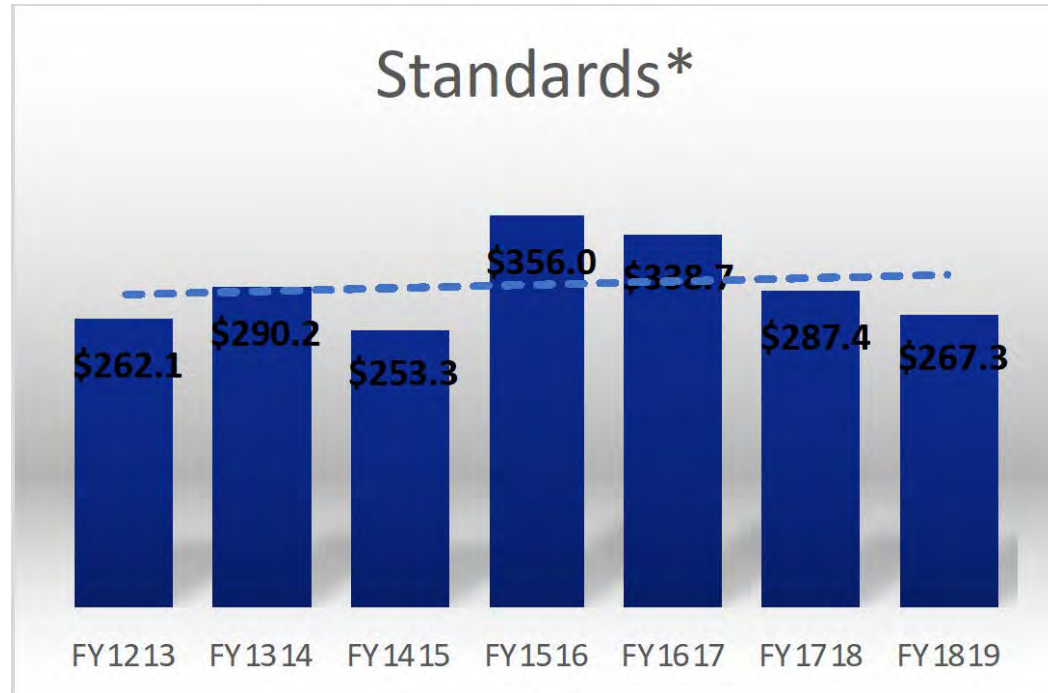
Source of Funds

| | | |
|---------------------|-----------|------|
| Membership Dues | \$7,624.3 | 31% |
| Exposition Income | 4,475.8 | 18% |
| Advertising Income | 3,958.2 | 16% |
| Publication Sales | 3,447.6 | 14% |
| Certification | 218.7 | 1% |
| Education | 1,642.7 | 7% |
| Contributions | 141.8 | 1% |
| Meetings & Seminars | 1,548.2 | 6% |
| Other | 1,569.5 | 6% |
| REVENUES | \$ 24,627 | 100% |

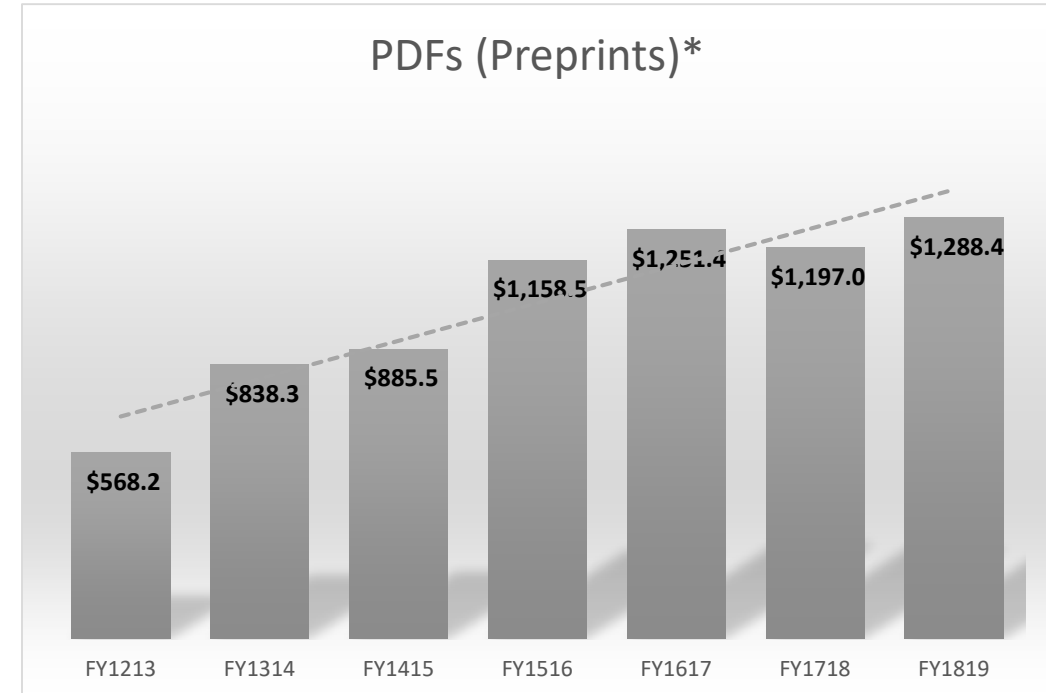
Nothing New



Nothing New

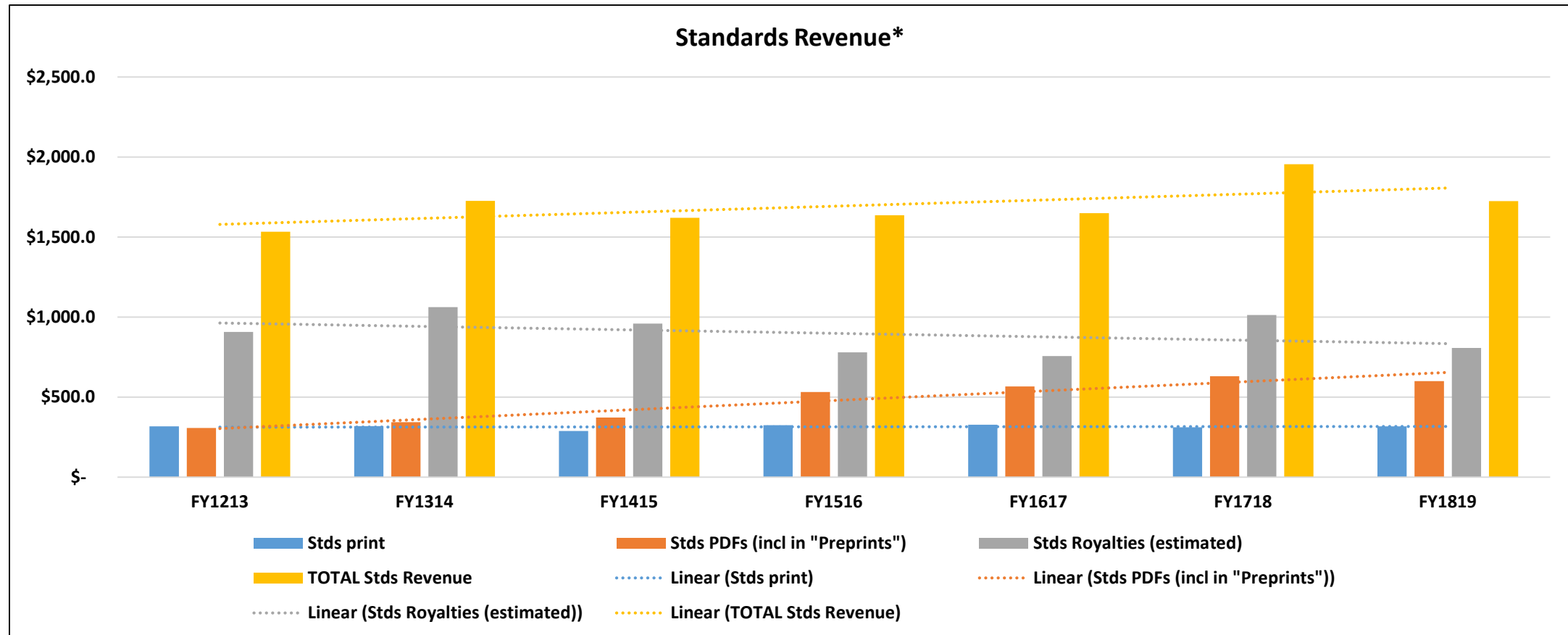


*Print only. PDF's are in Preprints

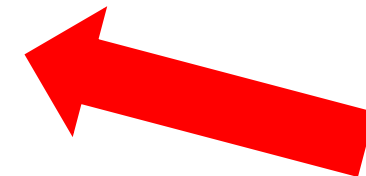


*includes PDF's of standards

Nothing New



*Does not include Overhead or BOD Council allocated costs (\$8.5MM in FY18-19)



Nothing New

- Overhead are costs that support the business but do not generate revenue
- ASHRAE has about \$8M US in overhead
- Overhead is assigned to Councils based upon staff assignment
- PEC has portions of an additional 17 staff assigned to the Council from support areas
 - Mail room
 - Accounting
 - Etc.
- Overhead is then assigned on the total staff, support staff included



OVERHEAD

Nothing New

Pub/Ed Council Surplus/Deficit Report

| | 2017 Thousands USD | 2018 Thousands USD | 2019 Thousands USD | Trend versus 2017 |
|---|-----------------------|-----------------------|-----------------------|----------------------|
| Total Revenue | 9,955.6 | 10,108.9 | 9,691.3 | ↓ |
| Total Expenses Incl OH & BOD | 12,484.2 | 13,361.7 | 13,234.8 | ↑ |
| Total (Deficit) after OH + BOD after | 2,528.6 | 3,252.8 | 3,543.5 | ↑ |

Note: All figures taken from Society Financial Reports.

Nothing New

Society Surplus/Deficit Reports

| Fiscal Year | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | AVE |
|------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| Budget Surplus/(Deficit) | \$ (158) | \$ (335) | \$ 674 | \$ (449) | \$ (283) | \$ (301) | \$ (13) | |
| Actual Surplus/(Deficit) | \$ 320 | \$ 404 | \$ 1,231 | \$ 702 | \$ 411 | \$ (175) | \$ 75 | |
| Positive/Negative Difference | + | + | + | + | + | + | + | |
| Difference (absolute) | \$ 478 | \$ 739 | \$ 558 | \$ 1,151 | \$ 694 | \$ 126 | \$ 88 | |
| % Error | 149% | 183% | 45% | 164% | 169% | 72% | 118% | 129% |

Nothing New

- What picture does this data paint for the Board?



And now for something completely different



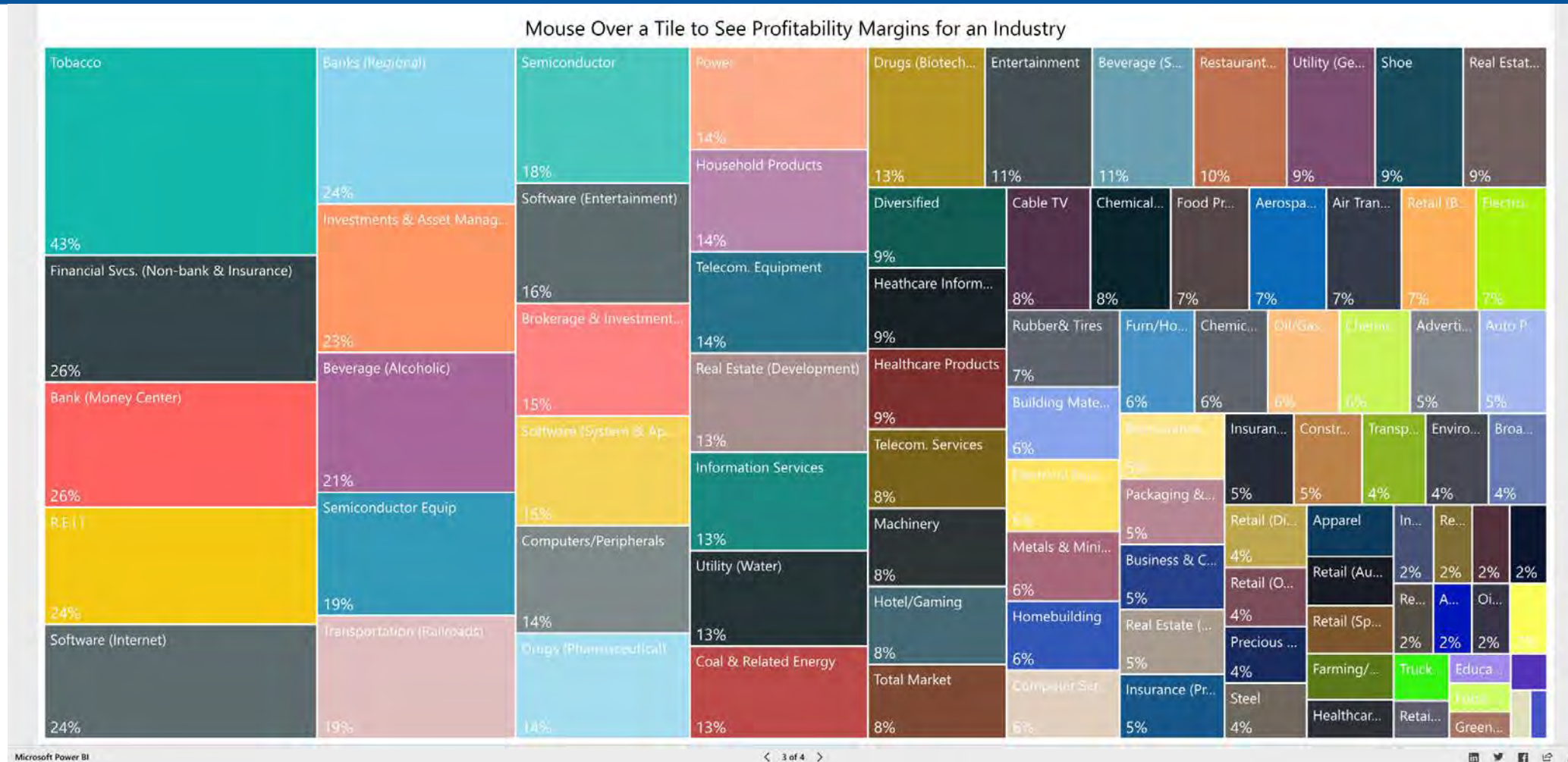
A Monty Python Moment

And now for something completely different

- ASHRAE has a very strong and robust accounting system
 - Accurately records revenue and expenses in a consistent manner in accordance with generally accepted accounting rules
- Significant difference between accounting and finance
 - Finance - Management discipline focusing on margins



The World of Margins



From Financial Rhythm by Phillip Campbell, based on data from
Prof. Aswath Damodaran, Stern School of Business, New York University, 2019



How the Picture Changes

- The language of finance

Revenue = Sales for a product or service (\$US)

Variable Margin = Revenue

-Direct costs of product/service that vary with volume

Gross Margin = Revenue

-Direct costs of product/service that vary with volume

- Staff labor directly associated with product/service



How the Picture Changes

| Revenue Source | Gross Margin | | |
|----------------------|--------------|-------|-------|
| | 16-17 | 17-18 | 18-19 |
| Dues | 16% | 20% | 18% |
| Publications | 40% | 30% | 32% |
| Advertising | 12% | 7% | 4% |
| Meetings/Conferences | -21% | -54% | -53% |
| Education | 9% | 14% | 8% |
| Certification | -87% | -52% | -63% |
| AHR Expo | 100% | 100% | 100% |

| Pub/Ed Council | | | | |
|-----------------------|----------------|-------------|-----------|---------------|
| SY 18-19 | Publications** | Advertising | Education | Certification |
| Revenue | \$3,041.8 | \$4,073.6 | \$1,870.2 | \$225.7 |
| Direct Expenses | | | | |
| Staff Labor | 869.5 | 1,567.5 | 464.6 | 162.8 |
| Promotion | 64.8 | 96.1 | 31.7 | 8.9 |
| Materials | 358.5 | 657.3 | 109.6 | - |
| Commissions | - | 742.5 | | |
| Shipping/Postage | 162.9 | 566.5 | 33.0 | 4.9 |
| Meeting/Training | | | | |
| Costs | 21.7 | 3.3 | 715.6 | - |
| Travel | 33.3 | 26.2 | 17.6 | 5.4 |
| Dev/Outside | | | | |
| Services | 510.1 | 124.2 | 267.2 | 178.6 |
| Credit Card | | | | |
| Charges | 44.4 | 1.4 | 53.5 | 6.1 |
| Bad Debt | 7.0 | 79.4 | | |
| Other/Misc. | 0.2 | 64.6 | 28.9 | 0.3 |
| Total Direct Expenses | 2,072.4 | 3,929.0 | 1,721.7 | 367.0 |
| Variable Margin \$ | 1,838.9 | 1,712.1 | 613.1 | 21.5 |
| Variable Margin % | 60% | 42% | 33% | 10% |
| Gross Margin \$ | \$969.4 | \$144.6 | \$148.5 | \$(141.3) |
| Gross Margin % | 32% | 4% | 8% | -63% |

How the Picture Changes

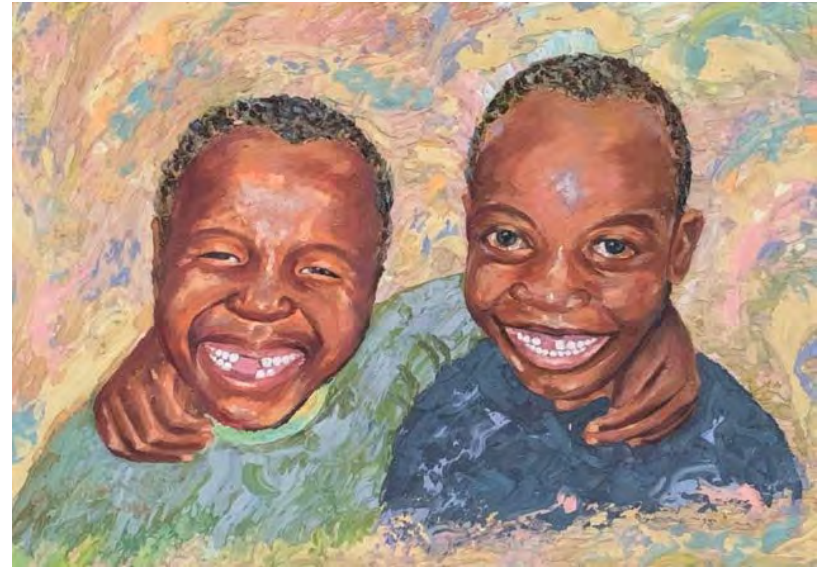
We can see clearly now (apologies to Johnny Nash):

- Publications operates at a strong gross margin
- Advertising operates at a low gross margin
 - This is OK, as advertising as ASHRAE is required to pay tax on “business unrelated to its primary business”.
- Education is operating at a low gross margin
- Certification is operating at a negative gross margin



How the Picture Changes

- Looking at ASHRAE's products through the lens of finance paints a much different picture



How the Picture Changes

- A focus on margins
 - Revenue is only important only in that it allows you to identify and analyze margins
 - Improves clarity and transparency – an ASHRAE core value
 - Better decision-making owing to deeper understanding of product contributions
 - Greater ability to identify and seize strategic opportunities
 - The path forward on product evaluation becomes much simpler



How the Picture Changes

- Future work of the ad hoc is cast in a completely new light
 - For products and services with low margins, make recommendation on how to lower cost or raise price (or both)
 - For products with good margins make recommendations on how to increase sales
 - Are we already high in market share or is there room to grow?
 - Look at other revenue streams (new products and services) based on what we see other organizations offering and emerging needs in the marketplace) and evaluate by margin



How the Picture Changes

Enhanced Goal Setting – Where We Want To Be

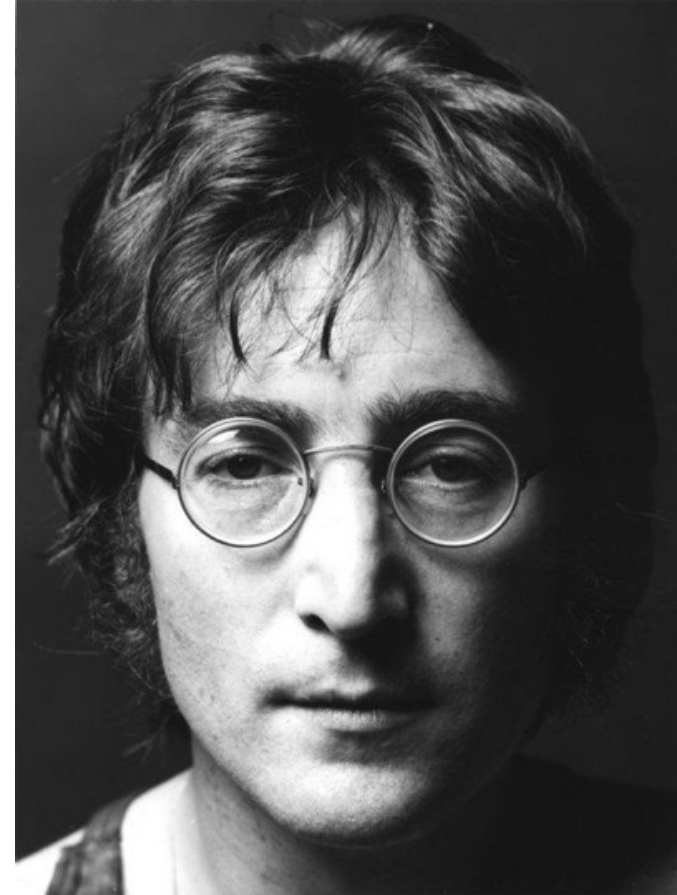
| | Publications | Advertising | Education | Certification | Goal | Current Value |
|------------------------------|--------------|-------------|-----------|---------------|----------|---------------|
| Proposed Revenue Goal | \$4,500 | \$4,300 | \$2,600 | \$600 | \$12,000 | \$9,211 |
| Proposed Gross Margin | \$1,440 | \$215 | \$625 | \$120 | \$2,400 | \$1,121 |
| Proposed Gross Margin | 32% | 5% | 24% | 20% | 20% | 12% |

*In \$1,000 US



How the Picture Changes

- Imagine an ASHRAE better focused on financial performance:
 - Expanded and enhanced revenue streams
 - Less reliance on expo income
 - More resilient to large economic swings
 - Faster, more agile in seizing opportunities
 - Better forecasting of financial position
 - Greatly enhanced decision-making



Questions





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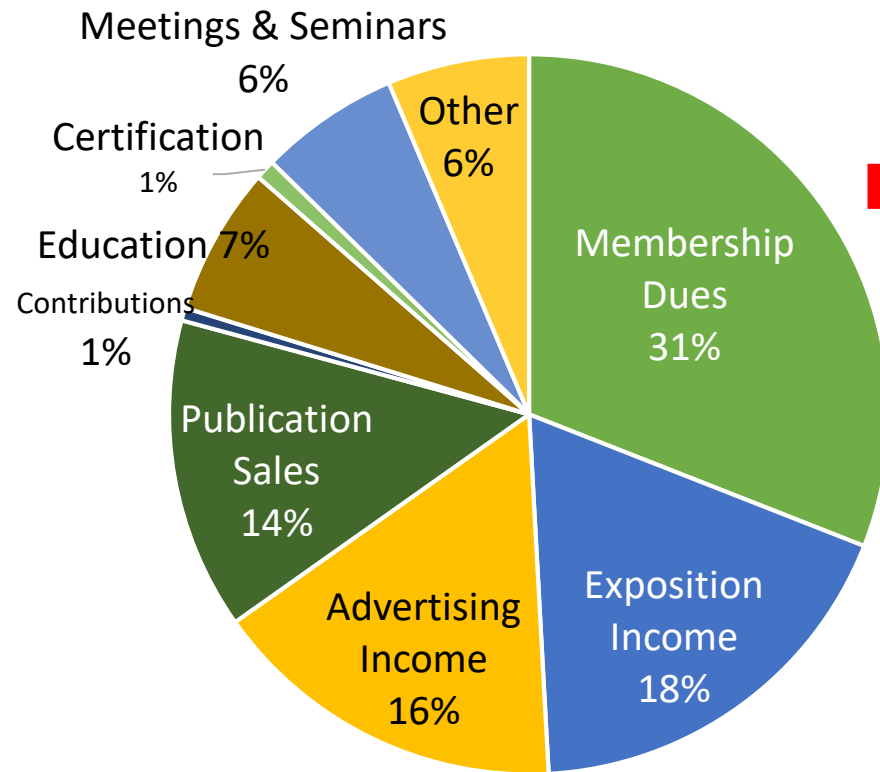


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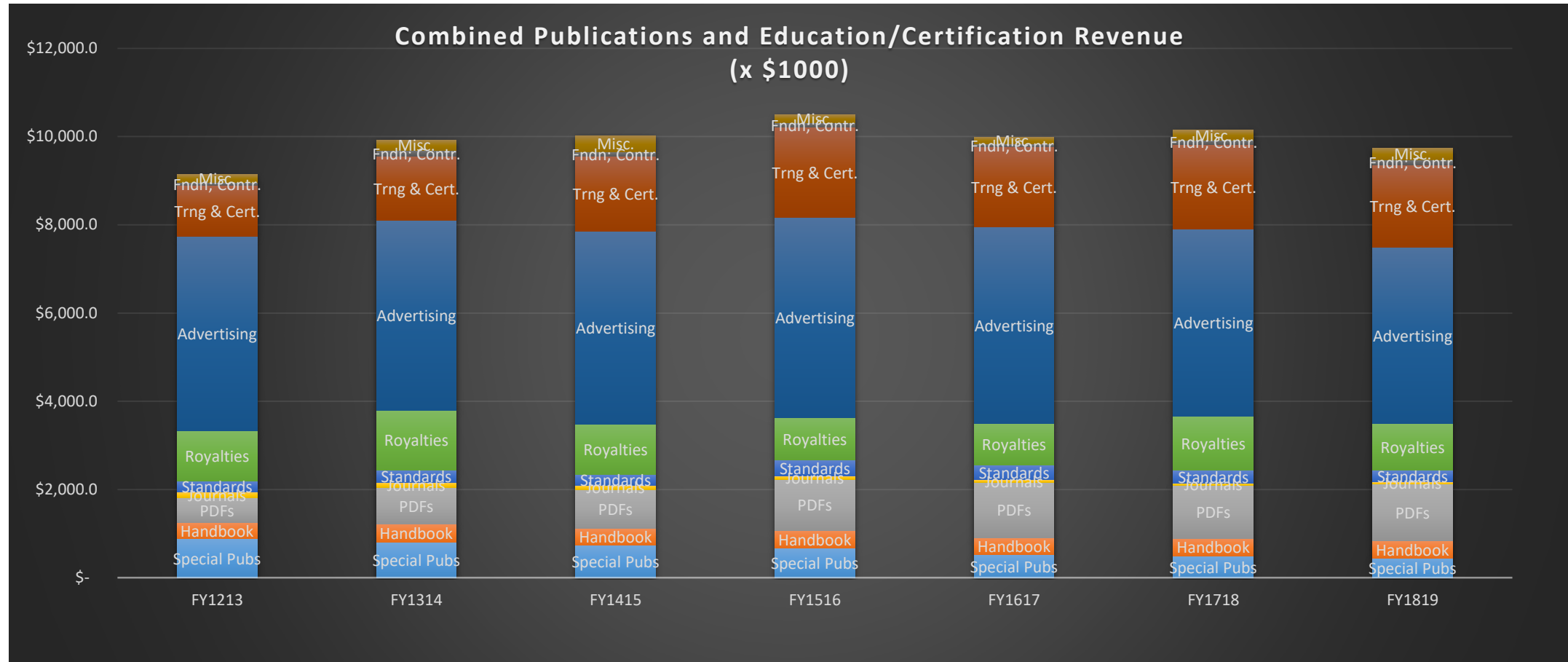
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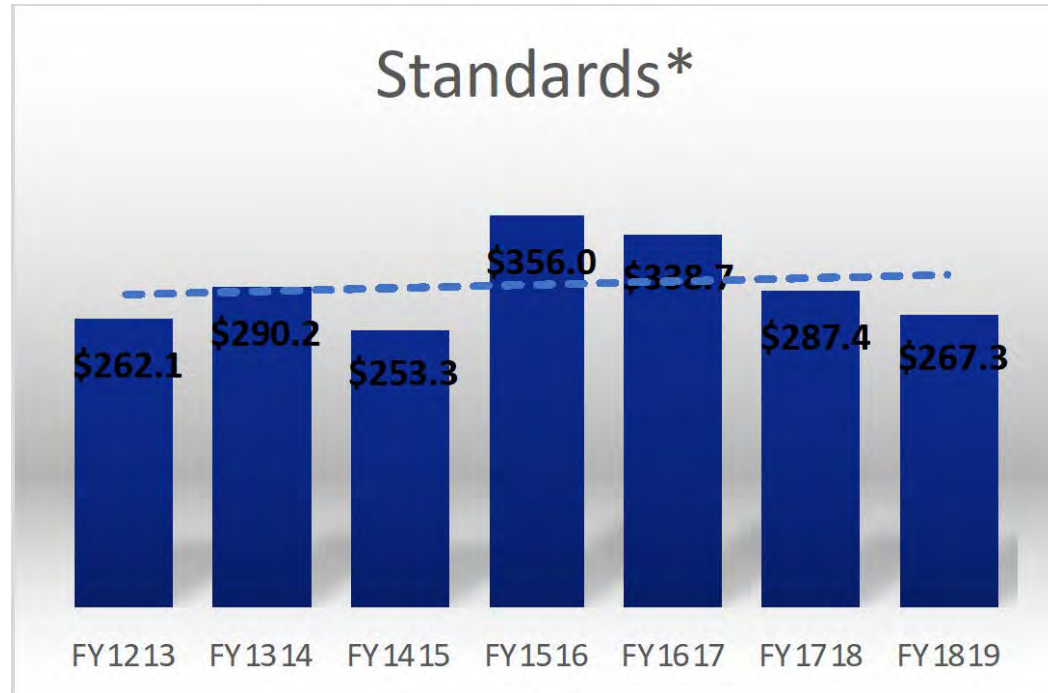
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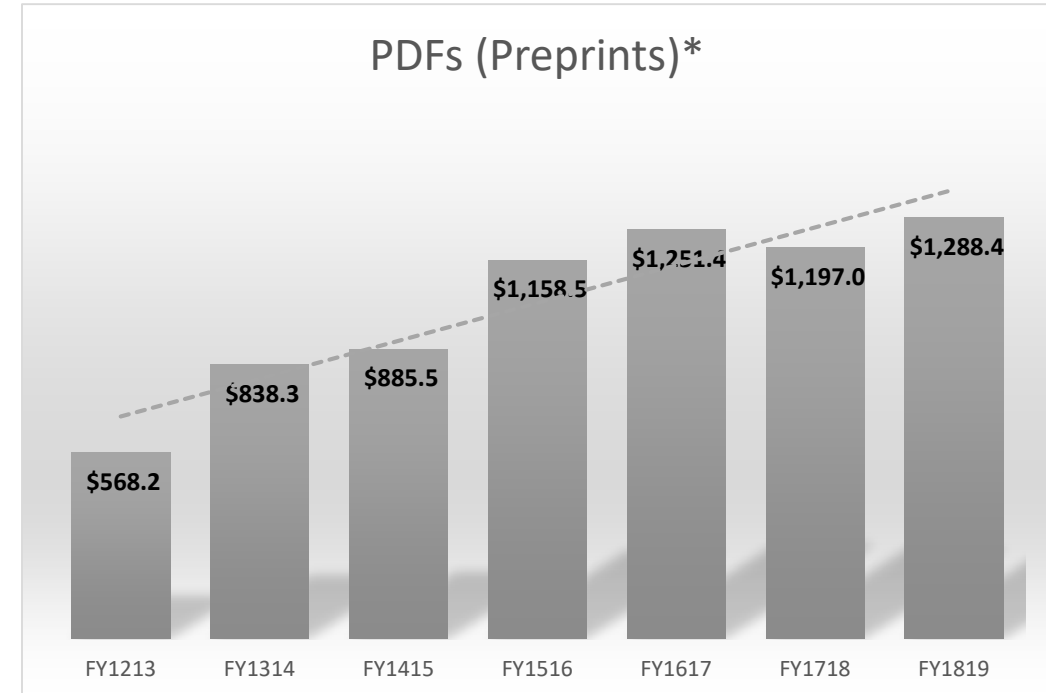
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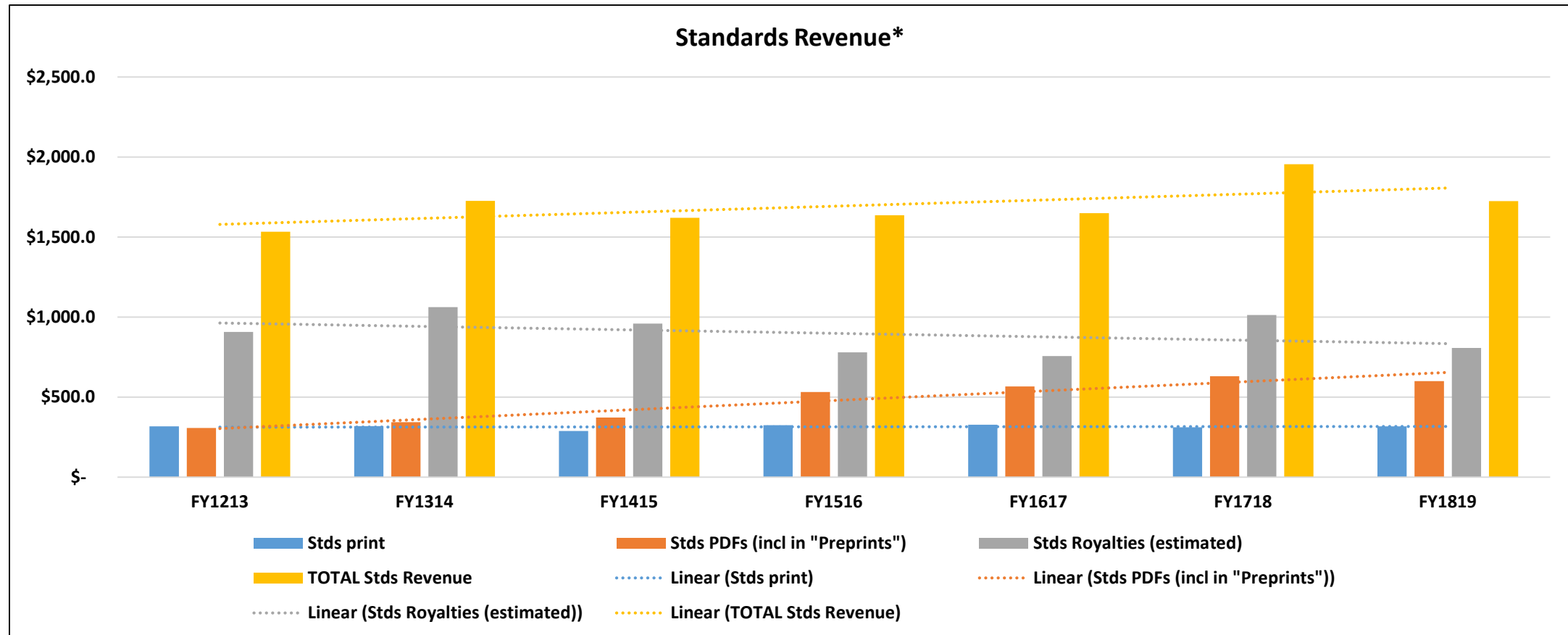


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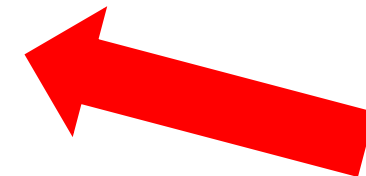


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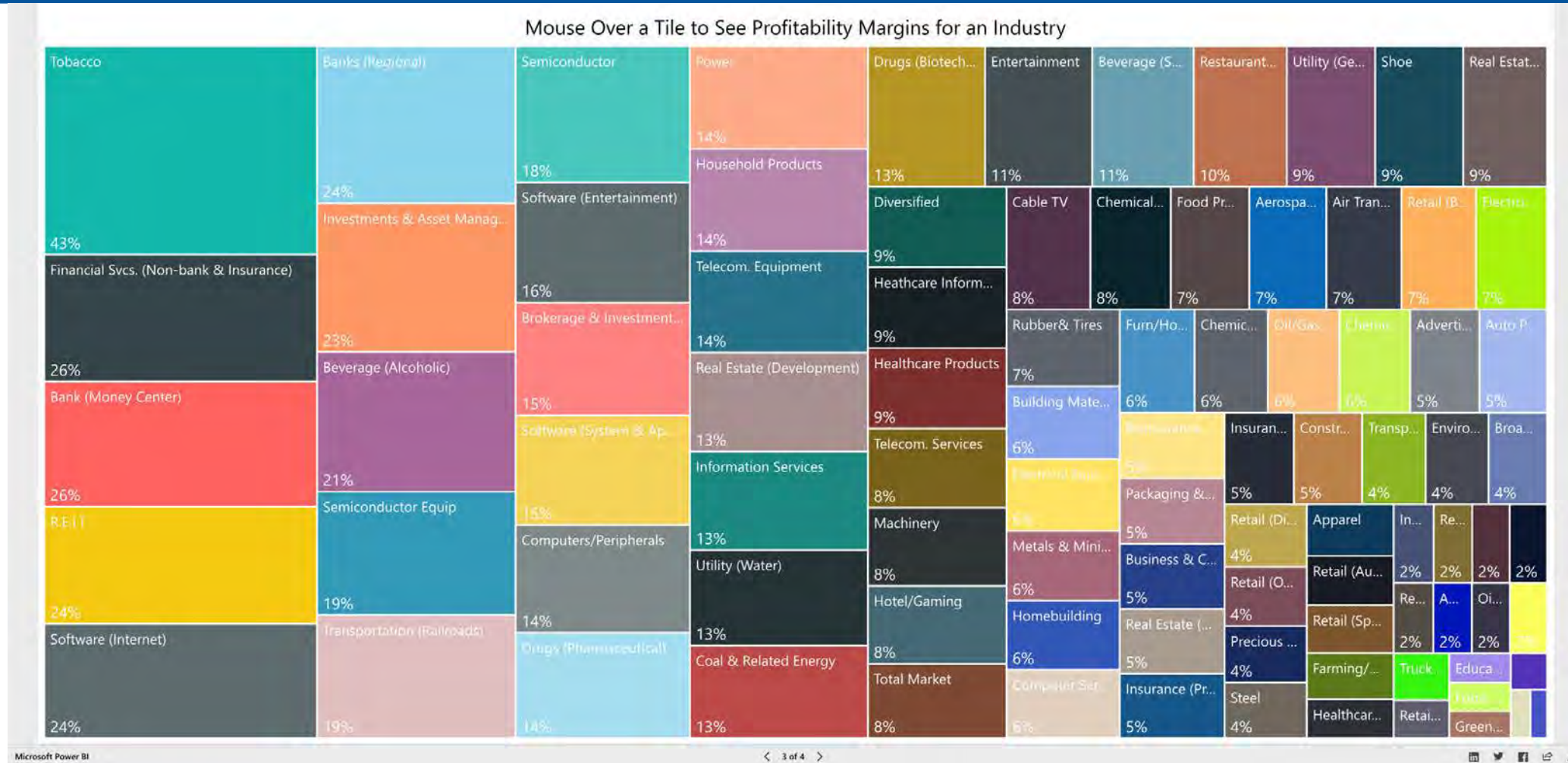
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| Advertising | 12% | 7% | 4% |
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| Education | 9% | 14% | 8% |
| Certification | -87% | -52% | -63% |
| AHR Expo | 100% | 100% | 100% |

| Pub/Ed Council | | | | |
|-----------------------|----------------|-------------|-----------|---------------|
| SY 18-19 | Publications** | Advertising | Education | Certification |
| Revenue | \$3,041.8 | \$4,073.6 | \$1,870.2 | \$225.7 |
| Direct Expenses | | | | |
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| Promotion | 64.8 | 96.1 | 31.7 | 8.9 |
| Materials | 358.5 | 657.3 | 109.6 | - |
| Commissions | - | 742.5 | | |
| Shipping/Postage | 162.9 | 566.5 | 33.0 | 4.9 |
| Meeting/Training | | | | |
| Costs | 21.7 | 3.3 | 715.6 | - |
| Travel | 33.3 | 26.2 | 17.6 | 5.4 |
| Dev/Outside | | | | |
| Services | 510.1 | 124.2 | 267.2 | 178.6 |
| Credit Card | | | | |
| Charges | 44.4 | 1.4 | 53.5 | 6.1 |
| Bad Debt | 7.0 | 79.4 | | |
| Other/Misc. | 0.2 | 64.6 | 28.9 | 0.3 |
| Total Direct Expenses | 2,072.4 | 3,929.0 | 1,721.7 | 367.0 |
| Variable Margin \$ | 1,838.9 | 1,712.1 | 613.1 | 21.5 |
| Variable Margin % | 60% | 42% | 33% | 10% |
| Gross Margin \$ | \$969.4 | \$144.6 | \$148.5 | \$(141.3) |
| Gross Margin % | 32% | 4% | 8% | -63% |

How the Picture Changes

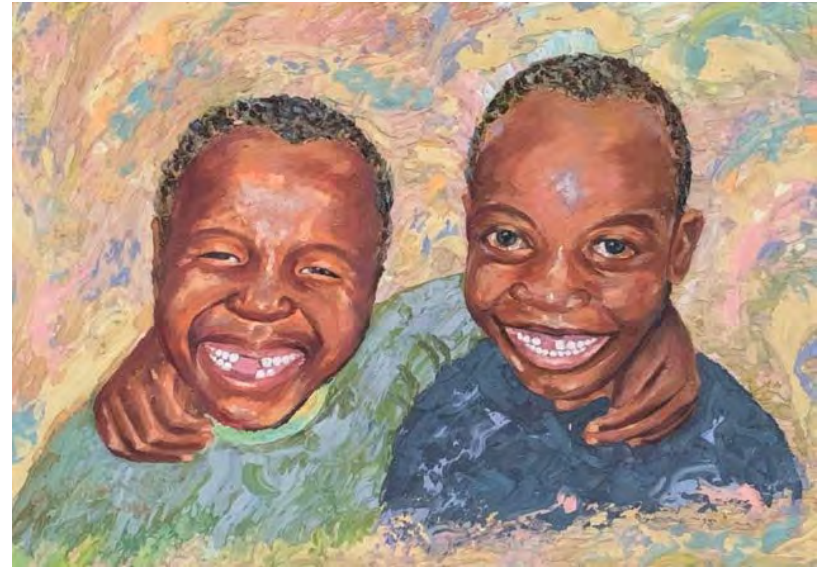
We can see clearly now (apologies to Johnny Nash):

- Publications operates at a strong gross margin
- Advertising operates at a low gross margin
 - This is OK, as advertising as ASHRAE is required to pay tax on “business unrelated to its primary business”.
- Education is operating at a low gross margin
- Certification is operating at a negative gross margin



How the Picture Changes

- Looking at ASHRAE's products through the lens of finance paints a much different picture



How the Picture Changes

- A focus on margins
 - Revenue is only important only in that it allows you to identify and analyze margins
 - Improves clarity and transparency – an ASHRAE core value
 - Better decision-making owing to deeper understanding of product contributions
 - Greater ability to identify and seize strategic opportunities
 - The path forward on product evaluation becomes much simpler



How the Picture Changes

- Future work of the ad hoc is cast in a completely new light
 - For products and services with low margins, make recommendation on how to lower cost or raise price (or both)
 - For products with good margins make recommendations on how to increase sales
 - Are we already high in market share or is there room to grow?
 - Look at other revenue streams (new products and services) based on what we see other organizations offering and emerging needs in the marketplace) and evaluate by margin



How the Picture Changes

Enhanced Goal Setting – Where We Want To Be

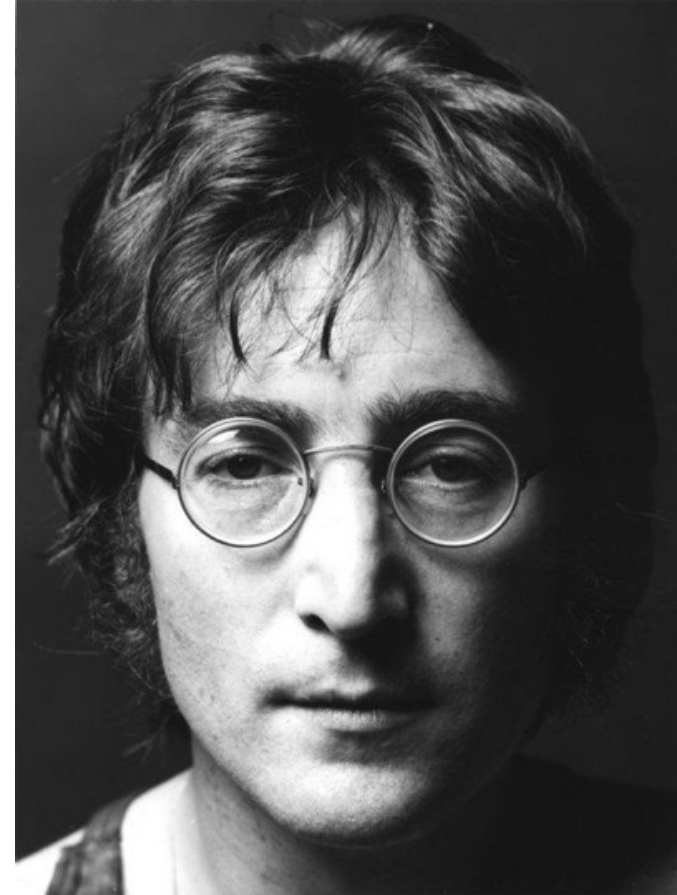
| | Publications | Advertising | Education | Certification | Goal | Current Value |
|------------------------------|--------------|-------------|-----------|---------------|----------|---------------|
| Proposed Revenue Goal | \$4,500 | \$4,300 | \$2,600 | \$600 | \$12,000 | \$9,211 |
| Proposed Gross Margin | \$1,440 | \$215 | \$625 | \$120 | \$2,400 | \$1,121 |
| Proposed Gross Margin | 32% | 5% | 24% | 20% | 20% | 12% |

*In \$1,000 US



How the Picture Changes

- Imagine an ASHRAE better focused on financial performance:
 - Expanded and enhanced revenue streams
 - Less reliance on expo income
 - More resilient to large economic swings
 - Faster, more agile in seizing opportunities
 - Better forecasting of financial position
 - Greatly enhanced decision-making



Questions



OPERATING POLICIES AND GUIDELINES

ASHRAE TRAINING CENTERS

17 June 2019

1. Philosophy

- 1.1. ASHRAE Training Centres rest upon a philosophy of engaging members in geographic markets to increase the value of ASHRAE membership through delivery of training that meets the needs of the specific market, is available at affordable pricing in the market, and which expands awareness of ASHRAE among non-member professionals in the market.
- 1.2. ASHRAE Training Centres, alongside the delivery of training, can bring visibility to the works of ASHRAE, extending ASHRAE influence to a broad range of professionals, companies, governments, and allied associations. Training Centres are also assets for ASHRAE's cooperative efforts with inter-governmental bodies, such as UNEP, in outreach to technical communities in developing countries.
- 1.3. The packaging of training, content of training, sale of training, and pricing of training is determined by each respective Training Centre based upon the needs of the market in accordance with the approved budget, policies and guidelines in this document, and consistency with ASHRAE's brand promise of technical accuracy and credibility.

2. Establishment

- 2.1. Establishing an ASHRAE Training Centre requires approval of the Board of Directors based upon the recommendation of the Publishing and Education Council.
- 2.2. In making a recommendation to the Board of Directors to establish a Training Centre, the Publishing and Education Council will first confer with the respective ASHRAE Director and Regional Chair (or chairs if the market extends to more than one region) to ensure local perspective guides development of the recommendation.
- 2.3. Recommendations to establish a Training Centre will consider the need for market-specific products, market demand, staffing requirements, instructor interest, and volunteer availability to customize content for the specific market. The recommendations shall include a business plan for consideration by the Board of Directors.

3. Operation

- 3.1. ASHRAE Training Centres operate following policies and guidelines outlined in the document.
- 3.2. Responsibility for the operation, staffing and performance of each ASHRAE Training Centre shall be the responsibility of the Business Development Manager reporting to the Society's Executive Vice President, and in coordination with the Director of Publishing and Education and the Society's professional development staff.
- 3.3. Each Training Centre will be headed a Training Centre Manager responsible for promotion, sales, scheduling, and training deployment. The manager reports to the Business Development Manager EMEA. (Note: With ASHRAE being a US registered company, it might be beneficial to provide staffing support under contract rather than as salaried employees; reporting paths remain the same.)
- 3.4. Staffing support in an office can be increased in accordance with ASHRAE staffing policies and allowance in the operating budget for each respective centre.
- 3.5. Each Training Centre shall have a volunteer oversight committee appointed by Publishing and Education Council Chair consisting of the Director & Regional Chair(s) of the Region(s) in which the centre operates, Business Development Manager, Training Centre Manager and one or more volunteers from Publishing and Education Council. The oversight committee will report to the Publishing and Education Council at each Society meeting.

4. Fiscal Performance

- 4.1. The annual budgets for each Training Centre will be prepared by the Business Development Manager in consultation with each Training Centre Manager, for submission to the Director of Publications and Education for approval by and inclusion in the Publishing Council Budget during the normal ASHRAE budget development timeline.

5. Instructor Selection and Review

- 5.1. Training Centres respond to market demand and result from negotiated sales efforts. The selection and assignment of instructors for each Training Centre must recognize that flexibility is required to enable ASHRAE to deliver training at the speed of business and to meet market demand.
- 5.2. Instructors will be selected based on their technical knowledge, skill as an instructor, appeal in attracting registrants, knowledge of market applications and standards, and availability. Instructor selection is to be a balance between specific field knowledge and ability to instruct on a range of topics which enables ASHRAE to reduce cost when satisfying bundled-training opportunities.
- 5.3. The number of instructors approved to present courses at each Training Centre is dependent upon the demand for courses scheduled by each respective centre or under consideration for scheduling.
- 5.4. Persons to serve as instructors may be suggested by any member to the manager of each respective Training Centre.

- 5.5. To serve as a Training Centre instructor, each candidate will complete an Instructor Profile which collects information related to technical experience and marketability.
- 5.6. Instructors will be selected upon the recommendation of the respective Training Centre Manager by the Business Development Manager. Appointment and instructor compensation and duration of appointment is subject to the approval of the Volunteer Oversight Committee and the chair of the Publishing and Education Council.
- 5.7. Instructors identified for one Training Centre may be assigned instruction organized by another centre if their expertise and expertise is relevant to the other market.
- 5.8. Training Centres may schedule US and Canadian instructors to instruct with or without instructors from the market, depending on customer preference, demand in the market for a US/Canadian instructor, the ability to accommodate them within the budget for a scheduled training, and the need to train instructors from the market.
- 5.9. Attendee evaluation forms will be used with each scheduled training. Tabulated results will be shared with the respective instructor and will be taken into account when reappointing instructors.
6. Fees and Sales Channels
 - 6.1. Multiple sales channels may be among the sales channels employed at a Training Centre.
 - 6.1.1. Direct sales-- Scheduled training at a centre
 - 6.1.2. Company Sponsored -- Scheduled training offered with company sponsorship open to public
 - 6.1.3. In-Company training – Reserved training for company employees and clients
 - 6.1.4. Distributor Sales – Training packaged through private firm or organisation for resale
 - 6.1.5. Chapter Training – Training delivered by chapters
 - 6.1.6. Partnered Training – Training offered in cooperation with another organization
 - 6.1.7. Intergovernmental Outreach – Training or other support provided through grants
 - 6.2. A general principle for all markets is that Training Centres will not offer registration fee pricing that cannot cover the respective cost for that development and delivery of that training.
 - 6.3. Registration fees to be charged by each Training Centre are established by staff with consideration given within each market to direct cost of delivering training, indirect costs for delivering training, and recovery of investment for development of training in the market. Fees are also subject to competitive landscape, presence or absence of drivers for demand, purchasing power within each market, and fee structures in place in other Training Centres and in the US and Canada. These factors will lead to pricing structures that while desired to be consistent in different markets will necessarily reflect market differences.

- 6.4. Pricing offered through each sales channel will be at the discretion of the manager of the respective Training Centre and the Business Development Manager taking account of volume, the above factors and number of courses to be scheduled, anticipated attendance, ASHRAE cost to deliver training, value to ASHRAE in terms of promotion of standards, and location.

7. Course Locations and Costs

- 7.1. Considerations for course location include, dependent upon the type of course scheduled: Productive learning environment, catering or restaurant availability, audio visual services, convenience for attendees, nearby hotel for instructors, cost.
- 7.2. Courses may be located at hotels, universities, company facilities, with an emphasis on choosing a location that provides the greatest value, while ensuring satisfactory attendee experiences and considering the staffing time required for deployment.
- 7.3. Scheduling of courses, course agendas, and catering will be based on expectations of attendees from the market being served.

8. Course Selection

- 8.1. Course inventory for each Training Centre needs to be responsive to customer demand. This can require modification and customization. Courses in inventory must also be able to be delivered quickly and consistently so that ASHRAE can operate at the speed of business.
- 8.2. Course inventory will be developed based on demand as identified by potential customers, instructors, regional director, and chapter and regional volunteers and as consolidated by the respective Training Centre manager.
- 8.3. Courses can be included in the inventory with content developed for the US/Canadian market or based upon feedback from potential customers, instructors, regional director and chapter and regional volunteers customized for the respective market.
- 8.4. Courses can be developed that are specific to the market of each Training Centre if there is adequate demand.
- 8.5. If market customization is required, it will be done by voluntary effort from instructors or others either at one time or under a continuous development process. If market customization cannot be done voluntarily, funding from the respective centre's budget can be used upon recommendation of the Business Development Manager with the approval of the chair of the Publishing and Education Council.
- 8.6. Centre managers, Business Development Manager, Director of Publishing and Education Council, respective Volunteer Oversight Committee, and Publishing and Education Council chair will review scheduling of course inventory annually to proactively modify course inventory as needed.

9. Business Development

- 9.1. Each Training Centre Manager shall maintain a list of prospects for each of sales channels within their market. List will be used in regular communication including personal outreach will be employed with each of the prospect lists, recognizing purchasing traditions within the given market.
- 9.2. The Business Development Manager will work with each Training Centre manager to identify value propositions that resonate in each market and employ sales and communication techniques that are proven to be most effective in each region.
- 9.3. In addition to ASHRAE Media, Training Centre managers will use other communication channels through promotion budgets included in the annual budget for each Training Centre.

10. Metrics

- 10.1. A quarterly report for each Training Centre will be prepared showing scheduling of training during the period with date of course presentation, name of course presented, instructors, location, sales channel, total attendees, total revenue, total cost, net, and comments. In a format approved by the Publishing and Education Council Chair.
- 10.2. On a semi-annual basis combined tabulation of instructor evaluations from the previous 6 months will be shared by the Business Development Manager with the chair of the Publishing and Education Council and Volunteer Oversight Committee. This tabulation is to be held in confidence.

###

REPORT TO BOARD OF DIRECTORS (BOD)
Publishing and Education Council
November 15, 2019

Information Items:

1. Fiscal performance of PEC is shown in Attachment A for Q1 of FY20. Revenue is down slightly, by 29.5k; however, expenses are down by 147.2k, with the net at 116.9k better than last year and 131.9k better than current budget. Also shown in Attachment A, the net deficit after allocation of Overhead and BOD expense has increased from 2.528 million in 2017 to 3.543 million in 2019.
2. PEC has an ad hoc Chaired by Presidential Member Tim Wentz charged with reviewing current business models, and operation practices to determine how Revenues/Profits could be enhanced in a changing market place, in addition to on outlining potential new offerings. The ad hoc is following a three step approach:
 - i. Determining where we are now
 - ii. Determining where want to be
 - iii. Recommending how we can achieve our objectives.

The Ad hoc will report on (i) and (ii) in Orlando & submit their final report in Austin.

3. PEC MBO's (Attachment B) for FY 20 are centered around the Strategic Plan and involve strategizing for the future and analyzing current programs performance as well as developing a PEC "Dashboard."
4. New training contracts have been entered with the U.S. General Services Administration (GSA) and the U.S. Naval Facilities Engineering Command (NAVFAC) that will account for an additional \$63k and \$288k of revenue for ALI education programs in FY1920. ASHRAE will provide HVAC Design Levels I and II training as well as courses on Standard 55 and 90.1 at 19 events in the next 8 months.
5. ASHRAE's eLearning courses on HVACR fundamentals have been revised and are being relaunched on the eLearning platform. These revisions, along with other course improvements, were made possible by a \$60,000 grant from ASHRAE Foundation for FY1920.





Respectfully submitted,

Farooq Mehboob, Chair
15 November 2019




Attachment A

PEC FISCAL PERFORMANCE

1. FY 20 Through month of September

| | Thousands USD | Trend versus Last Year |
|--------------------------------|---------------|---|
| Total Revenue | 1,883.3 |  |
| Expenses before OH & BOD | 1,801.4 |  |
| Total Expenses Incl OH & BOD | 2,775.3 |  |
| Total (DEFICIT) after OH + BOD | 887.0 |  |

2. COMPARISON FY 17 to FY 19

| | 2017 Thousands USD | 2018 Thousands USD | 2019 Thousands USD | Trend versus 2017 |
|--------------------------------------|-----------------------|-----------------------|-----------------------|---|
| Total Revenue | 9,955.6 | 10,108.9 | 9,691.3 |  |
| Total Expenses Incl OH & BOD | 12,484.2 | 13,361.7 | 13,234.8 |  |
| Total (Deficit) after OH + BOD after | 2,528.6 | 3,252.8 | 3,543.5 |  |

Note: All figures taken from Society Financial Reports.

Attachment B

PUBLISHING & EDUCATION COUNCIL - MBOs 2019-2020 SY - Farooq Mehboob, Chair

| | | RESPONSIBILITY | | | | | | | | | | | | | | | |
|-----|---|----------------|----------|------------|-----|---------------|------------|--------|-----------|-----------------|------------------|--------|-------------|-----------|-------|-------------|---|
| | | Committees | | | | Subcommittees | | | | Other | | | | | | | |
| NO. | DESCRIPTION | Certification | Handbook | Historical | PDC | Publications | Functional | Fiscal | eLearning | Journal Advert. | Research Journal | Ad-hoc | PEC V Chair | PEC Chair | Staff | STATUS | COMMENTS |
| 1 | Appoint PEC Adhoc to address Strategic Business Development for potential new revenue streams. | - | - | - | - | - | - | - | - | - | - | X | - | - | X | In Progress | |
| 2 | Develop Strategy for expanding ALI Instructor core and establish procedures and criteria for instructor appointment and remuneration. | - | - | - | X | - | X | - | - | - | - | - | X | X | X | | Oversight by Functional Planning Subcommittee of PEC. |
| 3 | Analyse Certification Program and develop metrics for evaluating potential for new certifications aligned with Strategic Plan initiatives 1 & 2 after surveying members to establish interest and demand. | X | - | - | - | - | X | - | - | - | - | - | X | X | X | | Oversight by Functional Planning Subcommittee of PEC. |
| 4 | Analyse performance of special publications over the past three years and develop criteria for evaluating and approving special publication requests on a business case basis aligned with strategic plan initiative 3. | | | | | X | X | | | | | | X | X | X | | Oversight by Functional Planning Subcommittee of PEC. |
| 5 | Develop PEC 'Dashboard' showing relevant data pertaining to operations of PEC committees. This aligns with strategic plan initiative 3. | X | X | X | X | X | | X | | | | | X | X | X | | Oversight by Fiscal Planning Subcommittee of PEC. |

**REPORT TO THE BOARD OF DIRECTORS
From Publishing and Education Council (PEC)
As of February 4, 2020**

Recommendations for Board Approval:

1. MOTION: **That the Board of Directors approve the following changes to the Rules of the Board:**

2.101.007.3

ASHRAE shall publish and distribute ~~on-line~~ an electronic newsletter to its members. The ~~name of the~~ e-Newsletter ~~shall be Society Connections, and it~~ shall be an "official publication of the Society."

(SBL 10.2) (06-03-20-01)

2.101.007.4

(15-01-25/14-07-02-17)

ASHRAE shall publish and distribute to subscribers a journal of archival-quality research. The name of the publication shall be ~~HVAC&R Research to~~ *Science and Technology for the Built Environment*, and it shall be an "official publication of the Society."

BACKGROUND: These changes simply correct inaccuracies in (1) the mode of delivery (email, not "on-line") and (2) the names of the referenced publications ("eSociety" has supplanted "*Society Connections*" for some time; the "HVAC&R Research" is a remnant typo from the previous revision). *(PEC Approved 11-0-0 CNV)*

FISCAL IMPACT: None.

Information Items:

1. The council reviewed the end December 2019 financial status, which showed revenue up \$125k (3.13%) versus last year and down \$125k (2.96%) versus budget. Expense is down \$357k (9.12%) versus last year and down \$683k versus budget. Net before OH&BOD is \$482k better than last year and \$557k better than budget.
2. Education courses at the conference have attracted 1123 registrants, the second highest number of attendees in the past 10 years, close behind Las Vegas 2017 with 1161. Courses with the five highest registrations are the following:
 - 122 - Guideline 36: Best in Class HVAC Control Sequences
 - 76 - Designing and Operating High-Performing Healthcare HVAC Systems
 - 82 - Variable Refrigerant Flow Systems: Design and Applications
 - 68 - V in HVAC - What, Why, Where, How and How Much
 - 67 - Humidity Control II: Real-World Problems and Solutions
3. Through January 31, 2020, ASHRAE has received 20% more certification applications (292) over the previous Society YTD (244). This is due primarily to Certified HVAC Designer (CHD) applications.
4. Mr. Wentz, chair of PEC Strategic Business Development Ad Hoc, gave PEC a presentation on the analysis and recommendations for future opportunities of business development shown in **Attachment A.**

4 February 2020

Date

Farooq Mehboob

Chair



Report to Pub/Ed Council

Winter Meeting
Orlando, Florida

Presenter: Timothy G. Wentz, PE, HBDP | Fellow/ Presidential Member ASHRAE

Charge to the Ad Hoc

- Review the current business models and operating practices to determine how revenues/profits could be enhanced.
- Survey members and customers to establish if a demand exists for products and services that ASHRAE may be able to provide
- Study products and services being provided by bodies similar to ASHRAE both in North America and internationally which ASHRAE can provide
- Recommend an outline of potential new offerings with ballpark costs and revenue projections.
- Ensure alignment with the Strategic Plan, particularly Goals 1a, 1b and 3a

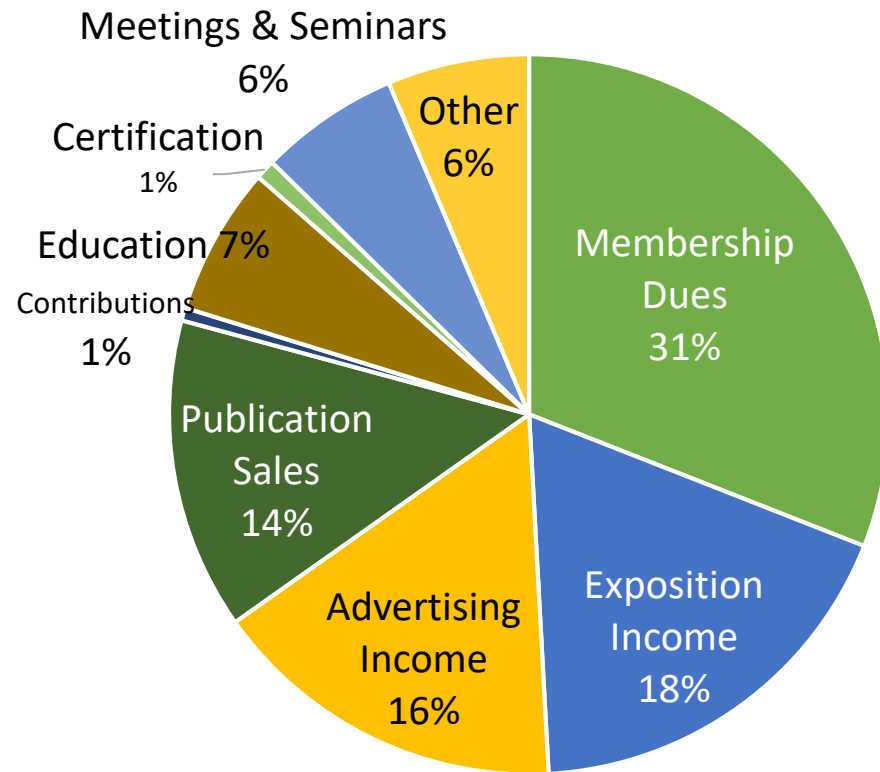


Charge to the Ad Hoc

- Determine where we are today
- Ascertain where we want to be
- Develop a plan to attain our goal

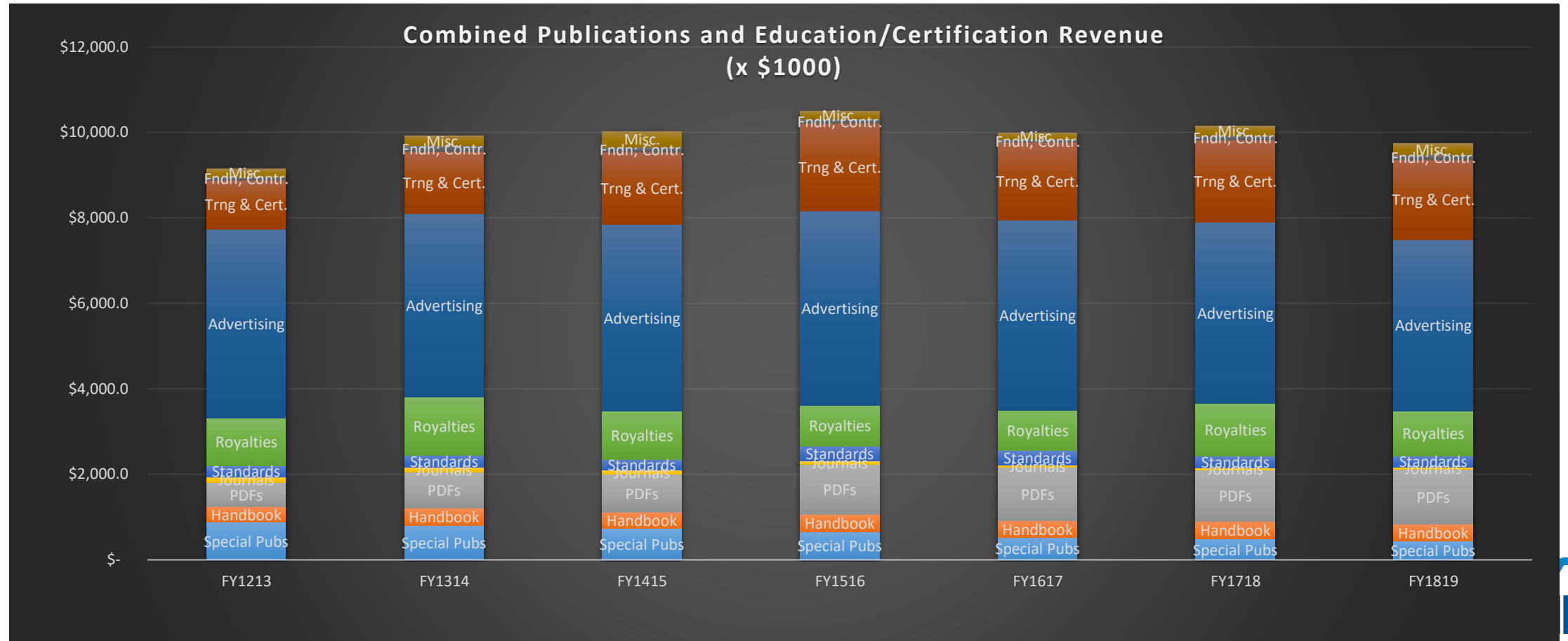


Nothing New

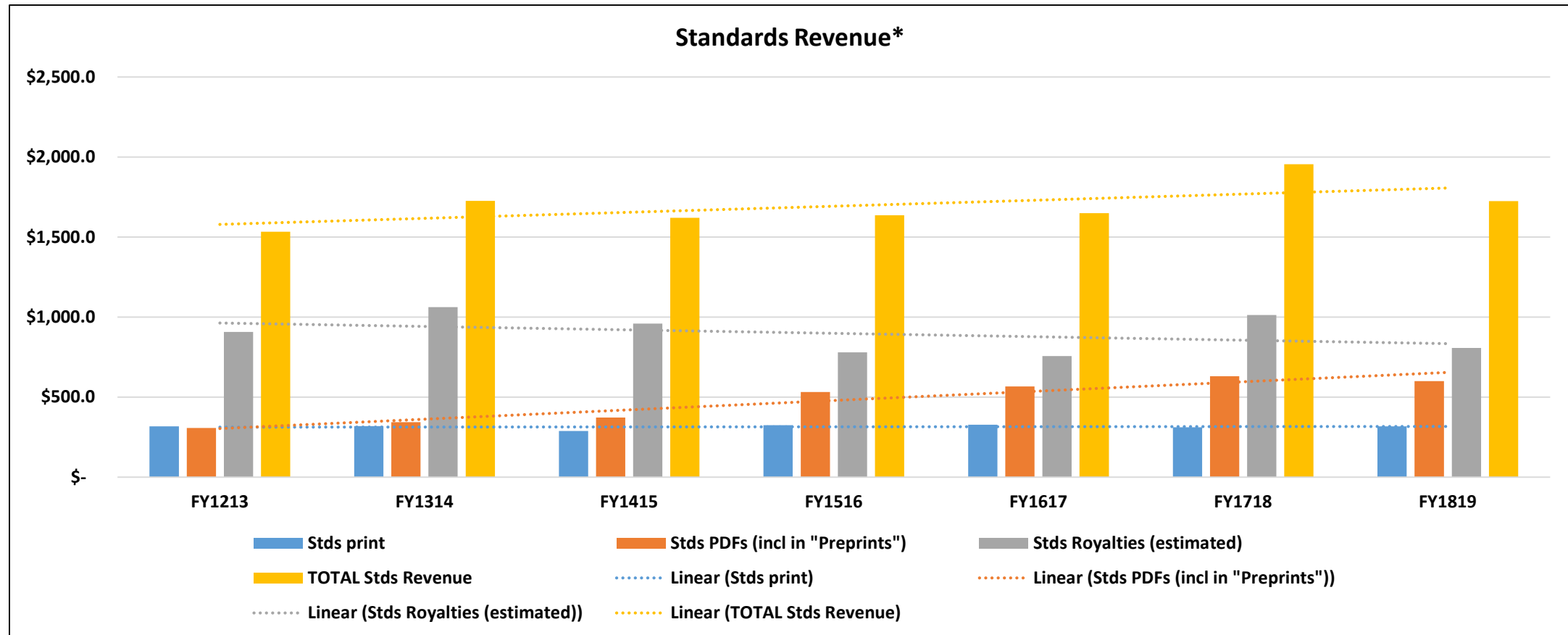


| Source of Funds | | |
|---------------------|-----------|------|
| Membership Dues | \$7,624.3 | 31% |
| Exposition Income | 4,475.8 | 18% |
| Advertising Income | 3,958.2 | 16% |
| Publication Sales | 3,447.6 | 14% |
| Contributions | 141.8 | 1% |
| Education | 1,642.7 | 7% |
| Certification | 218.7 | 1% |
| Meetings & Seminars | 1,548.2 | 6% |
| Other | 1,569.5 | 6% |
| REVENUES | \$ 24,627 | 100% |

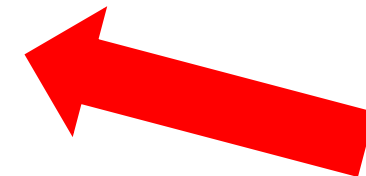
Nothing New



Nothing New



*Does not include Overhead or BOD Council allocated costs (\$8.5MM in FY18-19)



Nothing New

- Overhead are costs that support the business but do not generate revenue
- ASHRAE has about \$8M US in overhead
- Overhead is assigned to Councils based upon staff assignment
- PEC has an additional 17 staff assigned to the Council from support areas
 - Mail room
 - Accounting
 - Etc.
- Overhead is then assigned on the total staff, support staff included
- PEC is assigned about 50% of ASHRAE overhead



OVERHEAD

Nothing New

Pub/Ed Council Surplus/Deficit Report

| | 2017 Thousands USD | 2018 Thousands USD | 2019 Thousands USD | Trend versus 2017 |
|---|-----------------------|-----------------------|-----------------------|----------------------|
| Total Revenue | 9,955.6 | 10,108.9 | 9,691.3 | ↓ |
| Total Expenses Incl OH & BOD | 12,484.2 | 13,361.7 | 13,234.8 | ↑ |
| Total (Deficit) after OH + BOD after | 2,528.6 | 3,252.8 | 3,543.5 | ↑ |

Note: All figures taken from Society Financial Reports.

Nothing New

Society Surplus/Deficit Reports

| Fiscal Year | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | AVE |
|------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| Budget Surplus/(Deficit) | \$ (158) | \$ (335) | \$ 674 | \$ (449) | \$ (283) | \$ (301) | \$ (13) | |
| Actual Surplus/(Deficit) | \$ 320 | \$ 404 | \$ 1,231 | \$ 702 | \$ 411 | \$ (175) | \$ 75 | |
| Positive/Negative Difference | + | + | + | + | + | + | + | |
| Difference (absolute) | \$ 478 | \$ 739 | \$ 558 | \$ 1,151 | \$ 694 | \$ 126 | \$ 88 | |
| % Error | 149% | 183% | 45% | 164% | 169% | 72% | 118% | 129% |

Nothing New

- What picture does this data paint for the Board?



And now for something completely different



A Monty Python Moment

And now for something completely different

- ASHRAE has a very strong and robust accounting system
 - Accurately records revenue and expenses in a consistent manner in accordance with generally accepted accounting rules
- Significant difference between accounting and finance
 - Finance - Management discipline focusing on margins



How the Picture Changes

- The language of finance

Revenue = Sales for a product or service (\$US)

Variable Margin = Revenue

-Direct costs of product/service that vary with volume

Gross Margin = Revenue

-Direct costs of product/service that vary with volume

- Staff labor directly associated with product/service



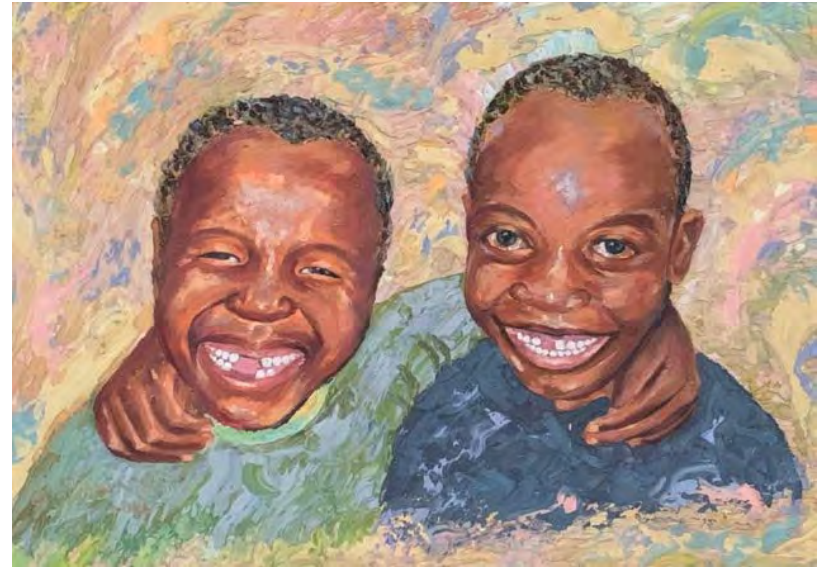
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And now for something completely different

- Looking at ASHRAE's products through the lens of finance paints a much different picture



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 - Look at other revenue streams (new products and services) based on what we see other organizations offering and emerging needs in the marketplace) and evaluate by margin



How the Picture Changes

Enhanced Goal Setting – One Possibility

| | Publications | Advertising | Education | Certification | TOTAL |
|---------------------------|--------------|-------------|-----------|---------------|----------|
| Proposed Revenue Goal* | \$4,000 | \$4,100 | \$2,500 | \$500 | \$11,100 |
| Proposed Gross Margin* | \$1,280 | \$205 | \$800 | \$100 | \$2,385 |
| Proposed Gross Margin (%) | 32% | 5% | 32% | 20% | 21% |

*In \$1,000 US



How the Picture Changes

- Imagine an ASHRAE better focused on financial performance:
 - Expanded and enhanced revenue streams
 - Less reliance on expo income
 - More resilient to large economic swings
 - Faster, more agile in seizing opportunities
 - Better forecasting of financial position
 - Greatly enhanced decision-making



Questions





Report to Pub/Ed Council

Winter Meeting
Orlando, Florida

Presenter: Timothy G. Wentz, PE, HBDP | Fellow/ Presidential Member ASHRAE

Charge to the Ad Hoc

- Review the current business models and operating practices to determine how revenues/profits could be enhanced.
- Survey members and customers to establish if a demand exists for products and services that ASHRAE may be able to provide
- Study products and services being provided by bodies similar to ASHRAE both in North America and internationally which ASHRAE can provide
- Recommend an outline of potential new offerings with ballpark costs and revenue projections.
- Ensure alignment with the Strategic Plan, particularly Goals 1a, 1b and 3a

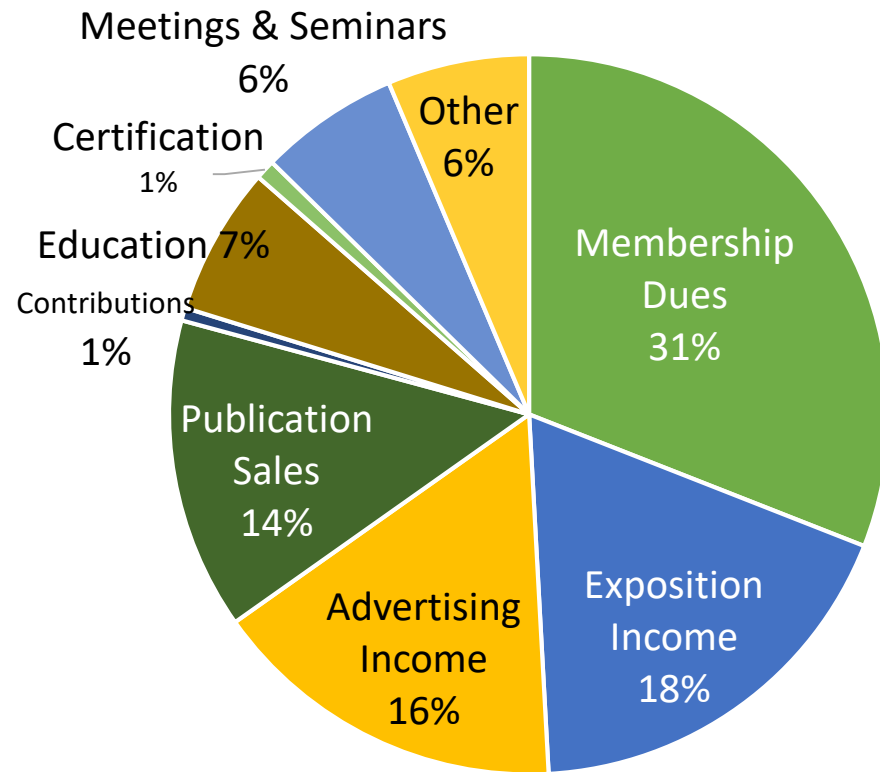


Charge to the Ad Hoc

- Determine where we are today
- Ascertain where we want to be
- Develop a plan to attain our goal



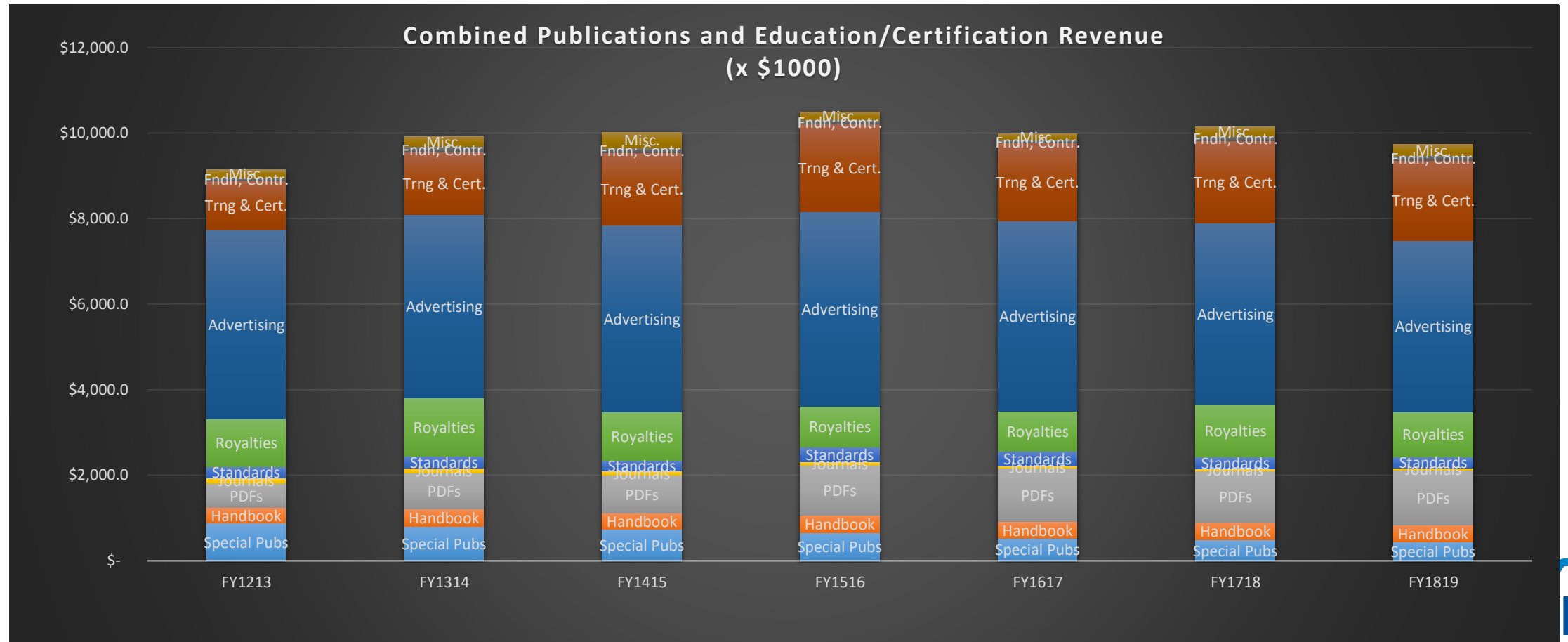
Nothing New



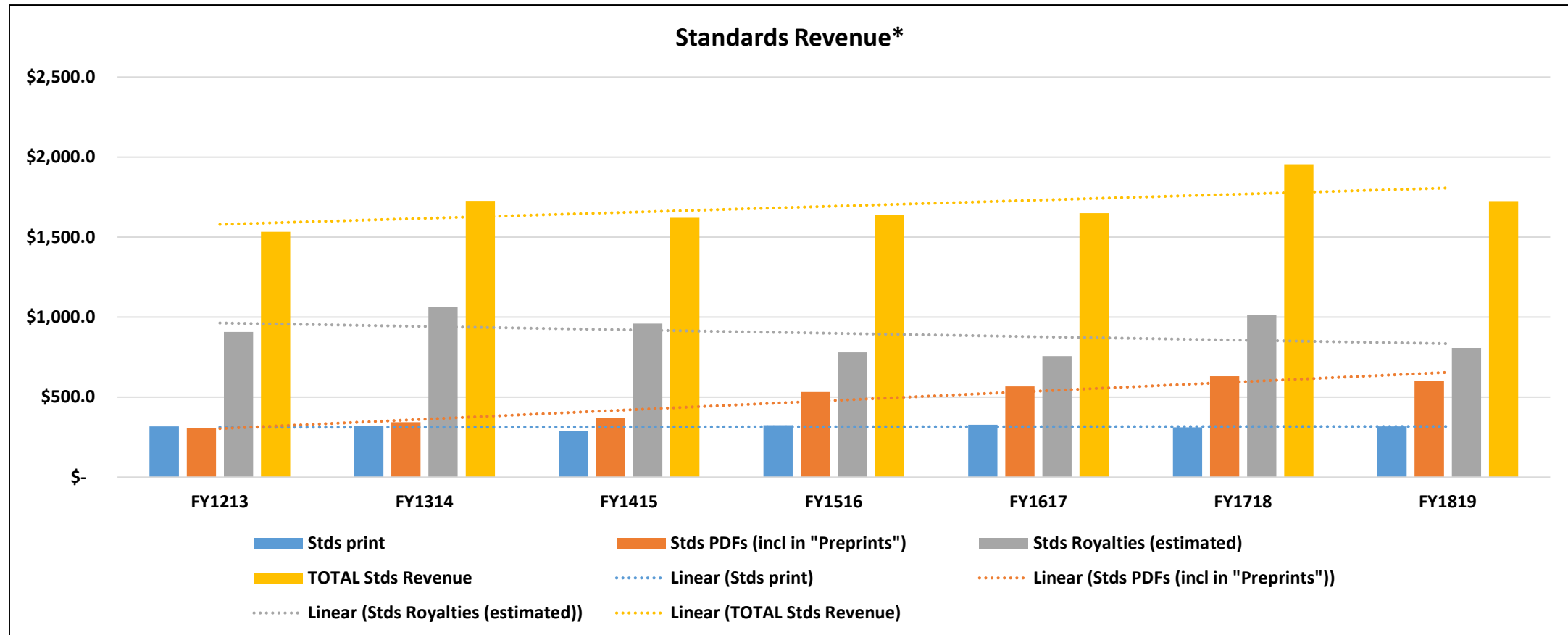
Source of Funds

| | | |
|---------------------|------------------|-------------|
| Membership Dues | \$7,624.3 | 31% |
| Exposition Income | 4,475.8 | 18% |
| Advertising Income | 3,958.2 | 16% |
| Publication Sales | 3,447.6 | 14% |
| Contributions | 141.8 | 1% |
| Education | 1,642.7 | 7% |
| Certification | 218.7 | 1% |
| Meetings & Seminars | 1,548.2 | 6% |
| Other | 1,569.5 | 6% |
| REVENUES | \$ 24,627 | 100% |

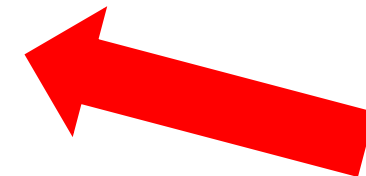
Nothing New



Nothing New



*Does not include Overhead or BOD Council allocated costs (\$8.5MM in FY18-19)



Nothing New

- Overhead are costs that support the business but do not generate revenue
- ASHRAE has about \$8M US in overhead
- Overhead is assigned to Councils based upon staff assignment
- PEC has an additional 17 staff assigned to the Council from support areas
 - Mail room
 - Accounting
 - Etc.
- Overhead is then assigned on the total staff, support staff included
- PEC is assigned about 50% of ASHRAE overhead



OVERHEAD

Nothing New

Pub/Ed Council Surplus/Deficit Report

| | 2017 Thousands USD | 2018 Thousands USD | 2019 Thousands USD | Trend versus 2017 |
|---|-----------------------|-----------------------|-----------------------|----------------------|
| Total Revenue | 9,955.6 | 10,108.9 | 9,691.3 | ↓ |
| Total Expenses Incl OH & BOD | 12,484.2 | 13,361.7 | 13,234.8 | ↑ |
| Total (Deficit) after OH + BOD after | 2,528.6 | 3,252.8 | 3,543.5 | ↑ |

Note: All figures taken from Society Financial Reports.

Nothing New

Society Surplus/Deficit Reports

| Fiscal Year | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | AVE |
|------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| Budget Surplus/(Deficit) | \$ (158) | \$ (335) | \$ 674 | \$ (449) | \$ (283) | \$ (301) | \$ (13) | |
| Actual Surplus/(Deficit) | \$ 320 | \$ 404 | \$ 1,231 | \$ 702 | \$ 411 | \$ (175) | \$ 75 | |
| Positive/Negative Difference | + | + | + | + | + | + | + | |
| Difference (absolute) | \$ 478 | \$ 739 | \$ 558 | \$ 1,151 | \$ 694 | \$ 126 | \$ 88 | |
| % Error | 149% | 183% | 45% | 164% | 169% | 72% | 118% | 129% |

Nothing New

- What picture does this data paint for the Board?



And now for something completely different



A Monty Python Moment

And now for something completely different

- ASHRAE has a very strong and robust accounting system
 - Accurately records revenue and expenses in a consistent manner in accordance with generally accepted accounting rules
- Significant difference between accounting and finance
 - Finance - Management discipline focusing on margins



How the Picture Changes

- The language of finance

Revenue = Sales for a product or service (\$US)

Variable Margin = Revenue

-Direct costs of product/service that vary with volume

Gross Margin = Revenue

-Direct costs of product/service that vary with volume

- Staff labor directly associated with product/service



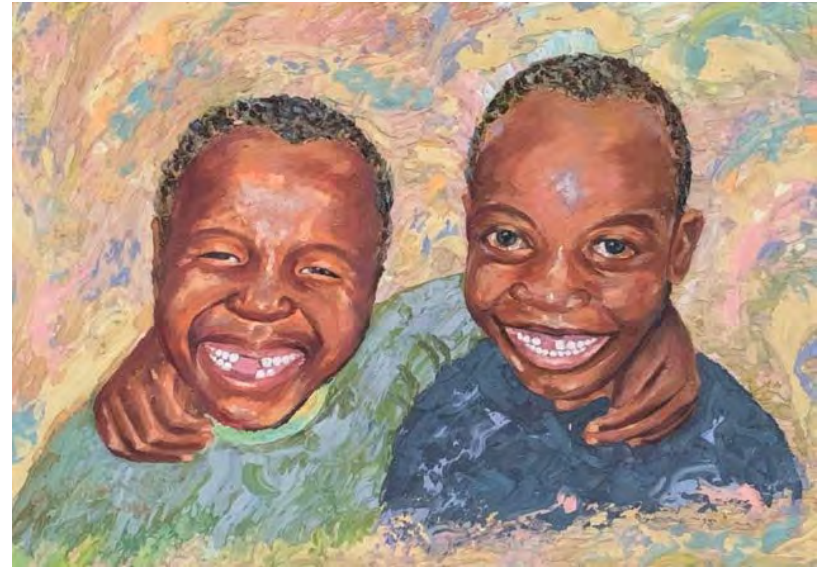
How the Picture Changes

- A focus on margins
 - Revenue is only important only in that it allows you to identify and analyze margins
 - Improves clarity and transparency – an ASHRAE core value
 - Better decision-making owing to deeper understanding of product contributions
 - Greater ability to identify and seize strategic opportunities
 - Creates a faster, more agile Society
 - The path forward on product evaluation becomes much simpler



And now for something completely different

- Looking at ASHRAE's products through the lens of finance paints a much different picture



How the Picture Changes

| Revenue Source | Gross Margin | | |
|----------------------|--------------|-------|-------|
| | 16-17 | 17-18 | 18-19 |
| Dues | 16% | 20% | 18% |
| Publications | 40% | 30% | 32% |
| Advertising | 12% | 7% | 4% |
| Meetings/Conferences | -21% | -54% | -53% |
| Education | 9% | 14% | 8% |
| Certification | -87% | -52% | -63% |
| AHR Expo | 100% | 100% | 100% |

| Pub/Ed Council | | | | |
|-----------------------|----------------|-------------|-----------|---------------|
| SY 18-19 | Publications** | Advertising | Education | Certification |
| Revenue | \$3,041.8 | \$4,073.6 | \$1,870.2 | \$225.7 |
| Direct Expenses | | | | |
| Staff Labor | 869.5 | 1,567.5 | 464.6 | 162.8 |
| Promotion | 64.8 | 96.1 | 31.7 | 8.9 |
| Materials | 358.5 | 657.3 | 109.6 | - |
| Commissions | - | 742.5 | | |
| Shipping/Postage | 162.9 | 566.5 | 33.0 | 4.9 |
| Meeting/Training | | | | |
| Costs | 21.7 | 3.3 | 715.6 | - |
| Travel | 33.3 | 26.2 | 17.6 | 5.4 |
| Dev/Outside | | | | |
| Services | 510.1 | 124.2 | 267.2 | 178.6 |
| Credit Card | | | | |
| Charges | 44.4 | 1.4 | 53.5 | 6.1 |
| Bad Debt | 7.0 | 79.4 | | |
| Other/Misc. | 0.2 | 64.6 | 28.9 | 0.3 |
| Total Direct Expenses | 2,072.4 | 3,929.0 | 1,721.7 | 367.0 |
| Variable Margin \$ | 1,838.9 | 1,712.1 | 613.1 | 21.5 |
| Variable Margin % | 60% | 42% | 33% | 10% |
| Gross Margin \$ | \$969.4 | \$144.6 | \$148.5 | \$(141.3) |
| Gross Margin % | 32% | 4% | 8% | -63% |

How the Picture Changes

We can see clearly now (apologies to Johnny Nash):

- Publications operates at a strong gross margin
- Advertising operates at a low gross margin
 - This is OK, as advertising as ASHRAE is required to pay tax on “business unrelated to its primary business”.
- Education is operating at a low gross margin
- Certification is operating at a negative gross margin



How the Picture Changes

- Future work of the ad hoc is cast in a completely new light
 - For products and services with low margins, make recommendation on how to lower cost or raise price (or both)
 - For products with good margins make recommendations on how to increase sales
 - Are we already high in market share or is there room to grow?
 - Look at other revenue streams (new products and services) based on what we see other organizations offering and emerging needs in the marketplace) and evaluate by margin



How the Picture Changes

Enhanced Goal Setting – One Possibility

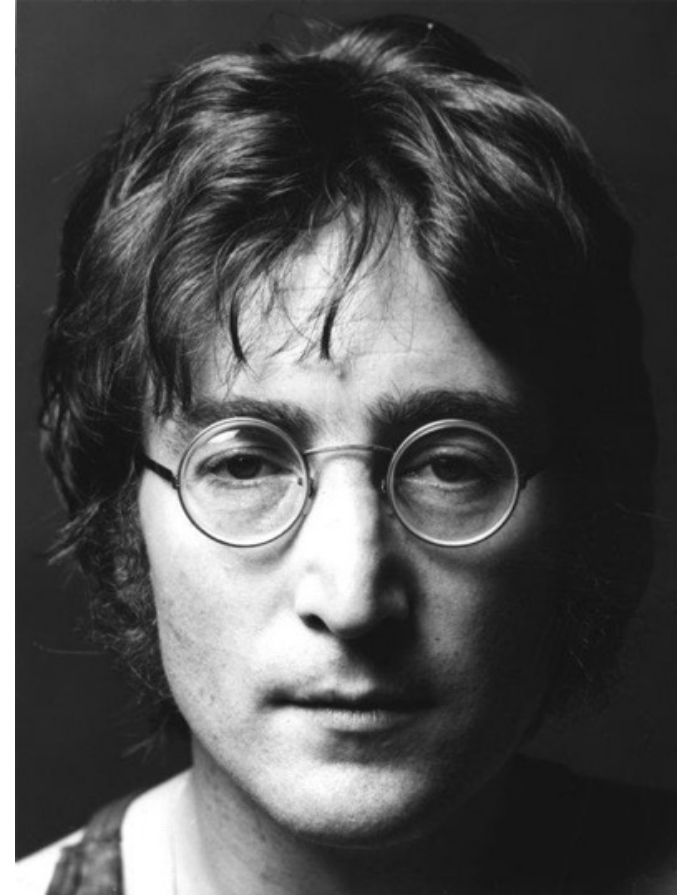
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Questions





Publishing and Education Council (PEC)
Report to Board of Directors (BOD)
Meeting of Tuesday, February 4, 2020

Journal Advertising Sales Subcommittee

1. ASHRAE Journal's paid advertising share of market (SOM) is 66% of all pages sold during the first 6 months of FY2019-20, compared to the same 66% SOM in July 2018-December 2019. At the same time, a net loss of 44 paid pages impacted ASHRAE Journal revenue. For the calendar year 2019, total advertising pages declined 75 pages for HVACR Engineering publications, with 39 pages less in ASHRAE Journal. Increased market competition for advertising dollars, and advertiser interest in new media channels account for much of the decline. The Journal remains advertisers' No. 1 choice for the past ten years. SOM has risen from 47% in 2009 to 62% for 2019 calendar year. Journal rates per page have been steadily increasing since greater rates and an expanded integration program were implemented.
2. Online-only advertising for ASHRAE Journal is forecast to be less than FY19-20 budget amount of \$875,000. Staff is developing new opportunities to accelerate online advertising revenue growth for the Society. The estimated fiscal impact of these new programs for FY19-20 exceeds \$100,000 in additional revenue.
3. HPB magazine advertising revenue is projected to finish at \$110,000 for the magazine and \$115,000 for online-only advertising sales. A rate increase, more webinar and website opportunities, as well as improved circulation will support increased revenue and advertising for the next fiscal year. Staff was assigned an action item to produce a proposal for adapting High Performing Buildings for maximizing revenue while reducing expenses.
4. Jay Scott, staff Editor of ASHRAE Journal will retire in March 2020. As of January 1, 2020, Mr. Scott's title is Editor Emeritus, and the new ASHRAE Journal editor is Ms. Sarah Foster, former managing editor of the Journal.

eLearning Subcommittee

5. Subscription revenue for ASHRAE eLearning is on track to make the 2019-2020 forecast with a very aggressive marketing effort. Subscription revenue for the fiscal year to date is \$89.1k on a year-end forecast of \$230k, with most revenue from individual subscriptions. eLearning is expecting a \$60k transfer from the Foundation to fund two new courses and course updating to achieve an interactive learning experience for the learner. Additional UNEP activities are forecasted to bring in \$166k.

6. ASHRAE eLearning is updating its courses to meet the demand of interactive learning in the marketplace. Current demand for courses was used to evaluate course updating and retirement. Fundamental courses have proven to be the most popular with corporate customers. In 2019-2020, the goal is to update 10 courses. **(Attachment A)**
7. To broaden and diversify the eLearning course catalog as well as meet member learning needs, eLearning continues to work with member volunteers to design and develop new courses as shown in **Attachment B**.
8. A systematic approach of developing and updating courses in cooperation with ASHRAE Learning Institute (ALI) is being implemented.
9. **Attachment C** shows UNEP activities including a new Energy Efficiency Literacy course, the translation of the Refrigerants Literacy course from English to French and the launch of the ASHRAE-UNEP portal, where all ASHRAE-UNEP partnership resources are housed. These projects are funded under the ASHRAE-UNEP contracts.
10. A motion from Membership Promotion to translate eLearning courses into several languages was put forward shown in **Attachment D**. The eLearning Subcommittee reviewed the cost associated with translation per course and the fiscal impact is estimated to be \$30k to \$35k per course. PEC rejected this motion and sent a referral response as shown in **Attachment E**

Fiscal Planning Subcommittee

11. The subcommittee reviewed the PEC December 2019 Financials.
12. The subcommittee discussed the value of developing training opportunities to work in conjunction with ASHRAE Certification. Staff reported that steps are being taken to implement this combination as soon as possible.

Functional Planning Subcommittee

13. The subcommittee approved and recommended to PEC changes to the Publications Committee and MOP as shown in **Attachment F** to reflect the reporting and procedural changes that will happen with the new PEC restructure plan to be implemented July 1, 2020. *(PEC Approved 12-0-0, CNV)*
14. Functional Planning Subcommittee will hold a conference call before the annual meeting in Austin to confirm all standing committees' MOPs are finalized before the PEC restructure implementation goes into effect July 1, 2020.

Research Journal Subcommittee

15. Society research journal *Science and Technology for the Built Environment* (STBE) received 69,751 article downloads in 2019, an increase of 43% over 2018. 129 papers were published in 2019, with 10 of them open access (OA). The journal's 2018 impact factor is 1.199, ranking 42/63 in the construction and building technology category of Journal Citation Reports (JCR).

Additional detailed information is contained in the Publisher's Report from Taylor & Francis shown in **Attachment G**.

16. STBE's editor, Dr. Jeff Spitler, reported plans for developing guidance on submitting papers to STBE for authors and expanding the pool of reviewers for STBE papers.
17. The subcommittee selected the winner of the 2019 STBE Best Paper Award and sent their nomination to the Honors and Awards Committee. The award will be presented at the annual meeting in Austin.

Certification Committee

18. Certification Committee has received 20% more certification applications Through January 31, 2020, (292) over the previous SYTD (244). This is due primarily to applications for the Certified HVAC Designer (CHD) certification.
19. The committee reported revenue close to budget through December 2019 with expenses forecast at a \$20,000 decrease.
20. Certification Committee PEC MBOs and status are listed in **Attachment H**.
21. The committee will pursue ANSI accreditation for the remaining three of seven ASHRAE certification programs, to avoid confusion in the marketplace and add value. The application fees are a onetime expense and will fall within currently budgeted expense.
22. The ANSI annual Management System Review was successfully completed, evaluating the results of internal and external audits, feedback from applicants and candidates, assessment of ASHRAE's exam development and delivery contractor, an impartiality threat analysis, the status of preventive and corrective actions, follow-up actions from previous management reviews, and the 2019 complaints log.
23. A total of 542 (70%) of 773 digital badges issued to certificants have been accepted, with more than 5,300 badge views in various electronic media. As examinees continue to pass their exam and certificants continue to renew their certification, more badges will be issued.
24. The committee is working with the Marketing Department to develop a marketing plan to improve performance of underperforming certification programs. Possible root causes and potential corrective marketing activities have been identified. A meeting is scheduled for February 2020.
25. Exam development activities in 2019-20 to ensure the continued relevancy and validity of ASHRAE's certification programs include the following:
 - BCxP: New exam form scheduled to launch March 2020.
 - BEMP: New exam form scheduled to launch March 2020.
 - HBDP: New form to launch July 1, 2020.
 - HFDP: New form to launch in February 2020.
26. The committee's 2019-20 MBOs and their status are shown in **Attachment I**.

Handbook Committee

27. Staff will pursue a solution to allow other internet browsers besides Explorer to be used with the ASHRAE Authoring Portal.
28. Handbook Committee continues to seek cost-efficient ways to reward contributors on the TCs, including “HB contributor” stickers for future meetings on attendee badges.
29. Staff will investigate applying to include ASHRAE Handbook in UNESCO’s Memory of the World archive.
30. The committee’s updated 2019-2020 MBOs are shown in **Attachment J**.

Historical Committee

31. All projects marking ASHRAE’s 125th anniversary have been completed or will be complete by the 2020 Annual Conference in Austin.
32. An historical plaque will be installed in Orange, Texas after the Region VIII CRC as the result of a pilot project for the committee. Plaques will continue to be self-funded, whether physical or possibly virtual in the future.
33. The committee suggested changes to PAOE for fiscal year 2020-21 with the goal of continuing to encourage nonparticipating chapters to reach minimum or par.
34. The committee’s 2019-2020 MBOs are shown in **Attachment K**.

Professional Development Committee (PDC)

35. In response to PEC MBO #2: *Develop Strategy for expanding ALI Instructor core and establish procedures and criteria for instructor appointment and remuneration*, the committee drafted a report with recommendations on the criteria for selection of course instructors as shown in **Attachment L**.
36. Courses relevant to the body of knowledge for the Building Commissioning Professional BCxP, Building Energy Assessment Professional (BEAP), and new HVAC Design (CHD) certification exams are being developed to assist applicants in preparation.
37. Five (5) new courses were presented in conjunction with the Orlando conference. Of those, *V in HVAC - What, Why, Where, How and How Much* drew the highest number of registrants with the hands-on *Best Practices for Installing DDC Systems* course not far behind. The combined total of all course registrants was 1,141, which was the second highest number of attendees in the past 10 years, close behind Las Vegas 2017 with 1,161 registrants. Courses with the five highest registrations were:
 - 122 - Guideline 36: Best in Class HVAC Control Sequences
 - 76 - Designing and Operating High-Performing Healthcare HVAC Systems
 - 82 - Variable Refrigerant Flow Systems: Design and Applications
 - 68 - V in HVAC - What, Why, Where, How and How Much
 - 67 - Humidity Control II: Real-World Problems and Solutions

38. The committee's 2019-2020 MBOs are shown in **Attachment M**.

Publications Committee

39. The committee selected the winner for the 2019 ASHRAE Journal Paper of the Year Award. The award will be presented to the author(s) at the 2020 Annual Conference in Austin.
40. The committee voted to support development and publication of the proposed book *ASHRAE Design Guide for Kitchen Ventilation Systems*.
41. The committee finalized the process for its participation in the Research Administration Committee's (RAC's) new PTAR process, wherein those submitting a proposal to receive RAC funding specifically earmarked for a publication as a deliverable will go through submission and approval procedures with RAC and Publications Committee.
42. The committee's 2019-2020 MBOs are shown in **Attachment N**.
43. In line with Goal 3 of the 2019-2024 ASHRAE Strategic Plan, the committee will collect feedback from our grassroots levels, including our international membership, with respect to their product needs (books, *ASHRAE Journal* articles, apps, and other tools) and communicate the results to Technology Council and other relevant bodies for their use in planning content development.

Strategic Business Development Ad Hoc Committee

44. Strategic Business Development Ad Hoc Committee gave a PowerPoint presentation to PEC on the ad hoc's recommendations for future PEC business development. **(Attachment O)**

Volunteer Oversight for Global Training Center (GTC) Ad Hoc Committee

45. Volunteer Oversight for GTC Ad Hoc gave a report to PEC on current analysis of the training center performance. **(Attachment P)**



**eLearning Subcommittee
Report to Publishing and Education Council (PEC)
Meeting of Tuesday, February 4, 2020**

Attendees

Farooq Mehboob — Chair (Present)
William Dean — Member (Present)
Charles Henck — Member (Present)
C S Ow — Member (Absent)
Chandra Sekhar — Member (Present)
Doug Fick — Member (Present)
Mark Owen — Staff Liaison
Eunice Njeru — Staff
David Soltis — Staff
Steve Comstock — Staff
Susan Polite — Staff

Action Items

None

Information Items

1. Financial Review

Subscription revenue for ASHRAE eLearning is on track to make the forecast for the 2019-2020 fiscal year, although a very aggressive marketing effort will be needed to achieve it. The cumulative subscription revenue for the fiscal year to date is 74.3K on a forecast of 230K (November Financials). Most of this revenue is from individual member and non-member subscriptions, with a few corporate subscriptions. eLearning is expecting a 60K transfer from Foundation to continue to fund both new courses and updating existing to achieve an interactive learning experience for the learner. UNEP activities are forecasted bring in 166K.

2. Course Updates Status

ASHRAE eLearning is updating its courses to meet the demand of interactive learning experience in the market place. The demand of the current courses was evaluated to determine which ones were worth updating and which ones were better off retired. The priority is Fundamental Courses, which have proven to be the most popular with corporate customers. For the Society Year 2019-2020, the goal is to update a total of 10 courses. See *Attachment A* for details.

3. New Course Development

To broaden and diversify the eLearning course catalog as well as meet member learning needs, eLearning continues to work with member volunteers to design and develop new courses (see *Attachment B*). A systematic approach of developing courses was discussed, including synergy between eLearning and ASHRAE Learning Institute (ALI) for decisions about new course development.

4. UNEP Activities

UNEP activities (see *Attachment C*) have included launching of the ASHRAE-UNEP portal where all ASHRAE-UNEP partnership resources are housed, translation of the Refrigerants Literacy course from English to French, and a new Energy Efficiency Literacy course. These projects are funded under the ASHRAE-UNEP contracts.

5. Translation

During the Members Council 2019 winter meeting in Atlanta, a motion to translate eLearning courses into several languages was put forward (see *Attachment D*). The eLearning Subcommittee reviewed the cost associated with translation per course. The fiscal impact per course is estimated at 30K-35K.

Respectfully submitted,

Farooq Mehboob, Chair
eLearning Subcommittee
4 February 2020
FM: en/mso

| Course Updates Progress Report | | |
|---------------------------------|--|---------------|
| Project Kickoff | March 2019 | |
| Goal | Update 10 Courses During SY 2019-2020 | |
| Completed | 1 | November 2019 |
| Scheduled to Launch | 1 | February 2020 |
| With Instructional Designers | 1 | March 2020 |
| Seeking Instructional Designers | 2 | April 2020 |
| With Subject Matter Experts | 5 | June 2020 |
| Seeking Subject Matter Experts | 6 | August 2020 |
| Proofing | 5 | December 2020 |
| With Content Organizers | 1 | December 2020 |
| Total | 22 | |
| | | |

| NEW/IN-PROGRESS/PROPOSED | | | |
|--------------------------|---|----------------|-----------------|
| Category | Title | Status | Completion Date |
| New | Safe Handling of Refrigerants for Technicians | Launched | November 2019 |
| | | | |
| In-progress | Advanced Energy Design Guide for K-12 School Buildings—Achieving Zero Energy – NREL | Review | March 2020 |
| | Introduction to DOAS | Content Design | May 2020 |
| | Designing Toward Net-Zero Energy Commercial Buildings | Content Design | May 2020 |
| | Energy Efficiency Literacy (UNEP) | Content Design | March 2020 |
| | | | |

| ASHRAE-UNEP PROJECTS | | |
|-----------------------------|--|------------------------------|
| Project | Description | Status |
| ASHRAE - UNEP Portal | Portal for all things ASHRAE-UNEP partnership. | Launched - November 2019 |
| Translation | Refrigerants Literacy translation to French | Launched - October 2019 |
| New Course | Energy Efficiency Literacy | Proposed Launch - March 2020 |
| | | |

TO: Julia A. Keen, Publishing and Education Council Chair
Mark Owen, Publishing and Education Council Staff Liaison

FROM: Joyce Abrams

DATE: February 27, 2019

SUBJECT: Members Council Referral – E-Learning Courses

During the Members Council 2019 winter meeting in Atlanta, the motion below was referred to Publishing and Education Council for consideration. I appreciate your keeping me advised of your actions. Let me know if you have any questions. Thank you.

Membership Promotion Committee – Motion 11 (01/15/2019):

That e-learning courses be translated to major non-English languages based on membership demographics.

Background: ASHRAE's vision is to be a global leader and foremost source of technical and educational information. Based on membership demographics, the top eight non-English speaking countries include: Canada (French), India (Urdo), Hong Kong (Chinese), Philippines (Tagalog), UAE (Arabic), Malaysia (Malay), Brazil (Portuguese), and Mexico (Spanish). Voice-over audio recording of the e-learning materials will provide greater global membership value. Translations can be completed by volunteer members with peer review.

Fiscal Impact: Recommend \$0 fiscal impact. Generate income with new e-learning benefit and increase use of e-learning.

cc: Michelle L. Swanson, Membership Promotion Committee Chair
Daniel B. Gurley, III, Membership Promotion Committee Staff Liaison



eLearning Subcommittee
Report to Publishing and Education Council (PEC)
Meeting of Tuesday, February 4, 2020

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| ASHRAE - UNEP Portal | Portal for all things ASHRAE-UNEP partnership. | Launched - November 2019 |
| Translation | Refrigerants Literacy translation to French | Launched - October 2019 |
| New Course | Energy Efficiency Literacy | Proposed Launch - March 2020 |
| | | |

TO: Julia A. Keen, Publishing and Education Council Chair
Mark Owen, Publishing and Education Council Staff Liaison

FROM: Joyce Abrams

DATE: February 27, 2019

SUBJECT: Members Council Referral – E-Learning Courses

During the Members Council 2019 winter meeting in Atlanta, the motion below was referred to Publishing and Education Council for consideration. I appreciate your keeping me advised of your actions. Let me know if you have any questions. Thank you.

Membership Promotion Committee – Motion 11 (01/15/2019):

That e-learning courses be translated to major non-English languages based on membership demographics.

Background: ASHRAE's vision is to be a global leader and foremost source of technical and educational information. Based on membership demographics, the top eight non-English speaking countries include: Canada (French), India (Urdo), Hong Kong (Chinese), Philippines (Tagalog), UAE (Arabic), Malaysia (Malay), Brazil (Portuguese), and Mexico (Spanish). Voice-over audio recording of the e-learning materials will provide greater global membership value. Translations can be completed by volunteer members with peer review.

Fiscal Impact: Recommend \$0 fiscal impact. Generate income with new e-learning benefit and increase use of e-learning.

cc: Michelle L. Swanson, Membership Promotion Committee Chair
Daniel B. Gurley, III, Membership Promotion Committee Staff Liaison



**Functional Planning Subcommittee of PEC
Report to PEC
Meeting of Monday, February 3, 2020**

Motions for PEC

1. **Functional Planning Subcommittee recommends PEC approve the following changes to the ROB:**

2.101.007.3

ASHRAE shall publish and distribute ~~on-line~~ an electronic newsletter to its members. The ~~name of the~~ e-Newsletter ~~shall be Society Connections, and it~~ shall be an "official publication of the Society."

(SBL 10.2) (06-03-20-01)

2.101.007.4

(15-01-25/14-07-02-17)

ASHRAE shall publish and distribute to subscribers a journal of archival-quality research. The name of the publication shall be ~~HVAC&R Research to~~ *Science and Technology for the Built Environment*, and it shall be an "official publication of the Society."

Background: These changes simply correct inaccuracies in (1) the mode of delivery (email, not "on-line") and (2) the names of the referenced publications ("eSociety" has supplanted "Society Connections" for some time; the "HVAC&R Research" is a remnant typo from the previous revision. *(Functional Planning Subcommittee 5-0-0 CNV)*

Fiscal Impact: None.

2. **Functional Planning Subcommittee recommends PEC approve changes to the Publications Committee MOP as shown in Attachment A.**

Background: These changes will reflect the reporting and procedural changes that will happen with the new PEC restructure plan to be implemented July 1, 2020. Additional editorial and clean up changes to these documents were also made. *(Functional Planning Subcommittee 5-0-0 CNV)*

Fiscal Impact: None.

Information Items

The subcommittee was assigned oversight of the following three PEC MBOs:

- PEC MBO #2 - Develop Strategy for expanding ALI Instructor core and establish procedures and criteria for instructor appointment and remuneration.

- PEC MBO #3 - Analyze Certification Program and develop metrics for evaluating potential for new certifications aligned with Strategic Plan initiatives 1 & 2 after surveying members to establish interest and demand.
- PEC MBO #4 - Analyze performance of special publications over the past three years and develop criteria for evaluating and approving special publication requests on a business case basis aligned with strategic plan initiative 3.

The subcommittee will work with the involved standing committee and staff to develop metrics and evaluation plans. A conference call will be held before the annual conference in Austin for the subcommittee to finalize their recommendations to be presented to PEC. (*Attachment B*)

Respectfully submitted,

Jon Symko
PEC Fiscal Planning Subcommittee Chair
3 February 2020



Publications Committee MANUAL OF PROCEDURES

~~January 31, 2017~~

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Table of Abbreviations

| | |
|--------------------------------------|--|
| <u>Annual Conference</u> | <u>Meeting of the Society, generally in June</u> |
| BOD | Board of Directors (or Board) |
| <u>CO</u> | <u>Coordinating Officer</u> |
| <u>MBO</u> | <u>Management by Objectives</u> |
| DAL | Director-at-Large |
| MOP | Manual of Procedures |
| ROB | Rules of the Board |
| <u>TC</u> | <u>Technical Committee</u> |
| BAR | Board Approved Rules |
| BL | Bylaws |
| EXCOM | Executive Committee (of the BOD) |
| MBO | Management by Objectives |
| Annual Meeting | Meeting of the Society, generally in June |
| Winter Conference Meeting | Meeting of the Society, generally in January |
| TC | Technical Committee |

STRUCTURE

~~The **Scope and Purpose** This manual describes procedures for accomplishing the duties and responsibilities assigned by the Rules of the Board (ROBs) applicable to the Publications Committee. The Scope and Purpose of the Committee shall be:~~

- ~~1. _____ To formulate the editorial policies of ASHRAE periodicals, books, and software products in print and nonprint formats in accordance with the policies of the Board of Directors.~~
- ~~2. _____ To be responsible for the Rules of the Board as follows: *ASHRAE Journal* is to maintain and enhance its leadership role in the communication of HVAC&R information to and from the profession, industry, and related interests through its worldwide readership and editorial content.~~

~~*ASHRAE Insights* shall be the primary vehicle for intrasociety communications.~~

~~Publications that are not *ASHRAE Handbook*, *ASHRAE Journal*, and *Insights* shall be referred to as special publications, including nonprint formats.~~

I. _____ Committee Organization

- ~~A. _____ *Committee Structure*^{*}: The Committee shall comprise a chair~~Chair~~, a vice chair~~Vice Chair~~, and ten other voting members ~~appointed by the president elect. Service on this Committee is intended to be for a 3-year term. Appointments are made, however, each year by the president elect for the administrative year covered by his/her term as president. Service on this committee is for a three-year term.~~ A: CO, a BOD Ex-Officio, the *ASHRAE Journal* editor, and the Special Publications editor~~and Staff Liaison~~ complete the committee; one of these editors serves as the staff liaison for the committee. ~~The Committee shall include a Planning Subcommittee.~~~~
- ~~The committee~~B. _____ *Direction*: The Chair shall direct all Committee activities. In the absence of, or as directed by the Chair, the Vice Chair shall perform the duties of the Chair.
- ~~C. _____ *Committee/Council/Board of Directors Relationships*: The Committee reports to the Products Committee of the Publishing and Education Council. The Publications Chair is a member (non-voting) of the Publishing and Education Council, which makes policy determinations not requiring specific action by the BOD. The Publications Chair is the Committee's reporting channel to the Council and Board of Directors.~~

The committee chair~~Committee Chair~~ and vice chair~~Vice Chair~~ shall attend the Publishing and Education Council meetings to:

- ~~1. 1-~~ Transmit and explain recommendations of the committee~~Committee~~ to the council~~Council~~.
- ~~2. 2-~~ Bring recommendations and actions of the council~~Council~~ and BOD to the committee.

^{*}~~See the Reference Manual for specific details concerning Committee structure.~~

The BOD Ex-Officio is an advisor to the committee and an advocate for the committee on the Products Committee, on the Publishing and Education Council, and with the BOD. This individual shall receive agendas and minutes of all committee meetings and copies of all correspondence from and to the committee. -

The staff liaison shall carry out the requirements of the ROB and MOP and shall do the following

D. ~~Planning Subcommittee: A subcommittee may be appointed by the Chair.~~

E. ~~International Subcommittee: A subcommittee may be appointed by the Chair.~~

F. _____:

- ~~Attend all meetings of the committee.~~
- Advise the committee of plans and activities affecting publication and obtain committee input on planned programs and activities.
- Enlist committee assistance in obtaining articles, reviewing articles, and maintaining an editorial balance in the content of the material presented in the publication.
- Act as secretary to the committee in the preparation and distribution of the minutes.
- Distribute minutes of the past four committee meetings and the MOP to new committee members. This shall occur as new appointments are made by the president-elect.
- Distribute the agenda, reports, and other materials to members of the committee.
- Prepare a monthly ASHRAE Journal review form and send the form to members of the committee for them to rate each volume's technical articles.

SUBCOMMITTEES and LIAISONS

A Planning Subcommittee shall be appointed by the chair. This subcommittee shall consist of the chair and vice chair, the ASHRAE Journal editor, the Special Publications editor, the staff liaison, and other committee members who wish to attend. The vice chair will preside. The Planning Subcommittee shall meet prior to each meeting for the purposes of reviewing a list of objectives that will be reported with recommendations to the full committee.

Functional Subcommittee: The Vice Chair shall be responsible for enhancements and updates of the Committee's MOP and ROB and presentation of changes for approval at Publishing and Education Council.

G. _____ TAC Liaison: The chairChair shall appoint a member of the Publications Committee to be liaison with Research Administration Committee (RAC).

The chair shall appoint members of the Publications Committee to be liaisonsliaison to each section of the Technical Activities Committee (TAC).- TAC Section Liaisons shall contact the TC chairs in their assigned TAC section to communicate about upcoming Special Publications and/or the relevance of older Special Publications on the market. TAC Section liaisons shall also attend the TC/TG/MTG Chair's Breakfast meetings at the Annual and Winter Conferences to communicate with TC chairs and convey information to or from the chairs and Publications Committee.

On an ad hoc basis, the chair may appoint committee members to be liaisonsH. —Liaison to Other Committees: Members may be appointed by the Chair as liaison to other committees of the Society for the purpose of interchange of information of mutual value.

DUTIES

The Publications Committee identifies the technical information needs of the HVAC&R industry not met through the ASHRAE Handbook series, ASHRAE's research journal, standards, guidelines, or user's manuals and oversees editorial policies and delivery of products to the marketplace. This includes the editorial policies of ASHRAE's magazines (such as *ASHRAE Journal* and *High Performing Buildings*), ASHRAE's electronic newsletters, *ASHRAE Transactions* and other conference proceedings, and ASHRAE Special Publications, which are technical publications in print format, such as non-series books (including books resulting from ASHRAE Research Projects and Special Projects), books in the Advanced Energy Design Guide series and the ASHRAE Datacom Series, charts, and tools, as well as all technical publications in machine-readable format, such as audio and visual presentations, software, databases, apps, and online resources.

~~I. — *Journal Review Coordinator*: The Chair will appoint a Journal review coordinator.~~

~~J. — *Insights Review Coordinator*: The Chair will appoint an *Insights* review coordinator.~~

III. — Committee Assignments

Duties/Job descriptions for:

| | |
|---|-----------------------------|
| _____ Publications Committee | _____ Appendix A |
| _____ Planning Subcommittee | _____ Appendix B |

The responsibilities of the individual committee members are as follows:

- Attend two to four committee meetings per year. The Publications Committee meets at the Annual and Winter Conferences of the Society.
- Provide suggestions, comments, or feedback on ASHRAE's magazines and ASHRAE's electronic newsletters.
 - Read other publications touching on the fields covered by ASHRAE's magazines for comparative purposes and for making constructive suggestions.
 - Generate topics suitable for ASHRAE's magazines and suggest potential authors.
 - Suggest qualified reviewers to assist the *ASHRAE Journal* editor in evaluating or technically editing articles.
- Nominate a candidate for the Journal Paper Award each Society year.
 - Each month committee members will be sent a review form for the current month's *ASHRAE Journal* technical features; committee members are to complete this form to rate the *ASHRAE Journal* technical features and submit it to the *ASHRAE Journal* editor.
 - One week prior to the Winter Conference, the *ASHRAE Journal* editor will provide the committee electronic access to the three to six top-scoring technical features as rated by the committee members on the monthly review form. The committee, using this information and its members' judgment, shall select and nominate a candidate for the Journal Paper Award.
 - The technical features considered and nominated shall have been published within a calendar year (January through December) preceding the Winter Conference.

- It is the responsibility of the *ASHRAE Journal* editor to report the nomination to the Honors and Awards Committee staff liaison before the end of the Winter Conference. Presentation of the award will occur at the following Annual Conference.
- Recommend to the Products Committee of the Publishing and Education Council those Special Publications that the committee feels should be published and their methods of publication.
 - Committee members evaluate the suitability of proposed Special Publications based on the value of a proposed publication to the membership, the size of the expected audience, and the potential to recover publishing costs through sales of the publication.
 - For a proposal to be considered, the committee shall require submission of a completed online Publication Request Form. The form will be submitted electronically to the Special Publications editor, who will coordinate a staff analysis of the publication and submit recommendations to the Publications Committee.
 - The committee reviews the recommendations and provides supporting data on the fiscal impact to the Products Committee, which will approve, reject, or defer the proposed publication. In the case it is approved, it will move to Publishing and Education Council for final approval for publication.
 - When reviewing unsolicited material, the committee shall endeavor to maintain confidentiality regarding the material submitted, if requested.
 - Following review and approval of the final technical content by the project's cognizant TC or Project Monitoring Subcommittee (PMS), Special Publications staff will edit and format the manuscript for publication.
- Ensure that all Special Publications are current and timely.
 - The staff liaison will maintain a list of Special Publications that have publication dates of the first printing or latest revision four or more years old.
 - The Special Publications editor or the committee liaison assigned to the specific TAC section of the cognizant TC for each publication shall correspond with the chair of the cognizant TC or the TAC section head to determine whether the publication is still current and valid, whether it should be revised or updated, or whether the topic is no longer of interest to HVAC&R engineers and should therefore be made obsolete.

OPERATION

| | | |
|-------|--|------------|
| _____ | MBO Fiscal Budget | |
| _____ | Editorial Calendar | |
| _____ | <i>ASHRAE Journal/Insights</i> Reviews | Appendix C |
| _____ | International Subcommittee | Appendix H |

IV.—Committee Operations

~~A. The Committee year ends with the conclusion of its meeting at the Society Annual Meeting.~~
 At or before the Annual ~~Conference Meeting~~, the ~~committee chair~~~~Chair~~ for the succeeding year shall work with the outgoing ~~chair~~~~Chair~~ to understand the status and performance of ~~committee~~~~Committee~~ objectives, to plan the continuing and new programs for the following year, and to become the keeper of the ~~committee's~~~~Committee's~~ archives.

B.—Prior to the Annual ~~(Summer)~~ Conference, the staff liaison~~Society~~ shall contact new committee~~Committee~~ members and invite their attendance and participation as guests at the regular Publications Committee Meeting. New member orientation will be conducted via conference call or email within the first 30 days of the new member's appointment. ~~The meeting shall include orientation for new members.~~

C.—The chair will assign mentors to new members using guidelines in the Reference Manual.

D.—Prior to the ~~Society~~ Annual Conference~~Meeting~~, the committee~~Committee~~ vice chair or the individual who will be the next year's chair will prepare objectives (MBOs) for the committee~~Committee~~ for the next year and present these objectives to the committee~~Committee~~ for review at the committee~~Committee~~ meeting held during the ~~Society~~ Annual Conference. The preparer of the objectives has the option of proposing objectives that extend beyond one year as long as the first-year objectives are clear and measurable. The objectives will be included in the committee's~~Committee's~~ report to the Products Committee~~council~~ at the Annual Conference as an information item, ~~and a copy of the objectives will be sent to the Assistant to the Board of Directors.~~

E.—Motions and resolutions presented to the Products Committee with the potential to be forwarded to Publishing and Education Council and the BOD shall follow the approved guidelines. These guidelines apply to proposed changes and clarifications for ROB, ~~BAR~~ and other committee-~~Committee-~~approved items requiring council~~Council~~ and/or BOD~~Board~~ approval. Appendices are part of the MOP and therefore require approval by the reporting body (B-97-97-02-16).

F.—This committee shall develop procedures for recommending updates to the Society's strategic plan on a continuous basis. As a minimum, the committee shall submit a report to the Product~~council~~ at a time determined by the Board Planning Committee annually ~~that.~~ ~~The report~~ includes the current status of each activity that supports the fulfillment of the committee's assignments under the strategic plan. The committee shall report to the Products Committee~~council~~ all recommendations for changes to the strategic plan as provided by the committee's constituents before the Annual Conference.

V.—~~**BOD Ex-Officio (Director-at-Large)**~~ The BOD Ex-Officio is an advisor to the Committee and an advocate for the Committee on the council and the BOD. This individual shall receive agendas and minutes of all Committee meetings and copies of all correspondence from and to the Committee. ~~The BOD Ex-Officio is a voting member of the Publishing and Education Council and carries motions forward to the Publishing and Education Council.~~

VI.—Staff Liaison

One week prior to the Winter ~~The staff liaison shall carry out the requirements of the ROB and MOP and shall:~~

- ~~• Attend all meetings of the Committee.~~
- ~~• Advise the Committee of plans and activities affecting the publication and obtain Committee input on planned programs and activities.~~

- ~~Enlist Committee assistance in obtaining articles, reviewing articles, and maintaining an editorial balance in the content of the material presented in the publication.~~
- ~~Act as Secretary to the Committee in the preparation and distribution of the minutes.~~
- ~~Distribute minutes of the past four Committee meetings and the MOP to new Committee members. This shall occur as new appointments are made by the President-Elect.~~
- ~~Distribute the agenda, reports and other materials to members of the Publications Committee.~~
- ~~Prepare a monthly *ASHRAE Journal* review form and send the form to members of the Publications Committee and the Publishing and Education Council for their review.~~
- ~~Prepare editorial calendar materials and distribute to Publications Committee members for feedback and input.~~

~~VII. Procedures~~ ~~The guidelines for operation and procedures for the Publications Committee are outlined as follows:~~

| | |
|--|-----------------------|
| Best Article Review Procedure..... | Appendix D |
| <i>ASHRAE Journal</i> Guidelines..... | Appendix E |
| <i>Insights</i> Content and Procedures..... | Appendix F |
| Special Publications Procedures..... | Appendix G |

Appendix A

Publications Committee Duties

1. ~~Attend two to four Committee meetings per year. The Publications Committee meets at the Annual and Winter Meetings of the Society. The Committee sometimes schedules a meeting on the same weekend as the Publishing and Education Council spring and/or fall meeting.~~
2. ~~Read each issue of *ASHRAE Journal* and *Insights* thoroughly. The *Journal* Review Form is to be completed and submitted to the assigned *Journal* coordinator. The *Insights* Review Form is to be completed and submitted to the assigned *Insights* coordinator.~~
3. ~~Recommend Best *ASHRAE Journal* feature articles for awards.~~
4. ~~Read other publications covering parts of the *Journal's* field for comparative purposes and make constructive suggestions.~~
5. ~~Suggest qualified reviewers to assist the *Journal* Editor in evaluating or technically editing an article.~~
6. ~~Perform all tasks assigned by the Chair.~~
7. ~~Generate topics suitable for *ASHRAE Journal* and suggest potential authors.~~
8. ~~Review editorial calendar and provide feedback to the *Journal* editor.~~
9. ~~Recommend to the Publishing and Education Council special publication items that should be published and also the method of publication.~~

Appendix B

Planning Subcommittee Duties

- ~~1. *Organization:* The Planning Subcommittee shall consist of the Chair and Vice Chair of the Publications Committee, the *Journal* coordinator, the *Insights* coordinator, and other members who wish to attend. The Vice Chair will preside.~~
- ~~2. *Purpose:* The Planning Subcommittee shall meet prior to each meeting for the purpose of reviewing a list of objectives that will be reported with recommendations to the full Committee; for reviewing and reporting on the editorial features calendar; and for establishing the proposed budget for the Committee's expenses.~~

Appendix C

ASHRAE Journal/Insights Reviews

ASHRAE Journal Review:

~~Each member of the Publications Committee and Publishing and Education Council will be sent a review form for the current month's *Journal*. The Committee chair shall assign a person to collect *Journal* review forms.~~

Insights Review:

~~At least annually, each member of the Publications Committee will be sent a review form for an issue of *Insights*. The Committee chair shall assign a person to collect *Insights* review forms.~~

Appendix D

Best Article Review Procedure

~~One week prior to the Winter Meeting, the *Journal* Review coordinator will provide the Committee the three to six top scoring articles along with the Best Article recommendation. The Committee Chair will also bring three sets to the Winter Meeting. The Publications Committee, using this information and its members' judgment, shall select and nominate to the Honors and Awards Committee a candidate for the *Journal* Best Paper Award. The *Journal* articles considered and nominated shall be within a calendar year (January through December) and shall relate to the arts and sciences represented by ASHRAE.~~

~~*Timetable for Nomination:* The Publications Committee shall rate the articles throughout the year through the monthly review process conducted by the Publications Committee and the Publishing and Education Council. It will be the responsibility of the Publications Committee Chair to report the nomination to the Honors and Awards Committee staff liaison before the end of the Winter Meeting. Presentation of the award will occur at the following Annual Meeting.~~

Appendix E

ASHRAE Journal Guidelines

A. Feature Articles:

1. Sources of feature articles include but are not restricted to:

- Technical papers from any past meeting.
 - Symposia papers from any past meeting.
 - Seminar presentations from any past meeting.
 - Forum discussions, but only with the permission of each participant quoted or paraphrased.
 - Papers from ASHRAE sponsored or cosponsored conferences.
 - Information or articles developed around current and past Society level and regional level Technology Awards.
 - Extracts from Professional Development Seminar presentations.
 - Chapter meeting and/or chapter seminar presentations.
 - Extracts or papers and publications of ASHRAE.
 - International affiliates.
 - Feature articles from other magazines that reach only a small percentage of *ASHRAE Journal* readers.
 - Past articles from *ASHRAE Journal*, publications of predecessor societies or magazines no longer in publication.
2. Prior to publishing any articles in the *Journal*, the editor must have the author's written permission to publish or in the case of reprinted articles, a written release of copyright.
3. The editor shall select a balanced spectrum of feature articles for each issue considering the background, specialization and interests of the readers. The minimum is to have at least one feature article in every other issue for at least 90% of *ASHRAE Journal* subscribers.
4. Papers may be published in condensed or original form at the discretion of the editor. All papers shall be edited as required to optimize their readership and value to the *ASHRAE Journal* subscriber.
5. Manuscripts, when reviewed and approved for publication, will be published in the length and coverage agreed upon by the editor and author.
6. Abstracts or condensations of technical papers or manuscripts shall first be requested of the author, but may be prepared by the *Journal* staff or a suitable authority. The author's written approval is required prior to publication.

A. Authors:

Standard practice is that authors:

- a. Submit articles in conformance with the specifications in "Instructions to Authors" available from the *ASHRAE Journal* staff.
- b. Have their article peer reviewed.

- ~~• c. May be identified by name, title, company affiliation and a brief business/education biography.~~
- ~~• d. Conform to *ASHRAE Journal's* policy relating to commercialism in both text and illustrations.~~
- ~~• e. Submit original material and be required to sign the ASHRAE agreement for exclusive Permission to Publish prior to peer review.~~

~~B. Readership:~~

~~Readership breakdowns are a valuable instrument for the Editor and Committee for targeting feature articles that provide value to the *Journal* readers.~~

Appendix F

Insights Contents and Procedures

- ~~A. The monthly newspaper, *Insights*, shall publish available news of ASHRAE officers, staff, and the general membership, meeting programs, educational programs, standards, actions and publications available from and through the Society. Emphasis in each issue shall be placed on news from the chapters and regions, research & technology, and individual members.~~
- ~~B. The staff and Committee are to establish and maintain close liaison with departments and Committees of the Society in order to effectively serve the membership with information of value and interest.~~
- ~~C. A survey shall be distributed by the *Insights* editor to the Publications Committee for review of *Insights*. The results shall be collected by the *Insights* coordinator and brought to the full Committee.~~

Appendix G

Special Publications Procedures

A. ~~Special publications are technical publications other than ASHRAE Handbook and periodicals. They are grouped into the following categories:~~

- ~~1. *Winter/Annual Meeting Products*: Preprints of technical and symposium papers presented at Society Winter and Annual Meetings; Winter/Annual Meeting CD, which contains the papers from the current meeting and discussion from the previous meeting; and ASHRAE Transactions, a book that is the official proceedings of Society Winter and Annual Meetings.~~
- ~~2. *Nonseries Books*: Books that are complete in themselves, which are products of ASHRAE research, governmental research, ASHRAE Committee projects, expansion of Handbook materials and conference proceedings.~~
- ~~3. *Nonprint Products*: Primarily CDs and some software.~~

~~4. *Standards*: ASHRAE standards.~~

B. ~~The Publications Committee action on each of the special publications is as follows:~~

- ~~1. *Winter/Annual Meeting Products*: Publication is governed by ASHRAE Program Committee and Rules of the Board.~~
- ~~2. *Nonseries Books*: Publications Committee reviews data, then either approves, rejects, or defers recommendation to the Publishing and Education Council.~~
- ~~3. *Nonprint Products*: Publications Committee reviews data, then either approves, rejects, or defers Publications Committee recommendation to the Publishing and Education Council.~~
- ~~4. *Standards*: No action required by Publications Committee; governed by Standards Committee and Rules of the Board.~~

C. ~~Special Publications:~~

- ~~1. *Review of proposed topics*. Publications Committee evaluates the suitability of proposed topics based on the value of a proposed publication to the membership, the size of the expected audience, and the potential to recover publishing costs through sales of the publication. Topics for special publications may originate from ASHRAE research projects, from unsolicited proposals, or by referrals from Publishing and Education Council.~~

~~a. Topics originating from ASHRAE research projects. Publications Committee identifies proposed research projects that have special publications as deliverables through liaison with Research Administration Committee, Technical Activities Committee, and the technical committees.~~

~~b. When reviewing unsolicited material, the Committee shall endeavor to maintain confidentiality regarding the material submitted, if requested.~~

~~c. For a proposal to be considered, the Committee shall require submission of a completed online Publication Ideas form.~~

~~• 2. For each accepted special publication topic, Publishing Committee identifies a cognizant committee to oversee production of the technical content.~~

~~○ a. For publications originating from ASHRAE research projects, the technical committee responsible for managing the research project also manages the technical content.~~

~~b. For publication topics that are clearly within the scope of a single technical committee or standing committee, Publishing Committee requests that committee to appoint a project monitoring committee.~~

~~c. If the publication topic is of too broad a scope for a single technical committee, Publishing Committee refers it to the Technical Activities Committee for appointment of a project monitoring committee.~~

~~• 3. Following review and approval of the final technical content by the cognizant committee, publications staff edits and formats the manuscript for publication. Publication proceeds only after recommendation by the project monitoring committee and approval by the Publications Committee and Publishing and Education Council.~~

~~D. The Publications Committee shall ensure that all special publications are current and timely by the following actions:~~

~~1. Maintain a list of all nonseries special publications with date of latest revision or publication.~~

~~2. For each nonseries publication, following four years of availability, the editor of special publications shall correspond with the cognizant technical committee or the Technical Activities Committee to determine whether the publication is still current and valid or whether it should be revised or updated.~~

~~3. If revision or update is required, Publishing Committee identifies the source of funding for the update.~~

Appendix H

International Subcommittee

~~1.—Organization: The International Subcommittee shall consist of three (3) members from the Publications Committee.~~

~~2.—Purpose: The International Subcommittee shall meet prior to the full committee meeting for the purpose of reviewing a list of objectives that will be reported with recommendations to the full committee. The subcommittee's activities will include reviewing and reporting on the committee's near and long term goals, publication activities and content, status, consumer acceptance and/or problems, technical values, market activities, and constraints.~~

ASHRAE New Special Publications Evaluation Criteria

Publication Name:

Publication Sponsor:

Point Threshold for Publication: (need to determine what this minimum is - 70 points?)

Evaluation:

| Criteria | Historical Performance of Similar Publications | Market and Industry Need | Projected Production Cost | Projected Revenue | Primary Buyer | Member Benefits | Current Hot Topic? | Total Points |
|-----------------|--|--------------------------|---------------------------|-------------------|---------------|-----------------|--------------------|--------------|
| Max Points | 15 | 20 | 15 | 15 | 10 | 15 | 10 | 100 |
| Points Assigned | | | | | | | | |

Notes:

Historical Performance of Similar Publications:

We should look at similar types of publications (Design Guides, User's Manuals, hands on guides, etc.) to help in estimating sales

**Projected
Margin**



**Report to PEC from
Research Journal Subcommittee
Meeting of Tuesday, February 4, 2020**

Motions for PEC

None.

Information Items

1. STBE received 69,751 article downloads in 2019, an increase of 43% over 2018. 129 papers were published in 2019, with 10 of them open access (OA). The journal's 2018 impact factor is 1.199, ranking 42/63 in the construction and building technology category of Journal Citation Reports (JCR). Additional detailed information is contained in the Publisher's Report from Taylor & Francis (Attachment A).
2. STBE's editor, Dr. Jeff Spitler, discussed with the subcommittee developing a presentation or article with guidance on submitting papers to STBE for authors and the idea of an expanded review board for the review of STBE papers.
3. The subcommittee has selected a paper (confidential as of this report) for the 2019 STBE Best Paper Award and sent their nomination to the Honors and Awards Committee. The award will be presented at the annual meeting in Austin.

Respectfully submitted,

Farooq Mehboob, Chair
Research Journal Subcommittee
4 February 2020
FM/jh/mso



Research Journal Subcommittee Report to PEC
Attachment A



Science and Technology for the Built Environment

Confidential Publishing Report
January 2020

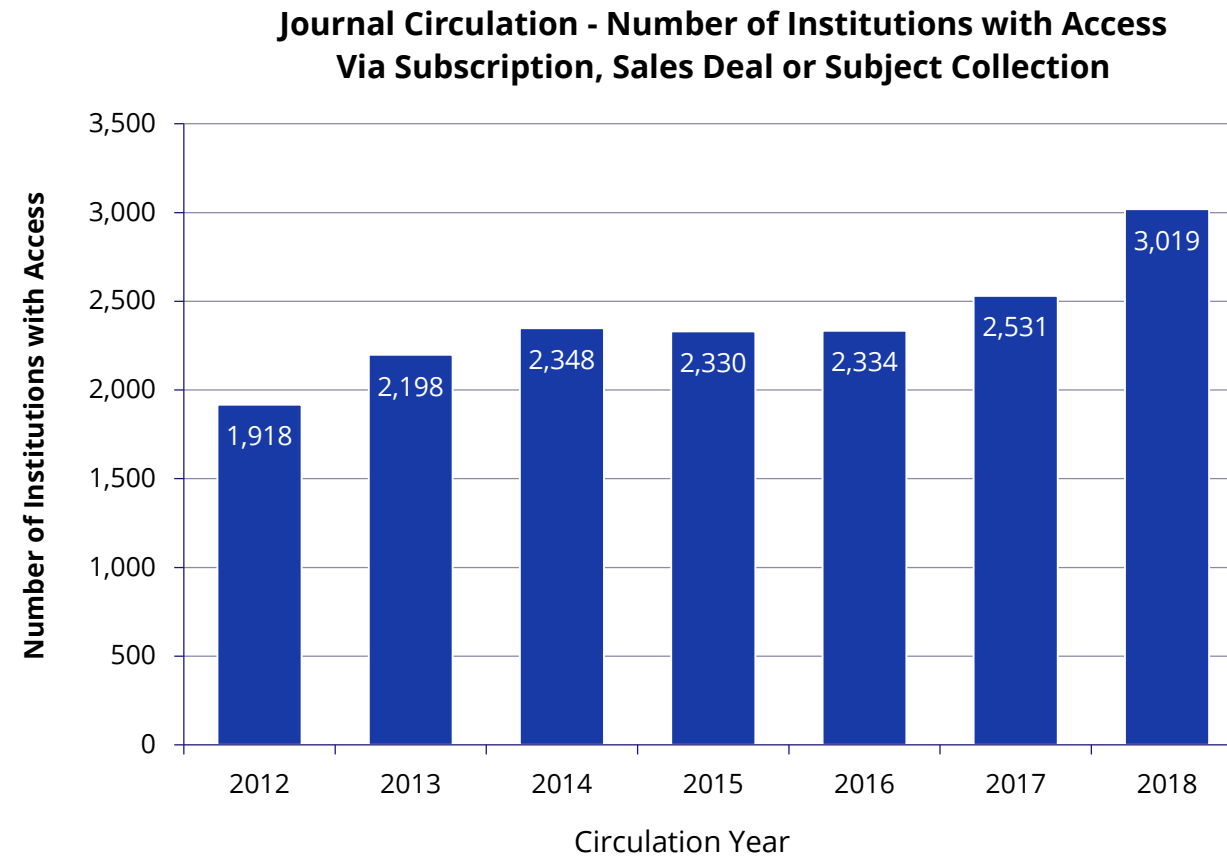
Agenda

1. Global Reach
2. Altmetric Analysis
3. Citation Analysis
4. Marketing Report
5. Production Report
6. Author Survey
7. Resources
8. Journal Contacts

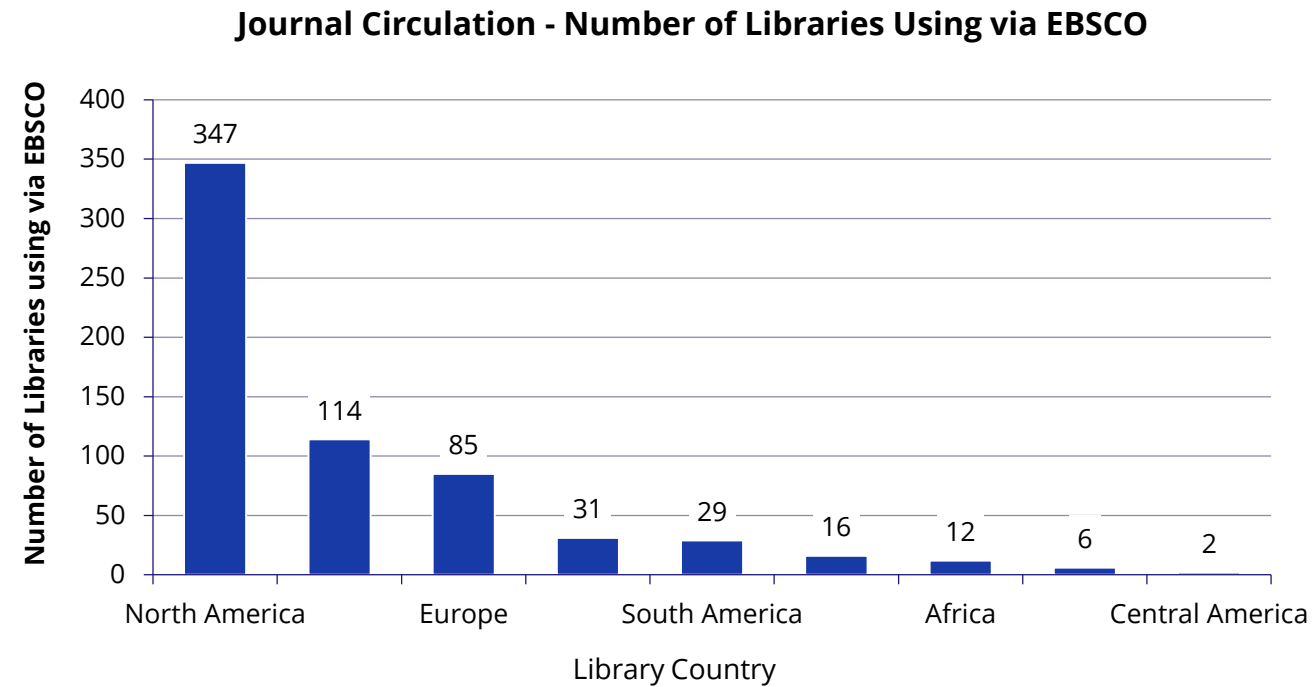
Highlights

- Your Journal received **69,751 article downloads** in 2019, which is **43% higher** than downloads received in 2018.
- The most downloaded article is 'Equipment power consumption and load factor profiles for buildings' energy simulation (ASHRAE 1742-RP)' by Omer Sarfraz, with **2,324 downloads**.
- The top Altmetric scoring article was 'Indoor air quality in 24 California residences designed as high-performance homes' by Brennan Less, Nasim Mullen, Brett Singer, Iain Walker, with a **score of 5**.
- The journal's **2018 Impact Factor is 1.199**, ranking 42/63 in the construction and building technology JCR category.
- The journal's **2018 CiteScore is 1.300**, ranking 73/168 in the Building and Construction Scopus category.
- There were 129 publications in 2019, **10 of which were Open Access**.

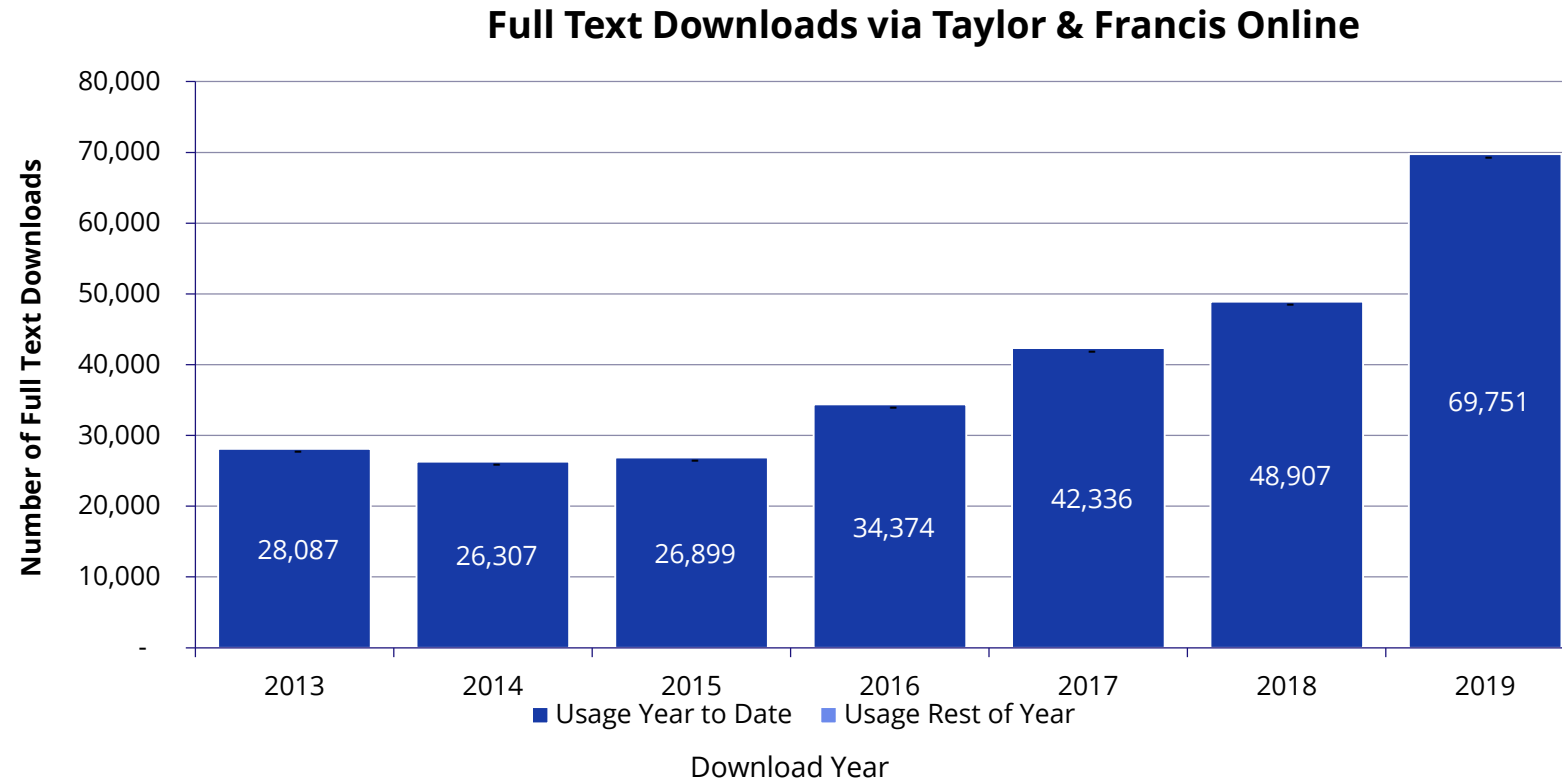
Global Reach – Circulation



EBSCO Circulation (2018)

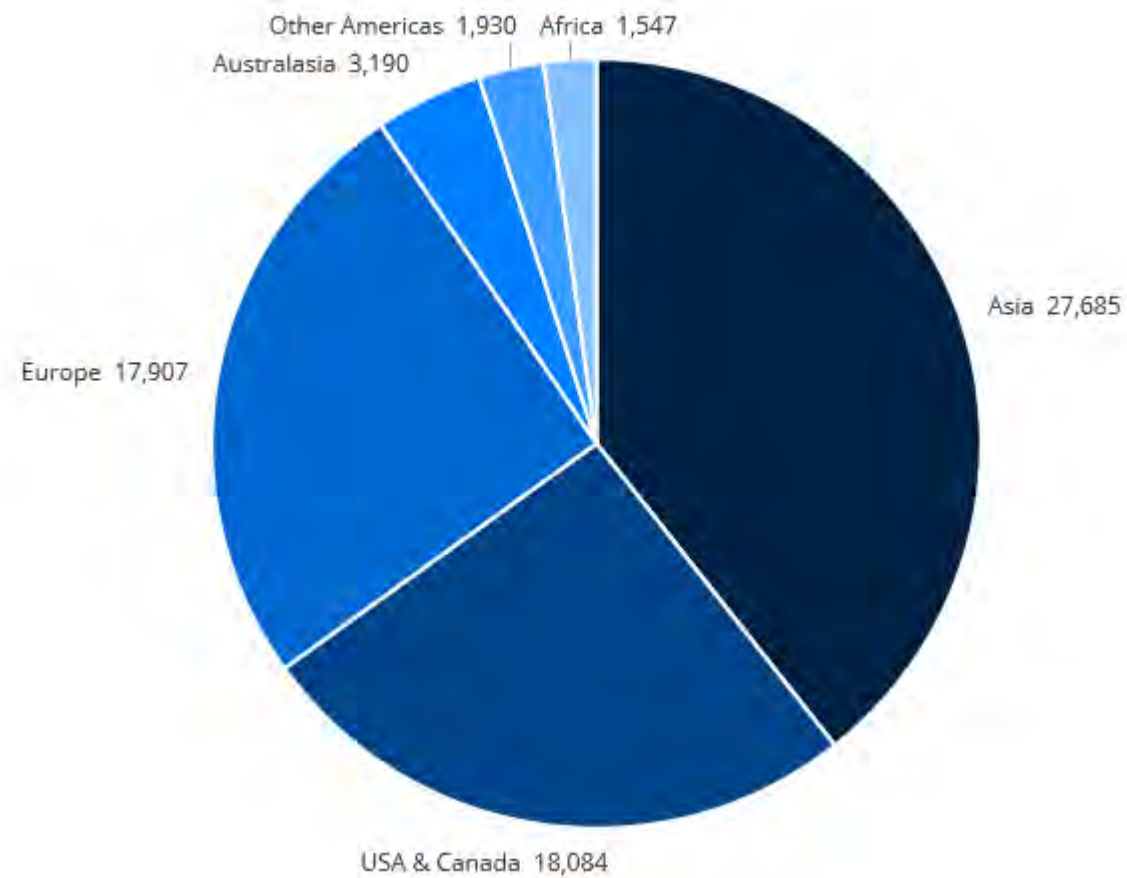


Article Downloads – Taylor & Francis Online (TFO) Usage



There were 69,751 article downloads in 2019. Article downloads have increased by 43% from 2018 to 2019.

Article Downloads by Region (in the past 12 months)



Most Downloaded Articles in the Past 12 Months (from Past Three Volume Years)

| Article Title | First Author | Volume and Issue | Number of Downloads | Open Access |
|--|--------------------------|------------------|---------------------|-------------|
| Equipment power consumption and load factor profiles for buildings' energy simulation (ASHRAE 1742-RP) | Omer Sarfraz | 24(10), 2018 | 2,324 | Yes |
| Traffic noise level predictions for buildings with windows opened for natural ventilation in urban environments | Jelena Srebric | 23(5), 2017 | 1,254 | Yes |
| Design optimization and validation of high-performance heat exchangers using approximation assisted optimization and additive manufacturing | Vikrant Aute | 23(6), 2017 | 1,103 | Yes |
| Supermarket system characteristics and operating faults (RP-1615) | David Yuill | 24(10), 2018 | 917 | Yes |
| Window and door opening behavior, carbon dioxide concentration, temperature, and energy use during the heating season in classrooms with different ventilation retrofits—ASHRAE RP1624 | Jorn Toftum | 24(6), 2018 | 838 | Yes |
| Recent advances on heat and mass transfer in refrigeration and air-conditioning systems | Lorenzo Cremaschi | 23(6), 2017 | 793 | No |
| A heat transfer and friction factor correlation for low air-side Reynolds number applications of compact heat exchangers (1535-RP) | Cheng-Xian (Charlie) Lin | 23(1), 2017 | 781 | Yes |
| IAQ and energy implications of high efficiency filters in residential buildings: A review (RP-1649) | Jeffrey A. Siegel | 25(3), 2019 | 737 | Yes |
| IAQ 2016: Defining indoor air quality: Policy, standards and best practices | S. C. Sekhar | 24(2), 2018 | 734 | No |
| Fouling and Its Effects on Air-cooled Condensers in Split System Air Conditioners (RP-1705) | Mehdi Mehrabi | 25(6), 2019 | 714 | Yes |

*chart shows list of articles published in the last three volumes that were the most downloaded in 2019.

Top Institutions by Downloads (Past 12 Months)

| Institution name | Number of Downloads |
|--|---------------------|
| Tongji University | 1,202 |
| Hong Kong Polytechnic University | 987 |
| Huazhong University of Science & Technology | 719 |
| Tianjin University | 682 |
| Concordia University Library | 663 |
| Oklahoma State University - Stillwater and Tulsa | 651 |
| Zhejiang University | 604 |
| Xian Jiaotong University | 591 |
| Purdue University Calumet | 560 |
| National Renewable Energy Lab | 540 |

Note: Consortia have been removed from this table.

Altmetrics

An Altmetric score is a high-level measure of the quality and quantity of online attention that an individual article has received. The score is based on relevant mentions from social media sites, newspapers, policy documents, blogs, Wikipedia, and many other sources.

| Volume | Sources | Authors |
|---|--|--|
| The score for an article rises as more people mention it. We only count 1 mention from each person per source, so if you tweet about the same paper more than once, Altmetric will ignore everything but the first. | Each category of mention contributes a different base amount to the final score. For example, a newspaper article contributes more than a blog post which contributes more than a tweet. | We look at how often the author of each mention talks about scholarly articles, at whether or not there's any bias towards a particular journal or publisher and at who the audience is. For example, a doctor sharing a link with other doctors counts for far more than a journal account pushing the same link out automatically. |

The Colors of the Donut

- Policy documents
- News
- Blogs
- Twitter
- Post-publication peer-reviews
- Facebook
- Sina Weibo
- Syllabi
- Wikipedia
- Google+
- LinkedIn
- Reddit
- Research highlight platform
- Q&A (Stack Overflow)
- Youtube
- Pinterest
- Patents



Default Weights

| | |
|-------------------------------|------|
| News | 8 |
| Blogs | 5 |
| Twitter | 1 |
| Facebook | 0.25 |
| Sina Weibo | 1 |
| Wikipedia | 3 |
| Policy Documents (per source) | 3 |
| Q&A | 0.25 |
| F1000/Publons/Pubpeer | 1 |
| YouTube | 0.25 |
| Reddit/Pinterest | 0.25 |
| LinkedIn | 0.5 |
| Open Syllabus | 1 |
| Google+ | 1 |

According to Altmetric, "The score is derived from an automated algorithm, and represents a weighted count of the amount of attention we've picked up for a research output. Why is it weighted? To reflect the relative reach of each type of source. It's easy to imagine that the average newspaper story is more likely to bring attention to the research output than the average tweet. This is reflected in the default weightings:"

Altmetric Analysis – Top Altmetric Scores (Past Year)

Report generated January 2020.

| RANK | ATTENTION SCORE | RESEARCH OUTPUT | | | |
|------|-----------------|---|-----|---|--|
| #1 | 5 | Indoor air quality in 24 California residences designed as high-performance homes Article in <i>Science and Technology for the Built Environment</i> , January 2015 | #6 | 1 | Light transmittance characterization and energy-saving analysis of a new selective coating for in situ window retrofit Article in <i>Science and Technology for the Built Environment</i> , June 2019 |
| #2 | 4 | Meta-analysis of summertime indoor temperatures in new-build, retrofitted, and existing UK dwellings Article in <i>Science and Technology for the Built Environment</i> , June 2019 | #7 | 1 | Explicit multipole formulas and thermal network models for calculating thermal resistances of double U-pipe borehole heat exchangers Article in <i>Science and Technology for the Built Environment</i> , July 2019 |
| #3 | 3 | IAQ 2016: Defining indoor air quality: Policy, standards and best practices Article in <i>Science and Technology for the Built Environment</i> , December 2017 | #8 | 1 | Adaptation of fan motor and VFD efficiency correlations using Bayesian inference Article in <i>Science and Technology for the Built Environment</i> , May 2019 |
| #4 | 2 | Characterization, testing, and optimization of load aggregation methods for ground heat exchanger response-factor models Article in <i>Science and Technology for the Built Environment</i> , September 2019 | #9 | 1 | Window and door opening behavior, carbon dioxide concentration, temperature, and energy use during the heating season in classrooms with different ventilation retrofits—ASHRAE RP1624 Article in <i>Science and Technology for the Built Environment</i> , February 2018 |
| #5 | 1 | Effects of moisture content, temperature and pollutant mixture on atmospheric corrosion of copper and silver and implications for the environmental design of data centers (RP-1755) Article in <i>Science and Technology for the Built Environment</i> , January 2020 | #10 | 1 | Fouling and Its Effects on Air-cooled Condensers in Split System Air Conditioners (RP-1705) Article in <i>Science and Technology for the Built Environment</i> , June 2019 |

Overview and Source Breakdown of Altmetric Attention Score (Past Year)

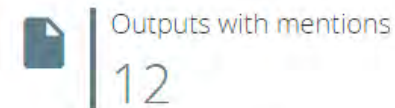
REPORT OVERVIEW



Total number of mentions for research outputs in this report



Total number of research outputs in this report, including those without mentions



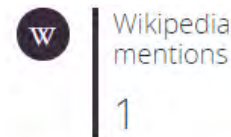
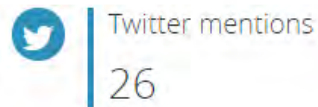
Total number of research outputs in this report that have Altmetric mentions



Number of attention sources that mention research outputs in this report

ATTENTION SOURCE BREAKDOWN

The number of mentions from each source that Altmetric has tracked for the research outputs in this report.



Link to Altmetric Report

The link below can be used to access a report containing the latest Altmetric attention to your journal. This data is updated daily, so can be used to keep track of trending articles.

<https://www.altmetric.com/explorer/report/269fecca-3cf3-409d-956b-56161e477766>

Impact Factor & Ranking

$$\text{JIF} = \frac{\text{Citations in 2018 to items published in 2016 (146) + 2017 (101)}}{\text{Number of citable items in 2016 (100) + 2017 (106)}} = \frac{247}{206} = 1.199$$

1.199

2018 Journal Impact Factor



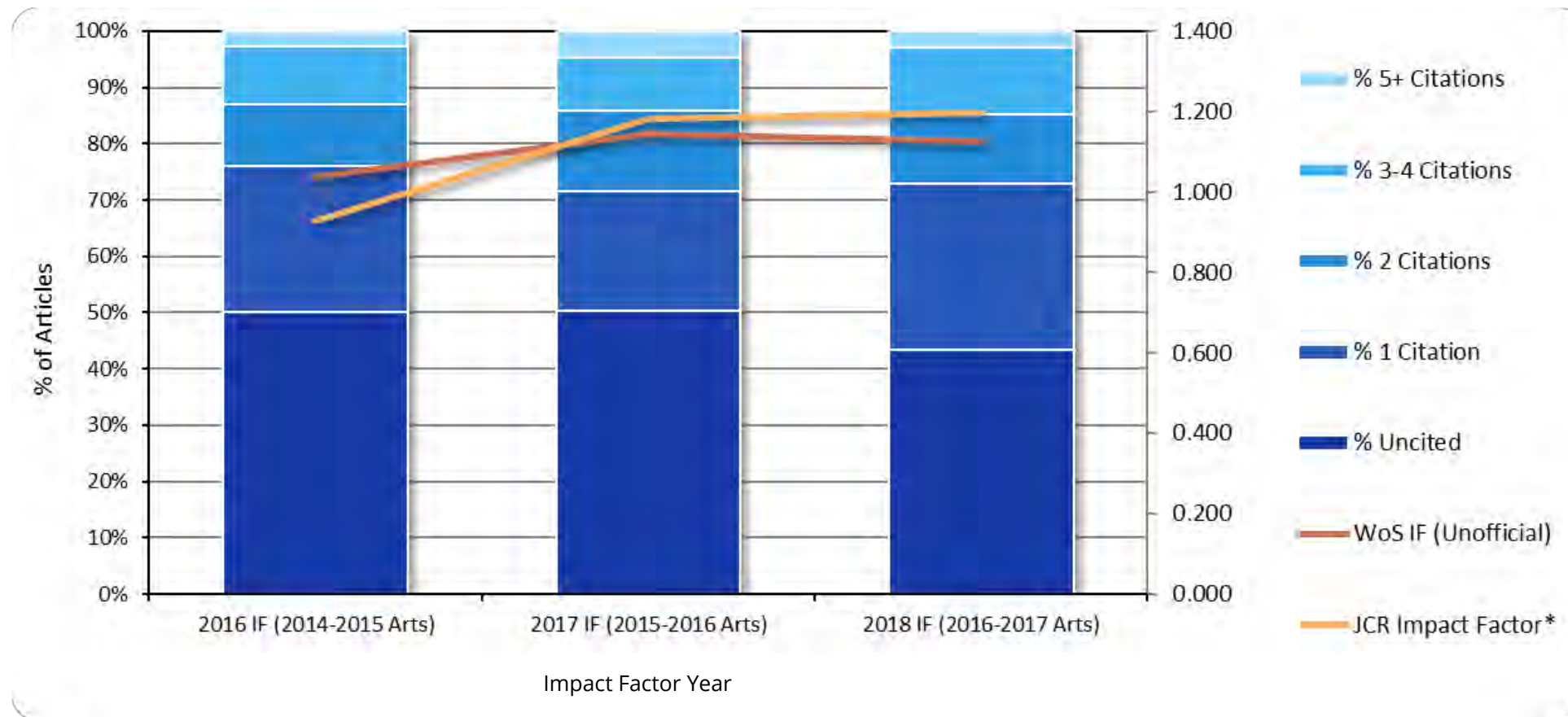
| Impact Factor Year | Impact Factor | Rank |
|--------------------|---------------|--|
| 2013 | 0.745 | (31/58 Construction & Building Technology, 36/55 Thermodynamics, 75/126 Engineering, Mechanical) |
| 2014 | 0.673 | (35/59 Construction & Building Technology, 43/55 Thermodynamics, 92/130 Engineering, Mechanical) |
| 2015 | 0.871 | (37/61 Construction & Building Technology, 43/58 Thermodynamics, 86/132 Engineering, Mechanical) |
| 2016 | 0.928 | (36/61 Construction & Building Technology, 47/58 Thermodynamics, 97/130 Engineering, Mechanical) |
| 2017 | 1.183 | (37/59 Thermodynamics, 38/62 Construction & Building Technology, 87/128 Engineering, Mechanical) |
| 2018 | 1.199 | (42/63 Construction & Building Technology, 43/60 Thermodynamics, 90/129 Engineering, Mechanical) |

Top Cited Articles – 2018 Impact Factor

| Article title | First Authors | Volume | Issue | Document Type | Number of Citations |
|---|---------------------|--------|-------|---------------|---------------------|
| Design of a hydraulically driven compressive elastocaloric cooling system | Qian, Suxin | 22 | 5 | Article | 8 |
| Magnetic heat pumps: An overview of design principles and challenges | Trevizoli, Paulo V. | 22 | 5 | Article | 7 |
| Optimal operation scheduling for microgrid with high penetrations of solar power and thermostatically controlled loads | Luo, Fengji | 22 | 6 | Article | 6 |
| A power limiting control strategy based on adaptive utility function for fast demand response of buildings in smart grids | Tang, Rui | 22 | 6 | Article | 6 |
| Sizing heating, ventilating, and air-conditioning systems under uncertainty in both load-demand and capacity-supply side from a life-cycle aspect | Huang, Pei | 23 | 2 | Article | 6 |
| Exploring the efficiency potential for an active magnetic regenerator | Eriksen, Dan | 22 | 5 | Article | 5 |
| Elastocaloric cooling: From fundamental thermodynamics to solid state air conditioning | Schmidt, Marvin | 22 | 5 | Article | 4 |
| Modeling the impact of residential HVAC filtration on indoor particles of outdoor origin (RP-1691) | Azimi, Parham | 22 | 4 | Article | 4 |
| Effects of passenger thermal plume on the transport and distribution characteristics of airborne particles in an airliner cabin section | Yan, Yihuan | 22 | 2 | Article | 4 |
| Airflow patterns due to door motion and pressurization in hospital isolation rooms | Mousavi, Ehsan S. | 22 | 4 | Article | 4 |

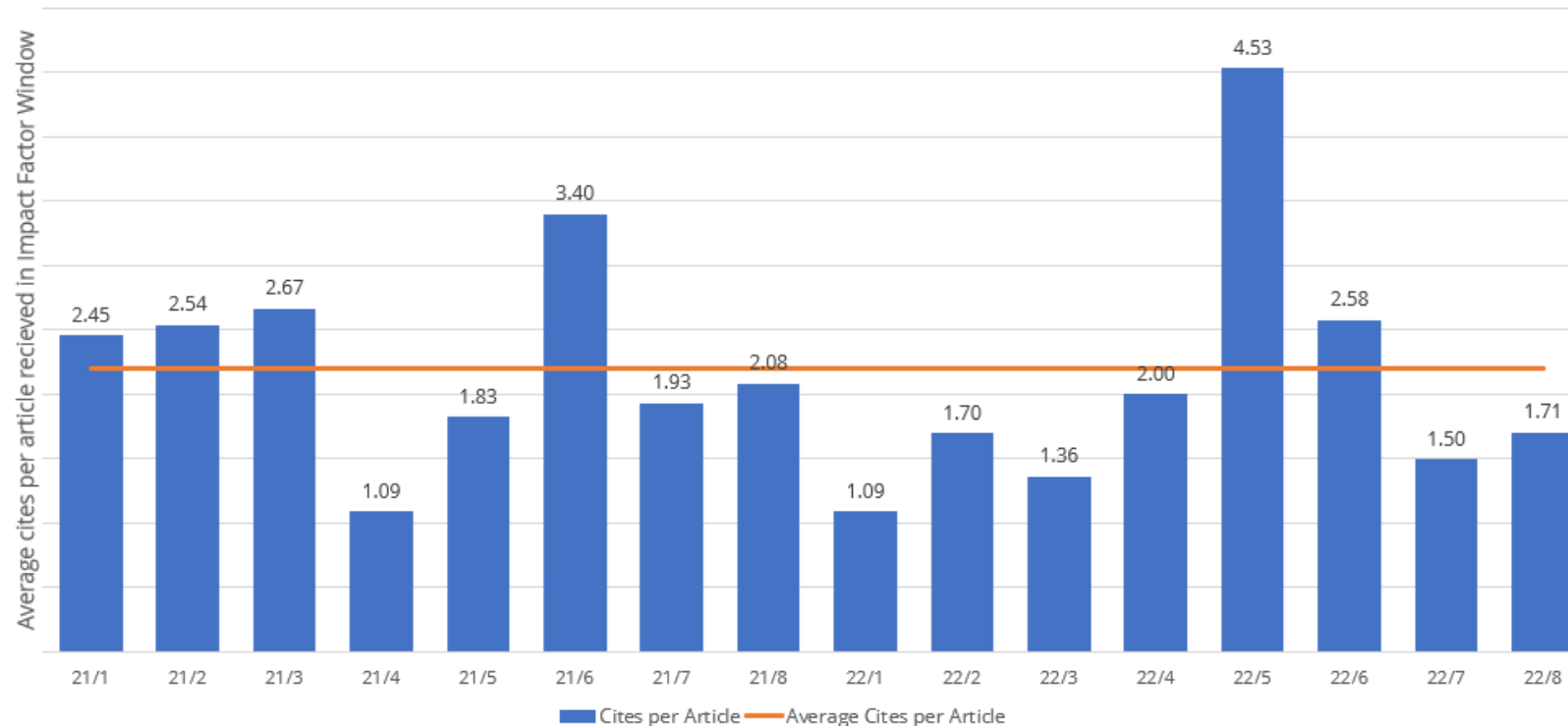
*19 self-citations out of 247 – 7.69% self-citation rate.

Article Citation Distribution – 2018 Impact Factor



Issue Citation Breakdown

Average Impact Factor Contributing Citations per Article – by Issue



This chart shows how many citations articles have picked up which contributed to the Impact Factor. This is grouped into issues to show if special issues contributed more citations than regular issues to the Impact Factor.

An article contributes to the Impact Factor in 2 years. E.g. for Article X published in 2016 – citations it receives in 2017 and 2018 contribute to the Impact Factor. Therefore we can define "Impact Factor Citations" as the number of citations an article picks up in the 2 years after it was published. A 2016 issue therefore will contribute to the 2017 and 2018 Impact Factors.

The orange line shows the average number of citations which articles received in all the volume years looked at in the chart. This is designed to provide a baseline to show which issues are better cited than average (above the average line) or worse cited than average (below the average line).

Citing Sources – 2018 Impact Factor



Note: Number of citing articles from each journal.

Citing Regions – 2018 Impact Factor



Note: Shows number of citing articles from each region. Web of Science lists England, Scotland, Wales and Northern Ireland separately.

CiteScore and Ranking

| CiteScore | Score | Rank |
|-----------|-------|---|
| 2016 | 1.010 | (19/47 Fluid Flow and Transfer Processes, 50/149 Building and Construction) |
| 2017 | 1.050 | (26/66 Fluid Flow and Transfer Processes, 66/161 Building and Construction, 66/106 Environmental Engineering) |
| 2018 | 1.300 | (30/76 Fluid Flow and Transfer Processes, 65/117 Environmental Engineering, 73/168 Building and Construction) |

Marketing – Objectives

Through various campaigns and the marketing of your journal, our objectives are to:

- Drive and sustain usage
- Demonstrate impact
- Grow international reach
- Attract high quality submissions
- Increase citations
- Increase author and researcher engagement
- Increase membership.

Reaching Readers Emails

STBE benefits from highly-targeted promotion focused on article-level marketing that leverages the web of connections attached to every published article such as colleagues, reviewers, funders, cited authors, and hundreds more.

Once new articles are published in the journal, they are included in our Reaching Readers email service – a bi-weekly email that is sent to researchers within our network, and contains content based on their subject interest. These campaigns are designed to deliver reach, readership and potential citations as relevant articles are presented weekly to interested readers and the recipient doesn't need to be signed up to the journal to learn about new articles, just registered with Taylor & Francis with an interest in the subject area.

In total, 111 articles have been promoted this way since January 2019.

| Article Title | Contact Count |
|--|---------------|
| A study of the effects of water capacity on the thermal performance of water-in-glass evacuated tube solar collectors applied to space heating | 2,804 |
| Investigating the influence of different speeds and directions of winds on the performance of split air conditioning systems | 1,340 |
| Development of control quality factor for HVAC control loop performance assessment—II: Field testing and results (ASHRAE RP-1587) | 1,251 |
| Data-driven energy models for existing VFD-motor-pump systems | 1,207 |
| Virtual measurement of the air properties in air-handling units (AHUs) or virtual re-calibration of sensors | 1,207 |
| The impact of rock fracturing and pump intake location on the thermal recovery of a standing column well: model development, experimental validation, and numerical analysis | 1,141 |
| Determine the absolute roughness of phenolic duct (RP-1764) | 1,004 |
| A numerical analysis and optimization of the dynamic performance of a multipurpose solar thermal system for residential applications | 997 |
| Detection and interpretation of anomalies in building energy use through inverse modeling | 984 |
| Performance simulation of underground seasonal solar energy storage in hot summer and cold winter zone in china | 956 |

Alerts and Social Media

New Contents Alerts:

The journal can be found at **<https://www.tandfonline.com/UHVC>** where anyone can sign up for new contents alerts. Your journal currently has 200 active e-Table of Contents (e-ToC) subscribers.

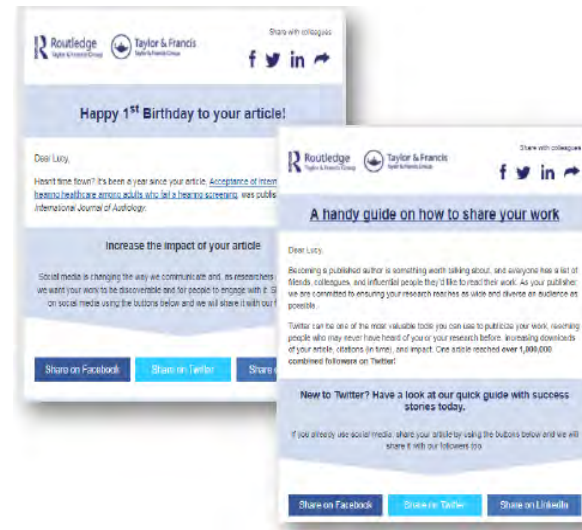
Social Media

Taylor & Francis has official social media accounts for each of the major subject areas that provides journal level marketing.

- You can find your relevant Taylor & Francis social media feeds here:
 - Twitter: <http://www.twitter.com/TandFSTEM>
 - Facebook: <http://www.facebook.com/TandFScience>
- You can find the social media guide for editors here: **<http://bit.ly/ER-SocialMedia>**

Marketing for Authors

- Authors have the option to opt into marketing after publication. They will be emailed upon publication, at 6 months and at 12 months after publication.
- Author anniversary emails have an average open rate of 40% and a click through rate of 18%, considerably higher than industry averages*. In 2019, 50% of researchers who open these emails are clicking on the embedded social media links, showing recipients are sharing their article on social platforms because of these alerts.
- To encourage more authors to receive these alerts, please encourage them to check their marketing subscription status at:
<http://pages.email.taylorandfrancis.com/taylorandfrancissubscriptioncenter>



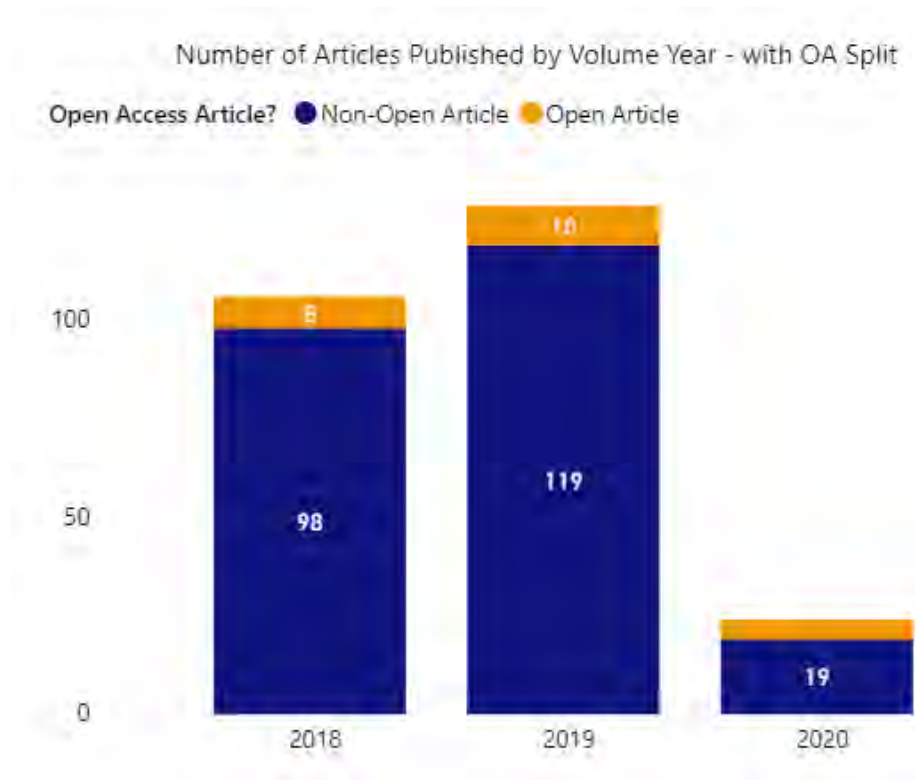
Open rate:
40%*
Click rate:
18%

*Current media & publishing industry open rate is 21.33% <https://mailchimp.com/resources/email-marketing-benchmarks/>

Production – Published Content (Volume Years 2018-2020)

Number of Documents by Article Type

| Article Type | Distinct Count of Documents |
|-----------------|-----------------------------|
| Article | 238 |
| Editorial | 12 |
| Guest Editorial | 4 |
| Correction | 2 |
| Corrigendum | 2 |
| Addendum | 1 |
| Total | 259 |



For more information on Open Access and Plan S, please visit:

- <http://authorservices.taylorandfrancis.com/publishing-open-access-with-taylor-francis/>
- <https://editorresources.taylorandfrancis.com/peersupport/coalition-s-plan-s-and-accelerating-oa/>

Production Schedule (2019-January 2020)

Online Issue Published

| Issue Number | 2019 | 2020 |
|--------------|------------------|-----------------|
| 01 | 14 February 2019 | 07 January 2020 |
| 02 | 19 March 2019 | |
| 03 | 19 March 2019 | |
| 04 | 23 April 2019 | |
| 05 | 29 May 2019 | |
| 06 | 08 July 2019 | |
| 07 | 02 August 2019 | |
| 08 | 08 October 2019 | |
| 09 | 29 October 2019 | |
| 10 | 12 December 2019 | |

Print Issue Published

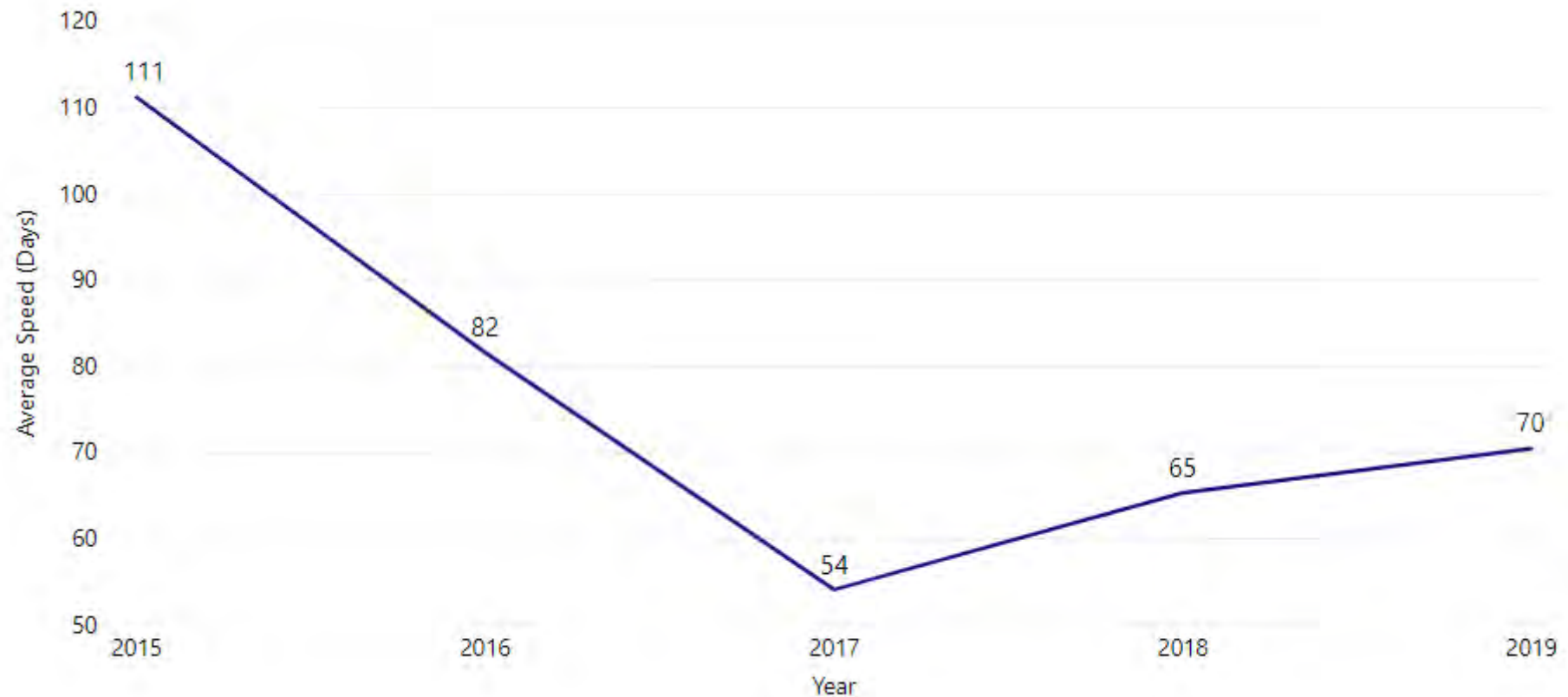
| Issue Number | 2019 |
|--------------|------------------|
| 01-05 | 27 June 2019 |
| 06-10 | 19 December 2019 |

Page Count & Backlog Report (Vol. Years 2019 and 2020)

| Volume Year | Budgeted Pages | Actual Pages | Number of Pages Remaining |
|-------------|----------------|--------------|---------------------------|
| 2019 | 1520 | 1524 | -4 |
| 2020 | 1520 | 441 | 1079 |

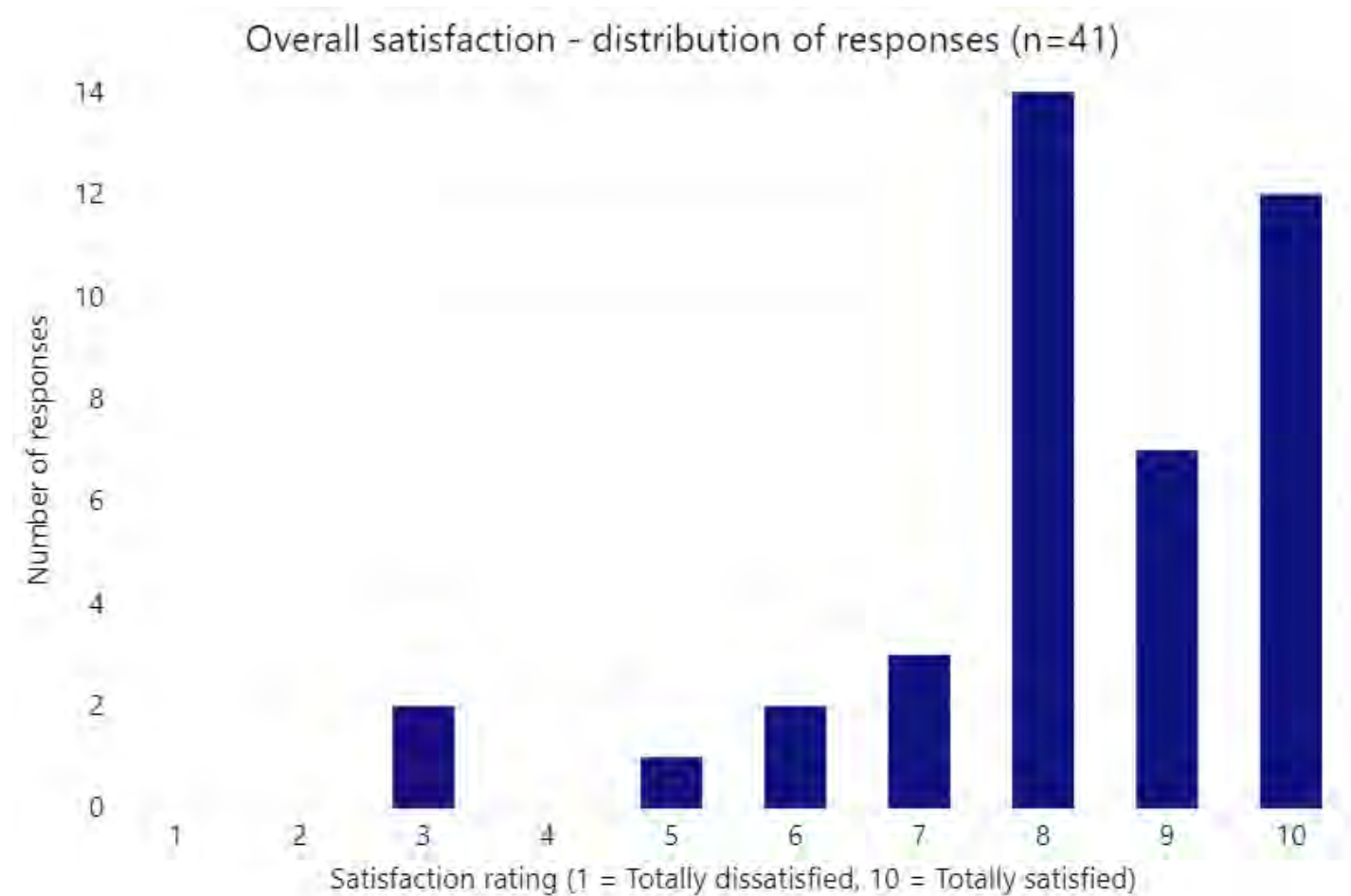
*There are no articles in the backlog. Any copyflow concerns should be discussed with your Taylor & Francis Editorial contact.

Average Speed of Article Publication*

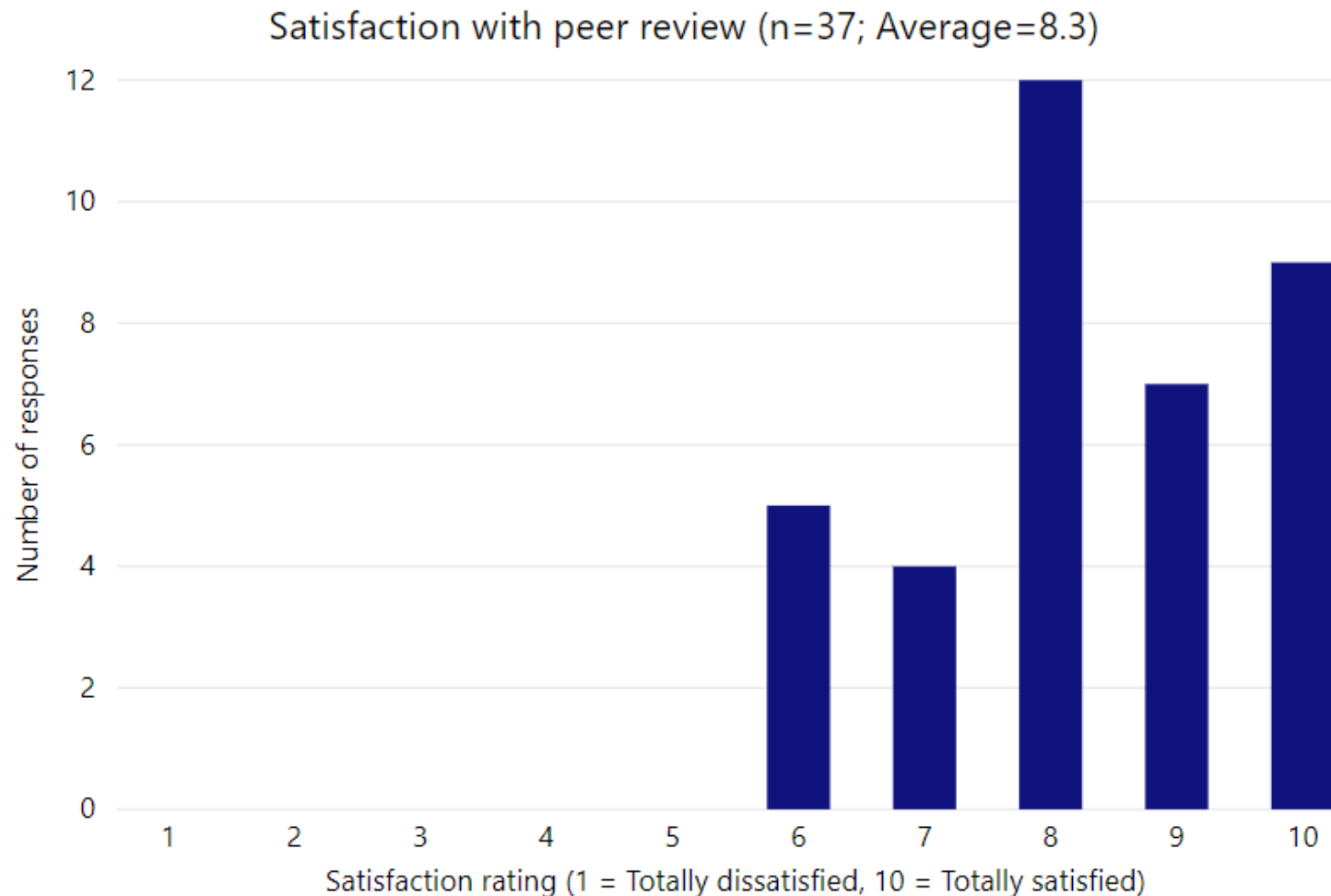


* mean days from submission to Central Article Tracking System (CATS) to online publication.

Author Survey – Overall Satisfaction (2018-2020)



Satisfaction with Refereeing Process (2018-2020)



Resources

News, support and guidance for Editors, authors and Librarians:

EDITORRESOURCES
Supporting Taylor & Francis journal editors

<http://editorresources.taylorandfrancisgroup.com/>

AUTHORSERVICES
Supporting Taylor & Francis authors

<http://authorservices.taylorandfrancis.com>

LIBRARIANRESOURCES
Taylor & Francis supporting librarians

<https://librarianresources.taylorandfrancis.com/>



A bi-monthly campaign designed for Editors.
Sign up here: http://bit.ly/tandf_ppp



Sign up for updates, tips and talking points from **Author Services**, **Editor Resources** and **Librarian Resources** websites straight to your inbox:
<https://authorservices.taylorandfrancis.com/category/insights/>



[@tandfonline](#)
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Development Initiatives

We need research from around the world to address global challenges. We remain committed, therefore, to supporting emerging region researchers on their publishing journeys.

For more information on the Taylor & Francis development initiatives, please visit:

- <http://taylorandfrancis.com/about/corporate-responsibility/development-initiatives>
- <https://authorservices.taylorandfrancis.com/star>
- <https://librarianresources.taylorandfrancis.com/services-support/development-initiatives>
- <https://www.taylorandfrancis.com/sdgo>



Feedback

We'd love to hear what you think! If you have any feedback or suggestions for improvement, please fill out the below questionnaire using the following link or scan the QR code:

<https://www.surveymonkey.co.uk/r/TTJG7TP>



Journal Contacts

Editorial

- Portfolio Manager – bailey.young@taylorandfrancis.com

Production

- Production Editor – UHVC-production@journals.taylorandfrancis.com

Peer-Review

- Submission Portal Help Desk – RPsupport@tandf.co.uk



Attachment H
PEC Report to BOD-
after Orlando Conference 2020

To execute PEC MBO #3, the Certification Committee has identified the following steps:

A. *Generate proposals for possible certification program(s) that support Strategic Plan Initiatives 1 and 2. In Progress*

- Nineteen (19) TCs and SSPCs were invited to consider submitting a proposal for such a new Certification program. These TCs and SSPCs likewise were invited to attend the Certification Committee meeting on Feb. 1 and given the opportunity to have a Certification Committee member attend their meeting in Orlando and be a resource to answer questions and provide guidance. In the end, five TC and SSPC Chairs requested Certification Committee Member attendance at their meeting in Orlando.
- The due date to submit a proposal is 3/15/2020.

B. Develop metric for evaluating the likelihood of success for the proposed program(s).

COMPLETED. The “ASHRAE Certification Program Proposal Evaluation Algorithm” was created in 2015.

C. Survey members regarding interest and demand in the possible certification program(s).

A step in the Certification program evaluation process is to conduct market research into the need and demand for the proposed certification program.

D. Evaluate the likelihood of proposed program success.

The due date to submit a proposal is 3/15/2020. The “ASHRAE Certification Program Proposal Evaluation Algorithm” clearly defines the criteria for recommending new certification programs.

Attachment I
PEC Report to BOD-
after Orlando Conference 2020



Certification Committee MBOs Society Year: 2019-2020

Mission: To serve humanity by advancing the arts and sciences of heating, ventilation, air conditioning, refrigeration and their allied fields.

Vision: A healthy and sustainable built environment for all.

Goal #1: Position ASHRAE as an Essential Knowledge Resource for a Sustainable, High-Performance Built Environment.

Goal #2: Maximize Member Value and Engagement.

Goal #3: Optimize ASHRAE's Organizational Structure to Maximize Performance.

Certification Committee Scope: The Certification Committee is responsible for developing, implementing, and monitoring ASHRAE certification programs.

Chair: Mark Bettin, OPMP

Date: January 17, 2020

| Objective | SP 2019 -24 ¹ | Completi on Date | Fiscal Impact | Responsibl e Party | Status | Comment |
|---|--------------------------------|------------------------|----------------------|--|--------------------|---|
| 1. Attain 80% recertification rate for the 2019 renewal class, exceeding the industry average of 76%. | 2C | 3/31/2020 | Currently budgeted . | Chair, Certification Committee, Staff | <i>In progress</i> | 171 applications received through 12/31/2019. Late application period began 1/1/2020. |
| 2. Grow the number of certification applications by 10% over 2015-16 total of 500, a record high. | 3A | 6/30/2020 | None, Staff Time | Chair, Certification Committee, HVAC Designer Exam | <i>In progress</i> | Through 12/31/2019, 30% increase in applications (234 total) over LYTD. |

| | | | | | | |
|--|----|-----------|--------------------------|--|--------------------|---|
| | | | | Subcommittee, Staff | | |
| 3. Enhance relevancy of ASHRAE certification to ASHRAE members and the industry in general. | 2C | 6/30/2020 | Volunteer and Staff Time | Chair, Certification Committee, HVAC Designer Exam Subcommittee, Staff | <i>In progress</i> | <p>- Launched examination for new HVAC Designer (CHD) certification on June 3, 2019.</p> <p>- Digital badging launched September, 2019. As of Jan. 15, 726 digital badges issued with 511 badges claimed for a 70% acceptance rate, against an industry average of 45%. 4,979 badge views for an 9.3 average views per share rate, against an industry average of 2.0 views. 38 "expired" badges.</p> |
| 4.1 Manage certification programs against the ANSI/ISO/IEC 17024 accreditation standard. | 2B | 6/30/2020 | Currently budgeted . | Chair, Certification Committee, Staff | <i>In progress</i> | <p>- BCxP, BEAP, BEMP and HBDP are accredited.</p> <p>- Certification staff attended 2019 Client Day and 17024 Workshop meetings Sept. 18-19.</p> |
| 4.2. Launch new HBDP and HFDP exam forms updated per revised exam Detailed Content Outlines. | 3A | 11/1/2019 | Currently budgeted . | Chair, Certification Committee, HVAC Designer Exam Subcommittee, Staff | <i>In progress</i> | <p>New exam items are being pre-tested. Additional HBDP exposures are needed. New HFDP form slated to launch by Feb. 15, 2020. New HBDP form to launch by 7/1/2020.</p> |
| 4.3. Recruit 2020-23 class of Exam Subcommittee members. | 2A | 6/30/2020 | | Chair, Certification Committee, Nominations Task Force, Staff | | |

| | | | | | | |
|---|----------------------|-----------|--|---------------------------------------|----------------------|--|
| 5. Monitor the effectiveness of current certification programs, and recommend and implement any steps to improve program effectiveness. | 3A | 6/30/2019 | None. | Chair, Committee Task Force, Staff | Completed. | Task Force recommendations accepted by Certification Committee in Oct. 4 meeting. |
| 6. Finalize 2019-20 MBOs. | 2:A, B, C; 3:A, B | 9/30/2019 | To be determined. | Chair, Certification Committee, Staff | Completed. | Task Force to incorporate new Strategic Plan and Committee self-assessment. |
| 7. Evaluate Live Remote Proctoring as an alternative exam delivery mode. | 3B | 6/30/2020 | To be determined. | Chair, Certification Committee, Staff | <i>In progress</i> . | A proposal from PSI has been received. In winter 2020 ANSI to issue "remote proctoring questionnaire," a guidance document, to aid certifying bodies in evaluating vendor "remote proctoring services. |
| 8. Evaluate the certification and recertification application fee schedule for any possible updates in the February 1, 2020 meeting. | 3A | 1/12/19 | None. Possible 2020-21 revenue increase. | Chair, Certification Committee, Staff | | The Certification Committee agreed to maintain the current fee schedule one additional year through June 30, 2020. |
| 9. Analyze Certification Program and develop metrics for evaluating potential for new certifications aligned with Strategic Plan initiatives 1 (<i>promote best practices that enable adaptability, resilience and recovery of buildings and communities</i>) & 2 (<i>promote understanding of indoor environmental quality (IEQ) among practitioners</i>) after surveying members to establish interest and demand | 2B, 3A | 6/30/2020 | Staff time. | Chair, Certification Committee | <i>In progress</i> | Assigned by PEC and evaluated by Certification Committee in Oct. 4 meeting. Next steps to complete objective: 1. Generate proposals for possible certification program(s) that support SP Initiatives 1 and 2. 19 TCs and SSPCs invited to submit proposals by 3/15/2020, 2. Survey members regarding interest and demand in the possible certification program(s) |

| | | | | | | |
|---|--|--|--|--|--|--|
| | | | | | | 3. Develop metric for evaluating the likelihood of success for the proposed program(s) COMPLETED. 4. Evaluate the likelihood of proposed program success. |
| Recommendations for Strategic Planning: | | | | | | |

'2019-24 Strategic Plan: Goals & Objectives

1. Position ASHRAE as an Essential Knowledge Resource for a Sustainable, High-Performance Built Environment

- A. Utilize a holistic approach to ASHRAE's offerings and activities to drive positive economic, environmental and social impact through innovation in building design and operations.
- B. Expand capabilities globally to create, aggregate and disseminate essential information and knowledge focusing on emerging market trends and transformative approaches

2. Maximize Member Value and Engagement

- A. Infuse enthusiasm, vitality and diversity throughout ASHRAE events and services
- B. Expand the impact of collaboration and partnerships with industry organizations, universities and government agencies
- C. Leverage technology to increase member engagement, awareness and value

3. Optimize ASHRAE's Organizational Structure to Maximize Performance

- A. Prototype and launch new approaches that will increase ASHRAE's relevance and speed to market for key offerings
- B. Optimize ASHRAE's organizational systems and structures to increase capacity, efficiency and effectiveness
- C. Cultivate industry and member philanthropy to extend ASHRAE's impact and reach



**Handbook Committee Report to
Publishing and Education Council (PEC)
Meeting of February 4, 2020**

Action Items

1. Handbook Committee recommends that we investigate further the possibility of applying to include ASHRAE Handbook in UNESCO's Memory of the World archive.
Fiscal impact: none
Vote: 15 Y/1 N/0 abs CNV

Information Items

1. Presently there are no changes to the HBC MOP or ROB. Revisions are planned in time for the Austin meeting in June 2020.
2. HBC will evaluate their meeting room requirements before the Austin (2020) annual meeting and consolidate spaces where possible.
3. ASHRAE staff will pursue a solution to allow Internet browsers beyond just Internet Explorer to be used with the ASHRAE Authoring Portal. (This limitation has historically derived from SharePoint limitations, but new software versions may allow more flexibility.)
4. HBC continues to seek cost-efficient ways to reward contributors on the TCs, including "HB contributor" stickers for future meetings (similar to "Research Contributor" stickers on attendee badges).
5. The status of the 2019-2020 MBOs is attached. (*Attachment A*)

Respectfully submitted,

Suzanne LeViseur, Chair
Handbook Committee
2 February 2020
SL: hek

| Objective | | Completion Date | Fiscal Impact | Responsible Party | Status | Comment |
|-----------|---|-----------------|----------------------------|-------------------|-------------|--|
| 1 | Solicit ideas from volume subcommittee chairs for process improvements. | 6/20 | None | HBC | Continuous | |
| 2 | Improve peer-to-peer training of incoming volume subcommittee chairs. | 6/20 | None | Vice Chair | Continuous | Mentoring of new members |
| 3 | Review the relevance, scope, and objectives of subcommittees. | 6/20 | None | HBC ExCom | Continuous | Reshape HBC to best function under the new TC structure (when implemented) in a way that serves both HBC's and TCs' needs |
| 4 | Encourage TCs to develop extra features (spreadsheets, sidebar discussions, video, etc.) for Handbook Online. Suggest using YEA members | 6/20 | None | HBC | In progress | |
| 5 | Address volume imbalances | 6/20 | Could reduce mailing costs | HBC ExCom | In progress | Applications and Fundamental volumes are nearly twice the size of Refrigeration volume. Look at the possibility of shifting some material to a different volume. |
| 6 | Improve international representation /input in the handbook process | 6/20 | None | HBC ExCom | Ongoing | Continue with the effort started by Don Fenton |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |



Historical Committee (HC)
Report to Publishing and Education Council (PEC)
ASHRAE 2020 Winter Conference / Orlando, FL

Information Items

1 Historical Committee heard an update on the progress of all projects for 125th anniversary. All projects have been completed or will be complete by the 2020 Annual Conference in Austin.

2 Historical Committee discussed the pilot plaque project that will be installed in Orange, Texas after the Region VIII CRC. The Committee agreed that for the foreseeable future, plaques will continue to be self-funded. The Committee discussed the use of virtual plaques in lieu of physical plaques.

3 Historical Committee reviewed names for the next two Leadership Voices interviews to be filmed in Austin.

4 Historical Committee discussed the importance of including not just Presidential members but also industry innovators and leaders.

5 Historical Committee acknowledged that although they do not endorse candidates for either Hall of Fame or Pioneers of the Industry, they as a Committee can nominate someone.

6 Historical Committee discussed the necessity of continuity of communication, to keep Regional and Chapter Historians involved in history at the Society level.

7 Historical Committee reviewed a report on the status of PAOE points on the part of chapters by regions and approved suggested changes to PAOE for fiscal year 2020-21 with the goal of continuing to encourage non-participating chapters to reach minimum or par.

11 MBOs *Attachment A*

Respectfully submitted,

Stan Westhoff, Chair Historical Committee
02/02/2020
SW: ess

*Historical Committee Report to PEC
Attachment A*

Historical Committee 2019-2020 MBOs – Stan Westhoff, Historical Chair 02/02/2020

| Objective | SP Goal | Completion Date | Fiscal Impact | Delegated to: | Status | Comment |
|--|---------|---------------------|-------------------------|---|-----------------------------------|--|
| HC MBO 1 Develop proposals to improve the opportunities for Regional Historians to participate in Historical Committee activities. | 1 | Winter 2020 Orlando | None | RVC Guideline sub committee | Ongoing | Continue on-line participation of (RVCs) at Committee meetings. |
| HC MBO 2 Develop PAOE Recommended Changes to 2020-2021 PAOE | 1 | 2020 Austin | none | | Complete February | To get ahead of the PAOE Committee Cycle with proposal for the following year's PAOE Letter in Summer 2020. |
| HC MBO 3 History VC PAOE Update Summary Report at Annual & Winter Meetings to include copy similar to 2018-2019 Annual meeting | 1 | Winter & Annual | None | VC Report | Complete February | To encourage RVCs to target the below PAR performing Chapters in their Region based on the previous year's History PAOE Summary. |
| HC MBO 4 Encourage Chapter Historians who don't Attend their Regional CRC to complete the Chapter Historians Training Power Point and promote on-line workshop participation at CRCs | 1 | Winter 2020 | minor | RVC Guideline sub committee | Complete February | Update the Chapter Historians Training PowerPoint. Add points for submittal of a completed MBO with phone discussion with RVC History prior August 30 of fiscal year. Promote on-line workshop participation at CRCs |
| HC MBO 5 Assist in publicizing 125 th Anniversary. Develop information of historical interest that can be presented at Society & Regional Meetings | 1 | Summer 2020 | Major | 125th Anniversary Celebration sub committee | Complete June 2020 | Continue 125th Seminar and Historical Articles Promotions with PEC to support the 125th anniversary and demonstrate to members the strength in depth of our Society. |
| HC MBO 6 Develop proposal for publication/s to celebrate 125th Anniversary | 1 | Summer 2020 | To Be Advised | Historical Committee | Complete February | Continue working on and supporting 125th Publications to PEC. |
| HC MBO 7 Foster collaboration with other international societies to improve our historical research and support history-related activities of the Society | 4 | Summer 2020 | None | Historical Committee | Ongoing | Continue work on collaboration. HC has links with similar groups in CIBSE and AiCARR - opportunity to pursue to work w/similar committees in CEN, International Institute of Ammonia Refrigeration (IIR), International Institute of Refrigeration (IIR), & Global Cold Chain Alliance (GCCA). |
| HC MBO 8 Encourage younger members of ASHRAE to have interest in history-related activities of the Society | 2 | Summer 2020 | None | Historical Committee | Complete February | Proposing to keep the PAOE line item "For a local Chapter Historical activity performed by an actively engaged YEA member" |
| HC MBO 9 Leadership Recall Arrange for videos at Annual meeting 2020 | 2 | Summer 2020 | Verify \$1,000 Budgeted | Historical Committee | Ongoing | Arrange two Presidential interviews. Review other potential interviewees |
| HC MBO 10 Digitize Archived Journals + Transactions | 3 | Summer 2020 | Major | Historical Committee/PEC | Ongoing | Encourage digitalization of all Society Journals and Transactions |
| HC MBO 11 Incorporate a Women In Engineering component to the 125 Year ASHRAE Anniversary celebration | 1 | Summer 2020 | None | Historical Committee | Complete (WIA now called diverse) | Continue WIA PAOE Support in History |
| Jun 22–26, 2019 – Kansas City, MO | | | | | | Feb 1-5, 2020 – Orlando, FL |



**Professional Development Committee
Report to Publishing and Education Council (PEC)**

ASHRAE 2020 Winter Conference – Orlando

Information Items

1. The committee edited, reviewed and approved the MOP for the new Training and Education Committee (TEC) and submitted it to the Functional Planning Subcommittee.
2. In response to PEC MBO #2: ***Develop Strategy for expanding ALI Instructor core and establish procedures and criteria for instructor appointment and remuneration.***
The committee drafted a report with recommendations on the criteria for selection of course instructors. The report is attached. We felt that the honorarium paid to instructors would vary based upon the location of the courses and cost of the courses. It should be left up to staff to set the course costs. We will add this to our reference manual. See *Attachment A*.
3. Discussion are underway with instructors to create exam prep courses for the Building Commissioning Professional BCxP, Building Energy Assessment Professional (BEAP), and new HVAC Design (CHD) certification exams.
4. We had one referral from Members Council and have sent a response.
5. Five (5) new courses were presented in conjunction with the Orlando conference. Of those, the *V in HVAC - What, Why, Where, How and How Much* drew the highest number of registrants with the hands-on *Best Practices for Installing DDC Systems* course not far behind.
6. The combined total of all course registrants is 1,123 – the 2nd highest number of attendees in the past 10 years, close behind Vegas 2017 with 1,161. Courses with the five highest registrations are:
 - 122 - Guideline 36: Best in Class HVAC Control Sequences
 - 76 - Designing and Operating High-Performing Healthcare HVAC Systems
 - 82 - Variable Refrigerant Flow Systems: Design and Applications
 - 68 - V in HVAC - What, Why, Where, How and How Much (New!)
 - 67 - Humidity Control II: Real-World Problems and Solutions
7. Professional Development Committee 2019-2020 MBOs are included as *Attachment B*.

Respectfully submitted,
Charles E. Henck, Professional Development Committee Chair
February 3, 2020

INSTRUCTOR QUALIFICATIONS

Instruction Qualifications

1. Solid grasp of engineering fundamentals.
2. Practical experience to answer questions for students and to be able to distinguish between theory and practice in day to day engineering.
3. Skill and ability to teach and present well in a compelling and engaging manner. This means preparing ahead of time and not just reading the slides.
4. Motivation and interest in teaching. We're not looking for reluctant instructors who will turn over regularly.

Search Criteria

1. ASHRAE DL Series: Sort by high ratings and participation. DL's with these criteria have already expressed and interested in teaching and presenting and have the skills do so.
2. Regular Chapter Speakers: Most local chapters have their go to speakers. Many of those speakers are motivated to give back and/or to develop their careers and speaking abilities. Chapters are not going to recommend unskilled speakers who aren't capable of presenting.
3. Sole (Sr.) Practicing Engineers: There are a quite a few consultants working on sunset or second careers that have a tremendous depth of practical experience that would be applicable to teaching. Need to carefully screen for the speaking / teaching ability.
4. Academia: There are many great teachers produced by academia. The challenge is screening out those who do not have the practical experience needed or who are mostly focused on research and less interested in teaching but may agree to build a resume.

Attachment M
PEC Report to BOD-
after Orlando Conference 2020

Attachment B
PDC Report to PEC

Professional Development Committee

MBOs for Society Year 2019-2020

Chair: Charlie Henck **Date:** June 24, 2019

| Objective | SP | Complete by | Fiscal Impact | Responsible Party | Comment/ Status |
|---|-----------|--------------------|----------------------|--------------------------|---|
| 1. Review new strategic plan for items that apply to PDC and develop a plan to implement. | | Jun-20 | None | Planning Subcommittee | |
| 2. Develop topics and RFPs for an additional (3) practical applications courses to 'fill the gaps' in our current offerings for developing young engineers. | | Jun-20 | None | Planning Subcommittee | In progress |
| 3. Review all SDLs and issue RFPs for the ones that need updating. | | Jun-20 | None | Operations Subcommittee | Review by Jan complete Issue RFP by June |
| 4. Review all existing courses and sunset those that have not been used in 5 years or recommend updates | | Jun-20 | None | Operations Subcommittee | Continuous |
| 5. Update of the Reference Manual | | Jun-20 | None | Operations Subcommittee | Update with approval of restructure |
| 6. Every course reviewed by PDC Liaison prior to presentation– Quality check | | Jun-20 | None | Operations Subcommittee | Continuous |
| 7. Improve marketing of courses/branding. Work with ASHRAE marketing for improvement | | Jun-20 | TBD | Planning Subcommittee | Continuous |
| Additional Recommendations for Strategic Planning: Not at this time | | | | | |

Publications Committee Report to Publishing and Education Council

Tuesday, February 4, 2020, 8:00-12:00

Major Motions Passed

1. Publications Committee voted in executive session to select the winner for the 2019 Journal Paper Award, the title and author(s) of which Jay Scott will forward to the Honors and Awards Committee for award presentation to the author(s) at the 2020 ASHRAE Annual Conference.
2. Publications Committee voted to support development and publication of the proposed book *ASHRAE Design Guide for Kitchen Ventilation Systems*.

Action Items for PEC

(None)

Information Items

1. Publications Committee finalized the process for committee participation in RAC's new PTAR process (wherein those submitting a proposal to receive RAC funding specifically earmarked for a publication as a deliverable will go through submission and approval procedures with RAC and Publications Committee) and is participating in a guinea pig project with RAC.
2. For PEC MBO #4, Publications Committee discussed the publications performance data they need from ASHRAE staff that will enable them to determine the criteria for evaluating and approving special publication requests on a business case basis. The committee will hold a conference call before the 2020 ASHRAE Annual Conference to complete their work on this MBO.
3. For PEC MBO #5, Publications Committee discussed the data they need from ASHRAE staff that will enable them to determine the publications data appropriate for the PEC Dashboard. The committee created a subcommittee that will finalize their results before the 2020 the ASHRAE Annual Conference.
4. Updates on the Publications Committee MBOs for the 2019-2020 Society year are included in *Attachment A*.
5. In line with Goal 3 of the 2019-2024 ASHRAE Strategic Plan, Publications Committee recommends that ASHRAE develop a survey tool that collects feedback from our grassroots levels, including our international membership, with respect to their product needs (books, *ASHRAE Journal* articles, apps, and other tools) and to link this information back to TAC council and other relevant sections for their further actions.

Respectfully submitted,
Chee S. Ow, Chair
Publications Committee
2 February 2020

Publications Committee
MBOs for Society Year 2019-2020
Chair: Chee S. Ow Date: 2 February 2020

| Objective | SP 2019 | Compl. by | Fiscal Impact | Resp. Party | Comment/Status |
|--|---------|-----------|---------------|--|-------------------|
| Establish evaluation criteria for Publications Topic Acceptance Request (PTAR) submissions in line with RAC liaison processes. | 1b | June 2020 | Nil | Roberto Aguilo and Hugh McMillan (Chair) | In progress |
| Review Pub. Committee Orientation materials. | 3b | June 2020 | Nil | Rennie Tisdale (Chair) and Hugh McMillan | Completed 8/20/19 |
| Determine international readership needs for ASHRAE Journal. | 1b, 2c | June 2020 | Nil | Vikram Murthy (Chair) and Adeeba Mehboob | Ongoing |
| Additional Recommendations for Strategic Planning: In line with Goal 3 of the 2019-2024 ASHRAE Strategic Plan, Publications Committee recommends that ASHRAE develop a survey tool that collects feedback from our grassroots levels, including our international membership, with respect to their product needs (books, <i>ASHRAE Journal</i> articles, apps, and other tools) and to link this information back to TAC council and other relevant sections for their further actions. | | | | | |

SP 2019 = Strategic Plan 2019 Initiative addressed by objective



Attachment O
PEC Report to BOD-
after Orlando Conference 2020

Report to Pub/Ed Council

Winter Meeting
Orlando, Florida

Presenter: Timothy G. Wentz, PE, HBDP | Fellow/ Presidential Member ASHRAE

Charge to the Ad Hoc

- Review the current business models and operating practices to determine how revenues/profits could be enhanced.
- Survey members and customers to establish if a demand exists for products and services that ASHRAE may be able to provide
- Study products and services being provided by bodies similar to ASHRAE both in North America and internationally which ASHRAE can provide
- Recommend an outline of potential new offerings with ballpark costs and revenue projections.
- Ensure alignment with the Strategic Plan, particularly Goals 1a, 1b and 3a

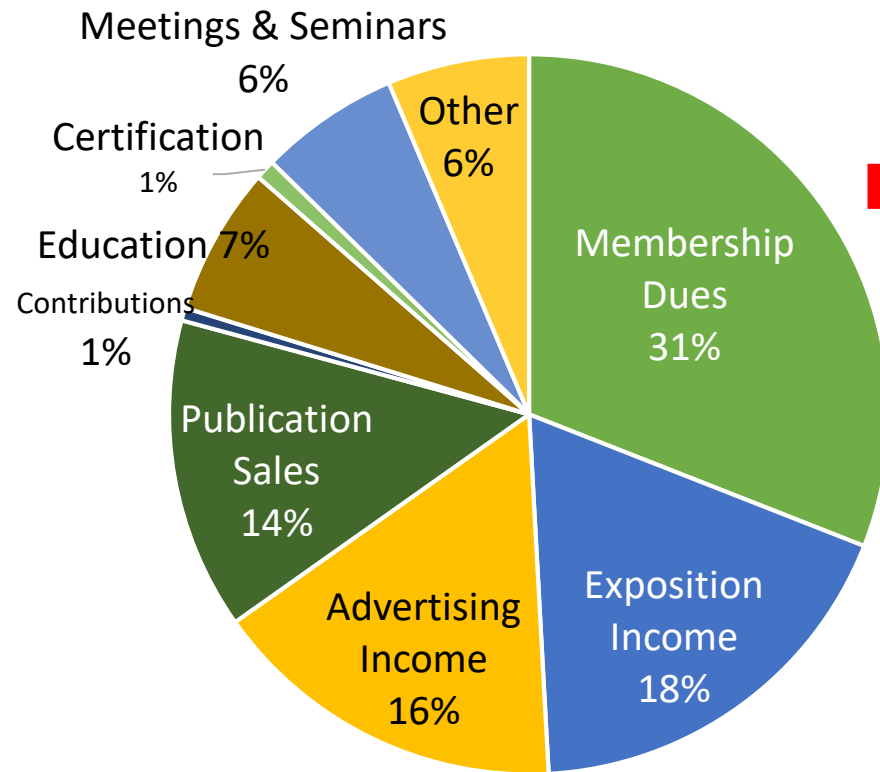


Charge to the Ad Hoc

- Determine where we are today
- Ascertain where we want to be
- Develop a plan to attain our goal



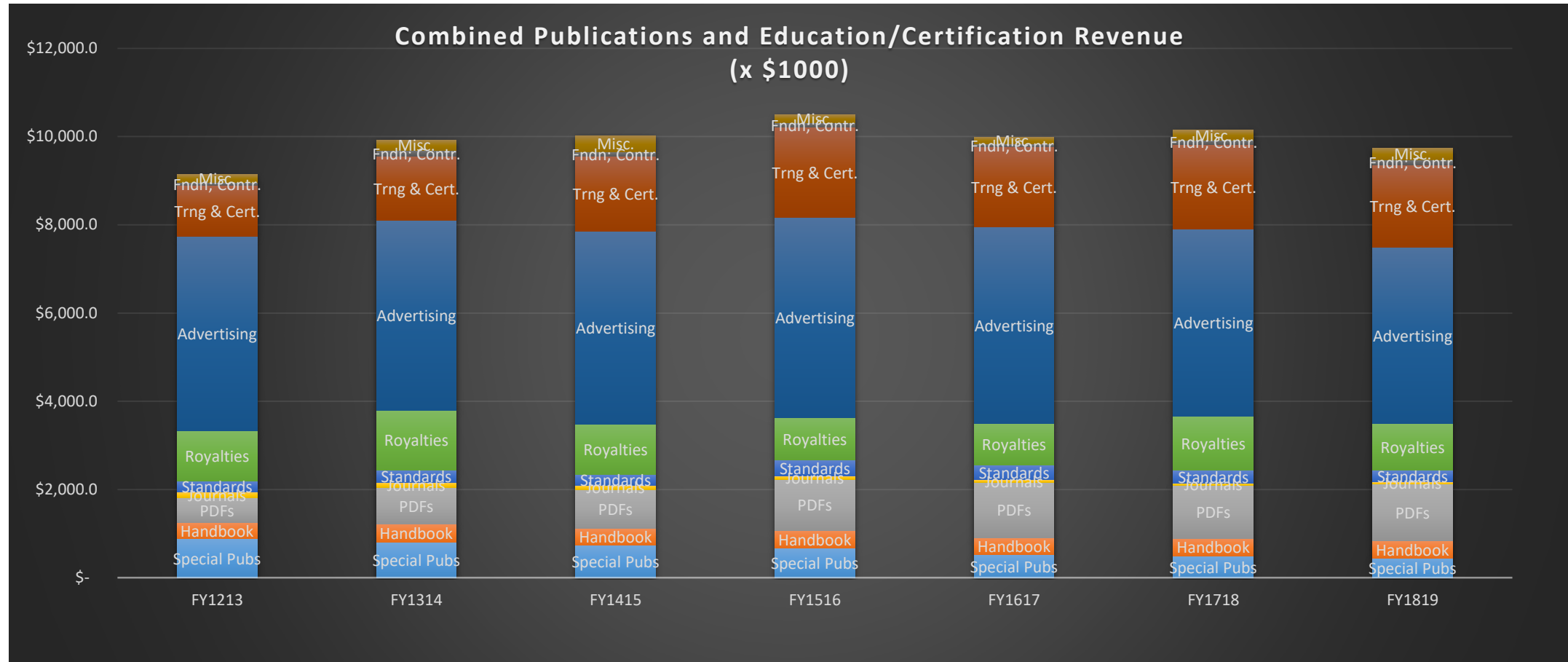
Nothing New



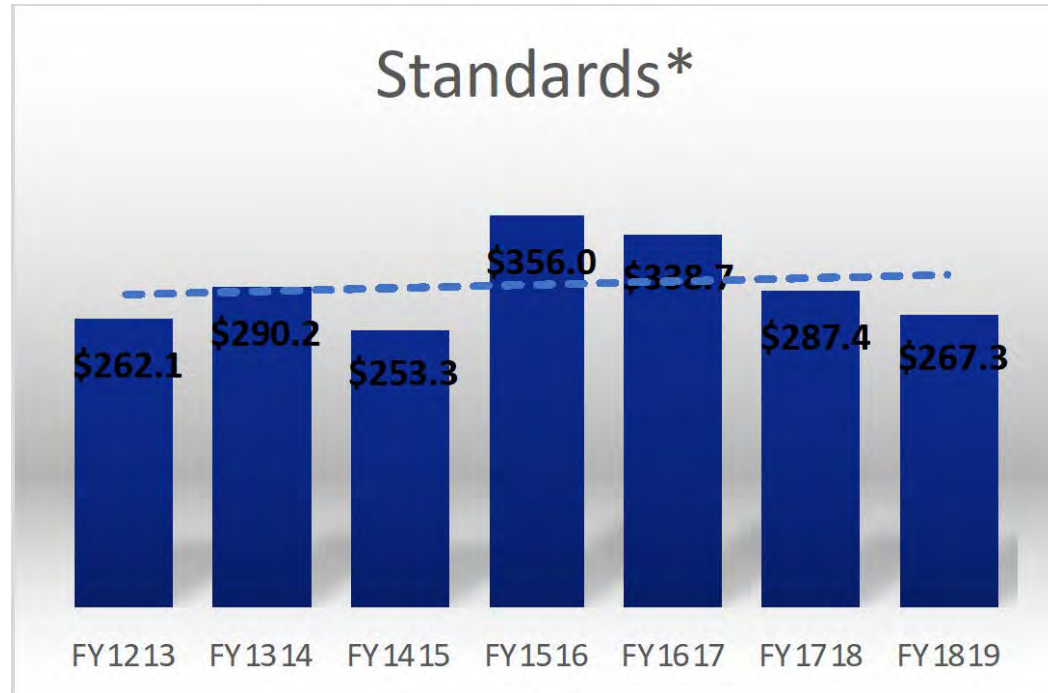
Source of Funds

| | | |
|---------------------|-----------|------|
| Membership Dues | \$7,624.3 | 31% |
| Exposition Income | 4,475.8 | 18% |
| Advertising Income | 3,958.2 | 16% |
| Publication Sales | 3,447.6 | 14% |
| Certification | 218.7 | 1% |
| Education | 1,642.7 | 7% |
| Contributions | 141.8 | 1% |
| Meetings & Seminars | 1,548.2 | 6% |
| Other | 1,569.5 | 6% |
| REVENUES | \$ 24,627 | 100% |

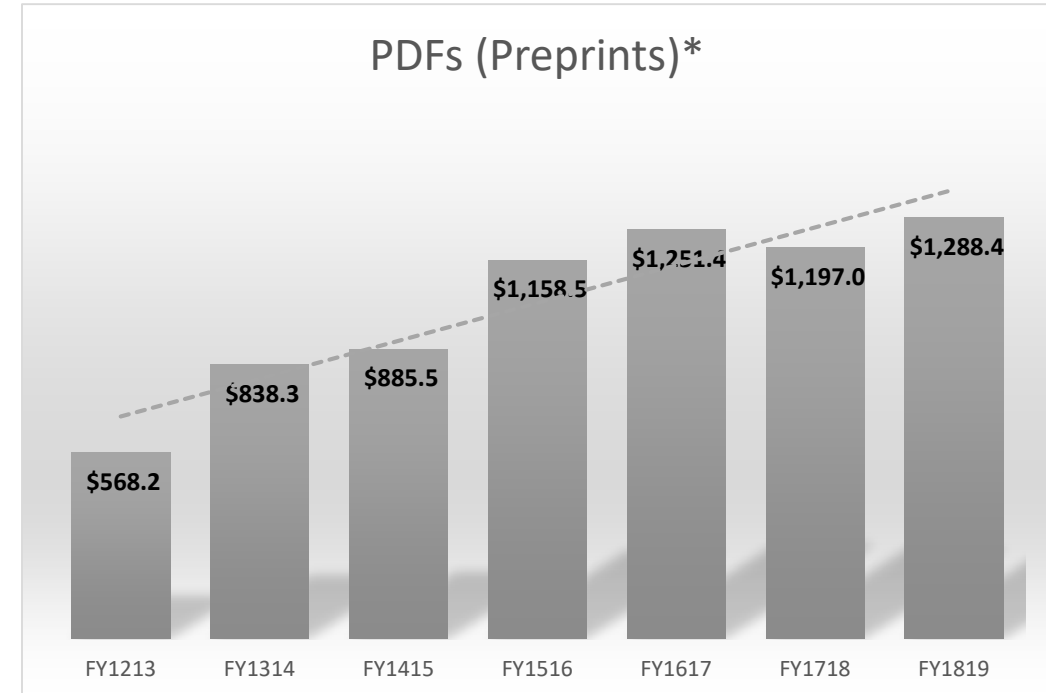
Nothing New



Nothing New

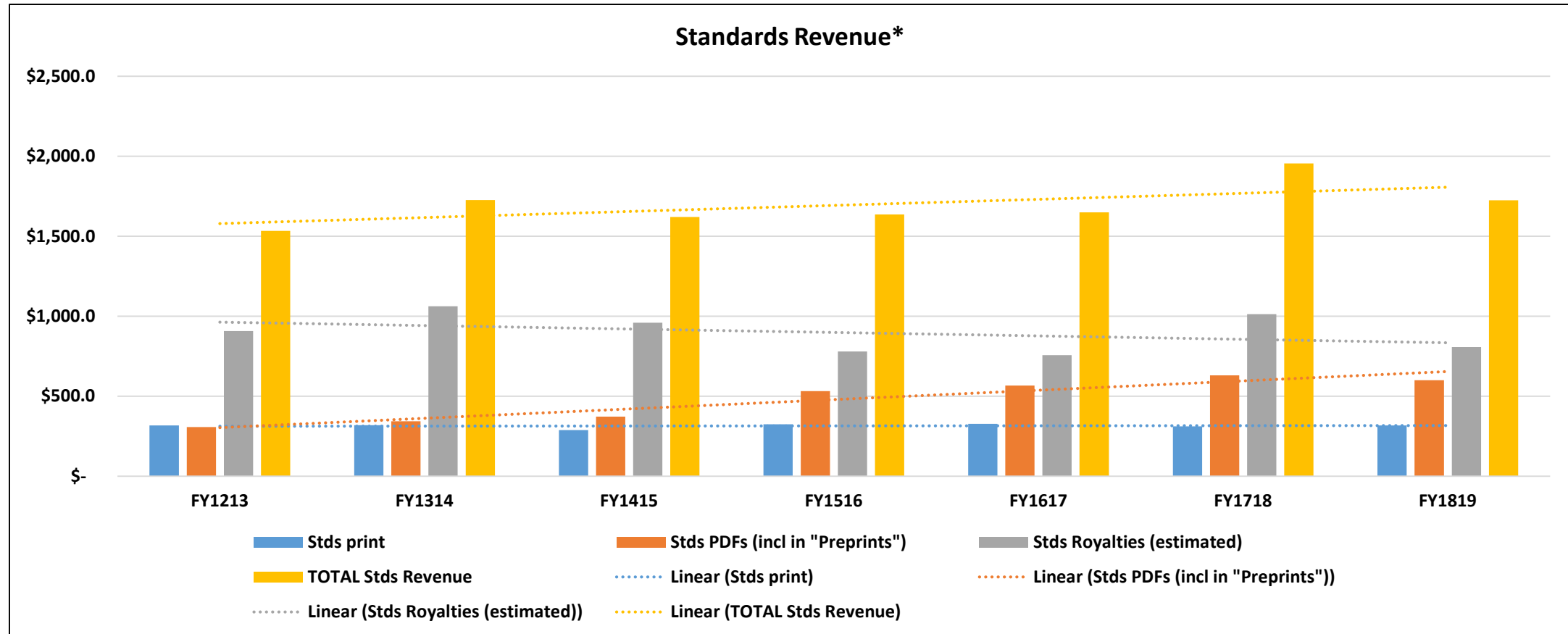


*Print only. PDF's are in Preprints

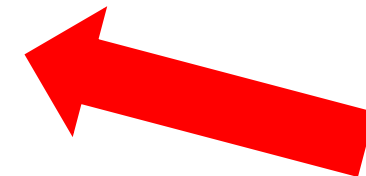


*includes PDF's of standards

Nothing New



*Does not include Overhead or BOD Council allocated costs (\$8.5MM in FY18-19)



Nothing New

- Overhead are costs that support the business but do not generate revenue
- ASHRAE has about \$8M US in overhead
- Overhead is assigned to Councils based upon staff assignment
- PEC has portions of an additional 17 staff assigned to the Council from support areas
 - Mail room
 - Accounting
 - Etc.
- Overhead is then assigned on the total staff, support staff included



OVERHEAD

Nothing New

Pub/Ed Council Surplus/Deficit Report

| | 2017 Thousands USD | 2018 Thousands USD | 2019 Thousands USD | Trend versus 2017 |
|---|-----------------------|-----------------------|-----------------------|----------------------|
| Total Revenue | 9,955.6 | 10,108.9 | 9,691.3 | ↓ |
| Total Expenses Incl OH & BOD | 12,484.2 | 13,361.7 | 13,234.8 | ↑ |
| Total (Deficit) after OH + BOD after | 2,528.6 | 3,252.8 | 3,543.5 | ↑ |

Note: All figures taken from Society Financial Reports.

Nothing New

Society Surplus/Deficit Reports

| Fiscal Year | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | AVE |
|------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| Budget Surplus/(Deficit) | \$ (158) | \$ (335) | \$ 674 | \$ (449) | \$ (283) | \$ (301) | \$ (13) | |
| Actual Surplus/(Deficit) | \$ 320 | \$ 404 | \$ 1,231 | \$ 702 | \$ 411 | \$ (175) | \$ 75 | |
| Positive/Negative Difference | + | + | + | + | + | + | + | |
| Difference (absolute) | \$ 478 | \$ 739 | \$ 558 | \$ 1,151 | \$ 694 | \$ 126 | \$ 88 | |
| % Error | 149% | 183% | 45% | 164% | 169% | 72% | 118% | 129% |

Nothing New

- What picture does this data paint for the Board?



And now for something completely different



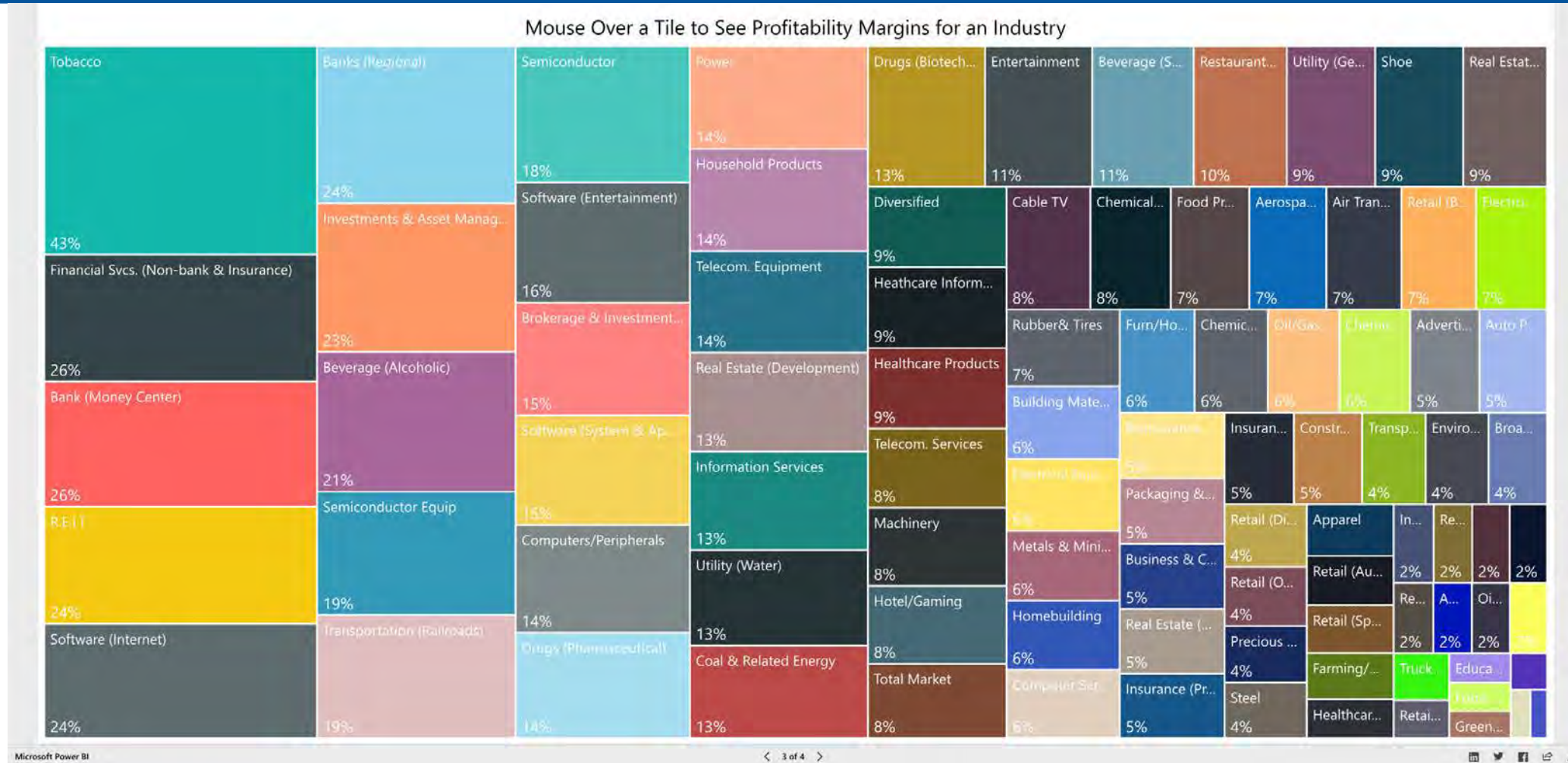
A Monty Python Moment

And now for something completely different

- ASHRAE has a very strong and robust accounting system
 - Accurately records revenue and expenses in a consistent manner in accordance with generally accepted accounting rules
- Significant difference between accounting and finance
 - Finance - Management discipline focusing on margins



The World of Margins



From Financial Rhythm by Phillip Campbell, based on data from Prof. Aswath Damodaran, Stern School of Business, New York University, 2019



How the Picture Changes

- The language of finance

Revenue = Sales for a product or service (\$US)

Variable Margin = Revenue

-Direct costs of product/service that vary with volume

Gross Margin = Revenue

-Direct costs of product/service that vary with volume

- Staff labor directly associated with product/service



How the Picture Changes

| Revenue Source | Gross Margin | | |
|----------------------|--------------|-------|-------|
| | 16-17 | 17-18 | 18-19 |
| Dues | 16% | 20% | 18% |
| Publications | 40% | 30% | 32% |
| Advertising | 12% | 7% | 4% |
| Meetings/Conferences | -21% | -54% | -53% |
| Education | 9% | 14% | 8% |
| Certification | -87% | -52% | -63% |
| AHR Expo | 100% | 100% | 100% |

| Pub/Ed Council | | | | |
|-----------------------|----------------|-------------|-----------|---------------|
| SY 18-19 | Publications** | Advertising | Education | Certification |
| Revenue | \$3,041.8 | \$4,073.6 | \$1,870.2 | \$225.7 |
| Direct Expenses | | | | |
| Staff Labor | 869.5 | 1,567.5 | 464.6 | 162.8 |
| Promotion | 64.8 | 96.1 | 31.7 | 8.9 |
| Materials | 358.5 | 657.3 | 109.6 | - |
| Commissions | - | 742.5 | | |
| Shipping/Postage | 162.9 | 566.5 | 33.0 | 4.9 |
| Meeting/Training | | | | |
| Costs | 21.7 | 3.3 | 715.6 | - |
| Travel | 33.3 | 26.2 | 17.6 | 5.4 |
| Dev/Outside | | | | |
| Services | 510.1 | 124.2 | 267.2 | 178.6 |
| Credit Card | | | | |
| Charges | 44.4 | 1.4 | 53.5 | 6.1 |
| Bad Debt | 7.0 | 79.4 | | |
| Other/Misc. | 0.2 | 64.6 | 28.9 | 0.3 |
| Total Direct Expenses | 2,072.4 | 3,929.0 | 1,721.7 | 367.0 |
| Variable Margin \$ | 1,838.9 | 1,712.1 | 613.1 | 21.5 |
| Variable Margin % | 60% | 42% | 33% | 10% |
| Gross Margin \$ | \$969.4 | \$144.6 | \$148.5 | \$(141.3) |
| Gross Margin % | 32% | 4% | 8% | -63% |

How the Picture Changes

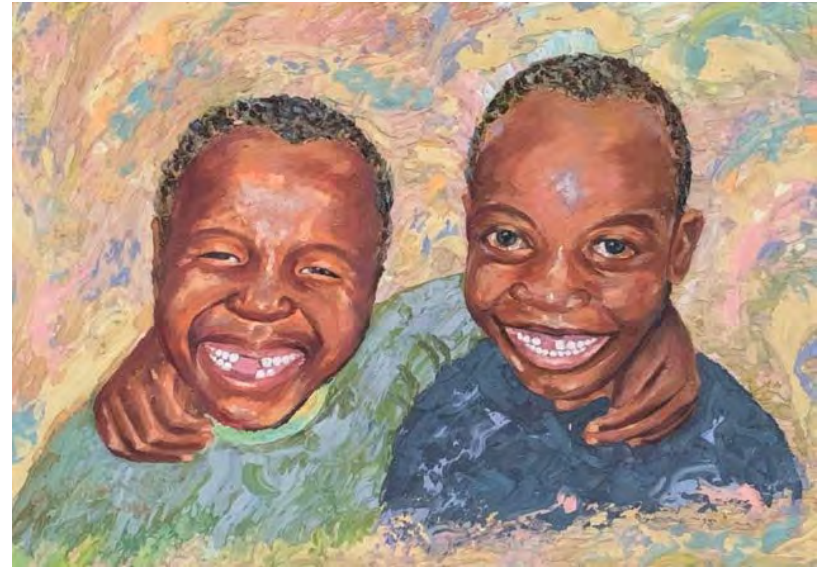
We can see clearly now (apologies to Johnny Nash):

- Publications operates at a strong gross margin
- Advertising operates at a low gross margin
 - This is OK, as advertising as ASHRAE is required to pay tax on “business unrelated to its primary business”.
- Education is operating at a low gross margin
- Certification is operating at a negative gross margin



How the Picture Changes

- Looking at ASHRAE's products through the lens of finance paints a much different picture



How the Picture Changes

- A focus on margins
 - Revenue is only important only in that it allows you to identify and analyze margins
 - Improves clarity and transparency – an ASHRAE core value
 - Better decision-making owing to deeper understanding of product contributions
 - Greater ability to identify and seize strategic opportunities
 - The path forward on product evaluation becomes much simpler



How the Picture Changes

- Future work of the ad hoc is cast in a completely new light
 - For products and services with low margins, make recommendation on how to lower cost or raise price (or both)
 - For products with good margins make recommendations on how to increase sales
 - Are we already high in market share or is there room to grow?
 - Look at other revenue streams (new products and services) based on what we see other organizations offering and emerging needs in the marketplace) and evaluate by margin



How the Picture Changes

Enhanced Goal Setting – Where We Want To Be

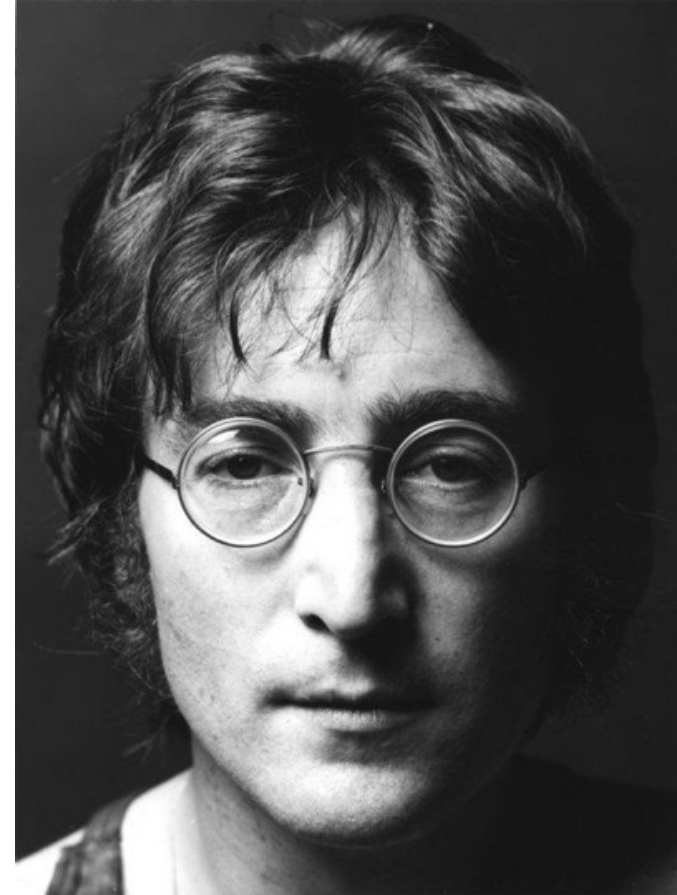
| | Publications | Advertising | Education | Certification | Goal | Current Value |
|------------------------------|--------------|-------------|-----------|---------------|----------|---------------|
| Proposed Revenue Goal | \$4,500 | \$4,300 | \$2,600 | \$600 | \$12,000 | \$9,211 |
| Proposed Gross Margin | \$1,440 | \$215 | \$625 | \$120 | \$2,400 | \$1,121 |
| Proposed Gross Margin | 32% | 5% | 24% | 20% | 20% | 12% |

*In \$1,000 US



How the Picture Changes

- Imagine an ASHRAE better focused on financial performance:
 - Expanded and enhanced revenue streams
 - Less reliance on expo income
 - More resilient to large economic swings
 - Faster, more agile in seizing opportunities
 - Better forecasting of financial position
 - Greatly enhanced decision-making



Questions



ASHRAE
Consolidated
12 Months ended June 30, 2019

REVENUES

| | |
|--|-----------------|
| 31 Membership Dues Earned Income | \$7,779.9 |
| 32 Publication Sales Income | 3,447.6 |
| 34 Advertising Income - Display | 3,078.7 |
| 34 Advertising Income - Classified | 10.9 |
| 34 Advertising Income - On-line | 868.6 |
| 35.1 Meeting & Seminar Income | 1,548.2 |
| 35.2 Certification Registration | 218.7 |
| 35.3 Education Registration | 1,642.7 |
| 37 Special Project Income | 74.3 |
| 38 Contribution Income | 2,295.3 |
| 41.1 AHR Exposition Income | 5,741.8 |
| 41.2 Contributions and Matching Gifts | 109.5 |
| 41.3 Exposition Income - Other Countries | 234.0 |
| 44 Reserve Transfers | 890.0 |
| 46 Miscellaneous Income | 805.2 |
| TOTAL REVENUES | 28,745.4 |

EXPENSES:

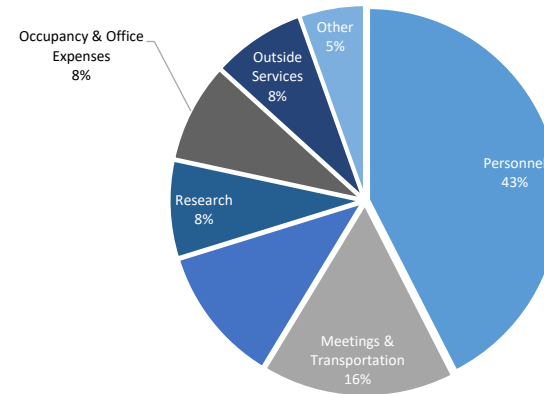
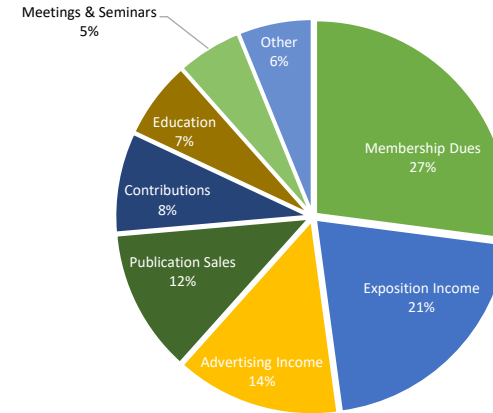
| | |
|--|-----------------|
| 51 Salary Expense | 9,616.2 |
| 52 Payroll Taxes, Benefits, Personnel Exp | 2,607.8 |
| 61 Publishing and Promotion Expense | 3,238.6 |
| 64 Meetings & Conferences Expense | 2,477.7 |
| 66 Travel Expense | 2,169.0 |
| 68 Awards, Certif, Logo Cost of Goods Sold | 232.6 |
| 71 Research Projects & Grants Expense | 2,226.6 |
| 73 Special Projects Expense | 111.4 |
| 76 Public Relations Expense | 70.5 |
| 78 Occupancy & Insurance | 768.3 |
| 82 Office Expense and Organizational Dues | 1,628.9 |
| 84 Outside Services Expense | 2,242.6 |
| 88 Other Expense | 798.0 |
| 88.1 Prepaid Expense (contra acct) | (46.3) |
| 89 Opportunity Fund | 150.0 |
| 90 Depreciation Expense | 379.1 |
| TOTAL EXPENSES | 28,671.0 |
| SURPLUS (DEFICIT) before reserve income | 74.4 |

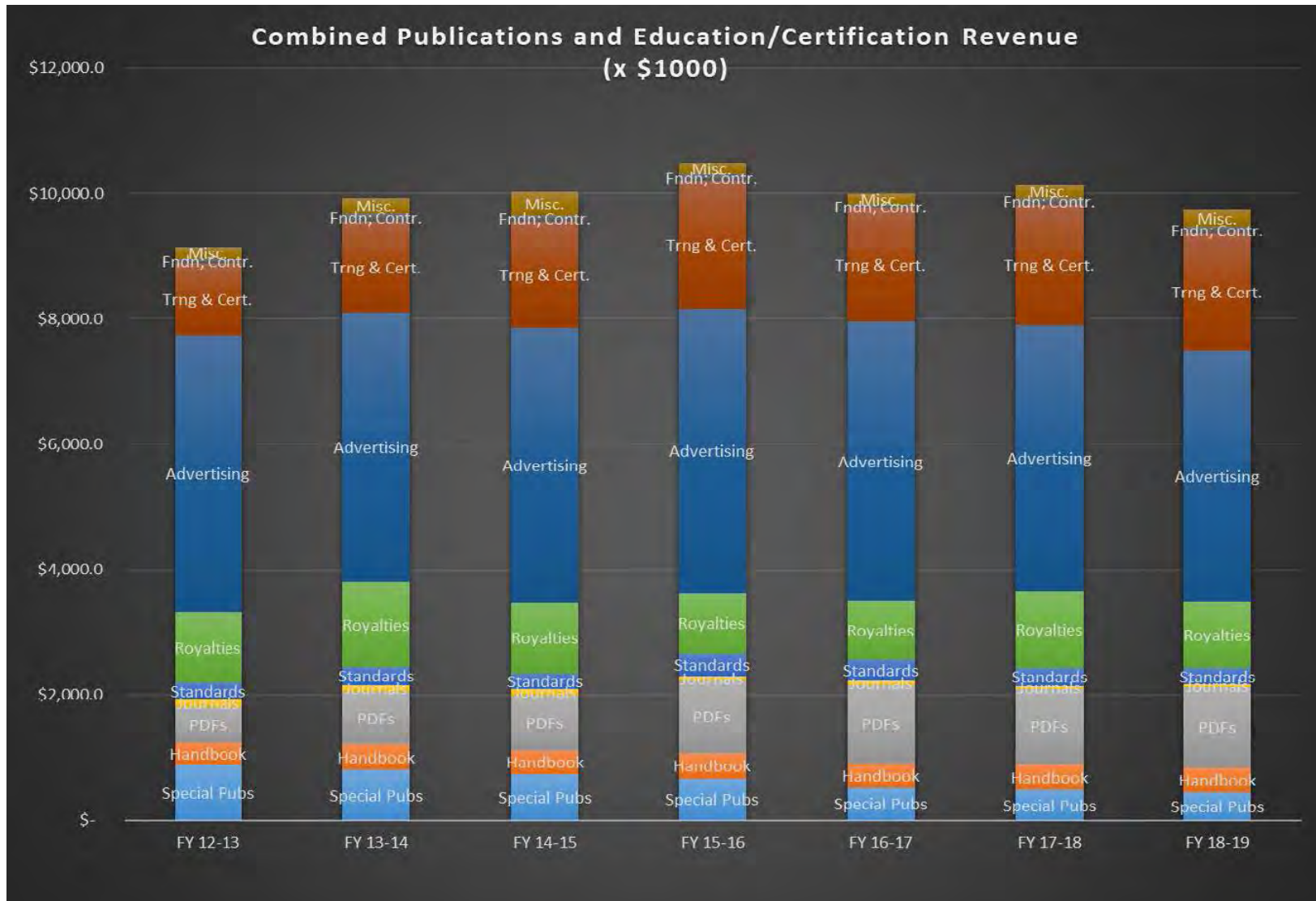
| | | |
|---------------------|------------------|-------------|
| Source of Funds | | |
| Membership Dues | \$7,779.9 | 27% |
| Exposition Income | 5,975.8 | 21% |
| Advertising Income | 3,958.2 | 14% |
| Publication Sales | 3,447.6 | 12% |
| Contributions | 2,404.8 | 8% |
| Education | 1,861.4 | 6% |
| Meetings & Seminars | 1,548.2 | 5% |
| Other | 1,769.5 | 6% |
| REVENUES | \$ 28,745 | 100% |

| | | |
|--------------------------------|------------------|-------------|
| Application of Funds | | |
| Personnel | 12,177.7 | 42% |
| Meetings & Transportation | 4,646.7 | 16% |
| Publications, Communications & | 3,309.1 | 12% |
| Research | 2,338.0 | 8% |
| Occupancy & Office Expenses | 2,397.2 | 8% |
| Outside Services | 2,242.6 | 8% |
| Other | 1,559.7 | 5% |
| EXPENSES | \$ 28,671 | 100% |

Attachment A

Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando





Definitions

Revenue

Sales for a product or service in \$US

Variable Margin

Revenue - direct costs to provide product/service that vary with volume e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship = \$45 Variable Margin or 45% Variable Margin

Gross Margin

Revenue - direct costs to provide product/service that vary with volume - staff labor directly associated with product of service e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship - \$25 Staff Labor = \$20 Gross Margin or 20% Gross Margin

Attachment A
Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

| SY 18-19 | Members Council | | Pub/Ed Council | | | | Corporate | |
|-----------------------|--------------------------|----------------------|----------------|-------------|------------|---------------|------------|--|
| | Membership Dues/Handbook | Meetings/Conferences | Publications | Advertising | Education | Certification | Expo | |
| Revenue | \$ 8,151.2 | \$ 1,589.2 | \$ 3,041.8 | \$ 4,073.6 | \$ 1,870.2 | \$ 225.7 | \$ 5,975.8 | |
| Direct Expenses | | | | | | | | |
| Staff Labor | 3,112.4 | 771.1 | 869.5 | 1,567.5 | 464.6 | 162.8 | | |
| Promotion | 435.6 | 34.7 | 64.8 | 96.1 | 31.7 | 8.9 | | |
| Materials | 769.2 | - | 358.5 | 657.3 | 109.6 | - | | |
| Commissions | - | 8.6 | - | 742.5 | | | | |
| Shipping/Postage | 376.9 | 0.6 | 162.9 | 566.5 | 33.0 | 4.9 | | |
| Meeting/Training Cost | 281.7 | 1,310.1 | 21.7 | 3.3 | 715.6 | - | | |
| Travel | 846.1 | 69.8 | 33.3 | 26.2 | 17.6 | 5.4 | | |
| Dev/Outside Services | 501.4 | 113.0 | 510.1 | 124.2 | 267.2 | 178.6 | | |
| Credit Card Charges | 221.0 | 44.9 | 44.4 | 1.4 | 53.5 | 6.1 | | |
| Bad Debt | - | - | 7.0 | 79.4 | | | | |
| Other/Misc. | 136.7 | 82.5 | 0.2 | 64.6 | 28.9 | 0.3 | | |
| Total Direct Expenses | 6,881.0 | 2,455.3 | 2,072.4 | 3,629.0 | 1,721.7 | 367.0 | - | |
| Variable Margin \$ | 4,582.6 | (75.0) | 1,838.9 | 1,712.1 | 613.1 | 21.5 | 5,975.8 | |
| Variable Margin % | 56% | -5% | 60% | 42% | 33% | 10% | 100% | |
| Gross Margin \$ | 1,470.2 | \$(846.1) | \$ 969.4 | \$ 144.6 | \$ 148.5 | \$(141.3) | \$ 5,975.8 | |
| Gross Margin % | 18% | -53% | 32% | 4% | 8% | -63% | 100% | |

NOTES

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

There is \$8M in corp overhead. Cost is spread across all councils Corp overhead includes exec staff, BOD, marketing IT, Business Dev etc

Corp Overhead is allocated based on salaries. For PEC the allocation drives it into a loss position

Membership labor is high because it includes MC staff, TC staff PEC staff associated with Handbook Handbook printing and frt cost included in MC as it is a member benefit

\$466k in Handbook revenue in MC (\$466k copies sold to non members)

"Staff Labor" includes salary + bennies

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Publication Revenue include ~\$1M in royalties

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The revenue for Advertising comes from advertising sales in Journal, HPB Cost of journal, Research Journal and HPB is in advertising (PEC) There is no revenue from the Journal issues given to members because it is considered a member benefit

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

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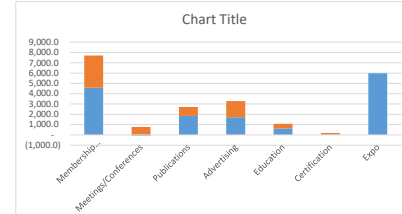
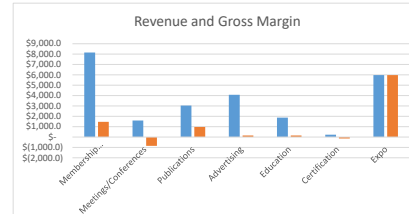
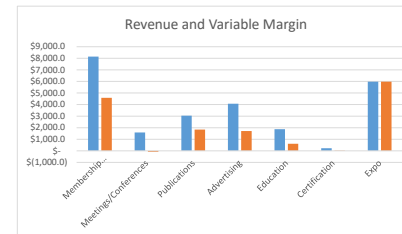
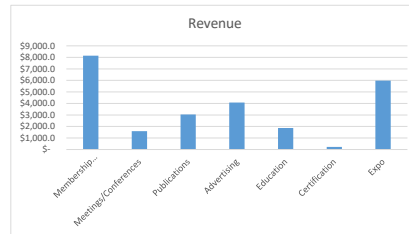
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Revenue
Variable Margin
Gross Margin

Sales for a product or service in \$US
Revenue - direct costs to provide product/service that vary with volume e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship = \$45 Variable Margin or 45% Variable Margin
Revenue - direct costs to provide product/service that vary with volume - staff labor directly associated with product of service e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship - \$25 Staff Labor = \$20 Gross Margin or 20% Gross Margin

Attachment A
Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

PEC Revenue and Margin

| Current Situation | | Publications | | Advertising | | Education | | Certification | | TOTAL |
|-------------------|-------------------------------|--------------|-------|-------------|-------|-----------|-------|---------------|-------|----------|
| | Current Revenue | \$ | 3,042 | \$ | 4,074 | \$ | 1,870 | \$ | 226 | \$ 9,211 |
| | Current Gross margin (\$1000) | \$ | 969 | \$ | 145 | \$ | 149 | \$ | (141) | \$ 1,121 |
| | Current Gross Margin % | | 32% | | 4% | | 8% | | -63% | 12% |
| | | | | | | | | | | |

| Proposed Goals | | Publications | | Advertising | | Education | | Certification | | TOTAL |
|----------------|------------------------------------|--------------|-------|-------------|-------|-----------|-------|---------------|-----|-----------|
| | Proposed Revenue Goal | \$ | 4,000 | \$ | 4,100 | \$ | 2,500 | \$ | 500 | \$ 11,100 |
| | Proposed Gross Margin (\$1000) | \$ | 1,280 | \$ | 205 | \$ | 800 | \$ | 100 | \$ 2,385 |
| | Proposed Gross Margin (%) | | 32% | | 5% | | 32% | | 20% | 21% |
| | Proposed Revenue Goal - AY | \$ | 3,500 | \$ | 4,200 | \$ | 2,600 | \$ | 500 | \$ 10,800 |
| | Proposed Gross Margin (\$1000) -AY | \$ | 1,150 | \$ | 252 | \$ | 858 | \$ | 100 | \$ 2,360 |
| | Proposed Gross Margin (%) -AY | | 33% | | 6% | | 33% | | 20% | 22% |

Hugh

Alice

| | | | | | | |
|------------------|--|--|--|---|--|---|
| Hugh's Thoughts; | | Very good business model. Margins are good. Focus on growing revenue | Numbers paint bad picture but remember the Journal is given away as a member benefit. Change away from print makes advertising revenue more difficult. Work to maintain busies and have advertising cover cost of printing journal | Lots of upside on Revenue. Margin is disappointing. Need to understand and resolve our high cost. | Other organizations do not make much money with Certification but make it up with training. Certification cost is too high. Reconsider our business model and see if we can get cost out (i.e. do we really need to have "ANSI ready" tests? | PEC Generates \$1121k in margin dollars to operate ASHRAE. ASHRAE Corp allocations are based on Staff salary so PEC gets a large amount of corp cost which drives PEC to a loss position. This is just an allocation issue - what is important is margin Dollars which can fund programs. |
|------------------|--|--|--|---|--|---|

| | | | | | |
|-------------------|--|---|---|---|---|
| Alice's Thoughts: | | I'm less bullish than Hugh on publications because of potential revenue loss due to statutory changes (e.g., loss of copyright protection) and increasing access to no-cost publications; I do think revenues could grow by better targeting publications and NOT investing in publications unlikely to sell. | If advertising includes sponsorships, I believe we can do even better here. While there is downward pressure on print sales, sponsorship opportunities and online advertising present growth potential. | I here is tremendous potential with growing our education and training revenues, including through selling these courses to government entities, and partnering with other organizations to leverage our resources, and developing better (and more modern) online courses as there is a demand especially by young people for 365-24-7 access. We could also better leverage our certification program potentially through requiring an ASHRAE course or courses (e.g., this is done by the Association of Energy Engineers) | Possible opportunity to tie regulations to certification requirements. For example, as cities and states work to meet various carbon goals, they may choose to require facility managers to have training and/or certification, or building auditors to be certified. Another opportunity exists to work with DOE to better leverage their "Better Buildings Program" to generate more interest in ASHRAE certifications. |
|-------------------|--|---|---|---|---|

| | | | | | |
|-------------------|--|---|---|---|--|
| Steve's Thoughts: | | Agree good business model but not that easy. Will involve working with partners to execute this. Suggest a more modest goal than what Hugh suggested. The Steve goal is in two fiscal years. After that growth might be more aggressive. Objective is how to provide digital content in usable form to the individual member and not just corporate license holder. | Agree with Hugh's target. but could be higher. Emphasis shifts from selling space to giving branding opportunities and thought leadership exposure. This is tied to integrated marketing of online and print exposure. Both have to work hand in glove. If more electronic opportunities are offered (such as sponsored blogs) revenue can grow more quickly. Also development of regional market opportunities can further offer opportunities. We are weak in doing this now. | Too aggressive because of the member/volunteer nature of ASHRAE. What Hugh suggested is reasonable IF there was not concern for chapters in developing countries to offer training at ASHRAE prices and more decentralization of educational offerings. Also, we compete with ourselves with DL program and webinar program form CTTC. If all educational activities were centralized, Hugh's suggestion would work; but if not, I would go with my suggestion. | I think many organizations make money from certification and for sure it is attached to training. That is the number 1 opportunity for ASHRAE in my view. This is not just a fiscal comment but a comment that relates to the value proposition globally and contribution to the industry. |
|-------------------|--|---|---|---|--|

Society Level Revenue and Margin

| | Current Model | | | | | Proposed Model | | | | |
|------------|----------------|-------------|-------------------|------------------|--------|----------------|-------------|-------------------|------------------|--------|
| | Revenue (\$US) | Revenue (%) | Gross Margin (\$) | Gross Margin (%) | | Revenue (\$US) | Revenue (%) | Gross Margin (\$) | Gross Margin (%) | |
| Membership | \$ 9,740.40 | | 39.1% | \$ 624.1 | 8.1% | \$ 9,740.40 | | 36.3% | \$ 624.1 | 6.9% |
| Expo | \$ 5,975.8 | | 24.0% | \$ 5,975.8 | 77.4% | \$ 5,975.8 | | 22.3% | \$ 5,975.8 | 66.5% |
| PEC | \$ 9,211.30 | | 37.0% | \$ 1,121.20 | 14.5% | \$ 11,100.00 | | 41.4% | \$ 2,385.00 | 26.5% |
| Total | \$ 24,927.50 | | 100.0% | \$ 7,721.1 | 100.0% | \$ 26,816.20 | | 100.0% | \$ 8,984.9 | 100.0% |

ASHRAE
CONSOLIDATED (General and Research)
12 Months Ended June 30

Attachment A
Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

| | Actual | Actual | Actual | Actual | Actual | Budget | DRAFT Budget | DRAFT Budget | DRAFT Budget |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | FY 2015 | FY 2016 | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 |
| REVENUES | | | | | | | | | |
| 31 Membership Dues Earned Income | \$7,430.5 | \$7,634.5 | \$7,663.7 | \$7,772.8 | \$7,779.9 | \$8,151.3 | \$8,419.4 | \$8,650.9 | \$8,867.2 |
| 32 Publication Sales Income | 3,483.9 | 3,626.1 | 3,504.1 | 3,664.0 | 3,447.6 | 3,783.7 | 3,864.3 | 3,975.2 | 3,977.2 |
| 34 Advertising Income - Display | 3,710.8 | 3,779.4 | 3,577.7 | 3,294.3 | 3,078.7 | 3,103.1 | 3,008.8 | 2,956.8 | 2,956.8 |
| 34 Advertising Income - Classified | 32.0 | 19.3 | 18.0 | 14.0 | 10.9 | 10.0 | 12.0 | 15.0 | 15.0 |
| 34 Advertising Income - On-line | 595.6 | 715.8 | 821.2 | 899.2 | 868.6 | 1,070.0 | 1,115.0 | 1,160.0 | 1,160.0 |
| 35.1 Meetings/Conferences Income | 1,578.5 | 1,529.9 | 2,151.9 | 1,737.6 | 1,548.2 | 2,426.1 | 2,425.5 | 2,191.7 | 1,981.1 |
| 35.2 Certification Registration | 183.3 | 187.6 | 196.8 | 213.2 | 218.7 | 280.0 | 290.0 | 300.0 | 300.0 |
| 35.3 Education Registration | 1,504.5 | 1,844.8 | 1,611.1 | 1,700.6 | 1,642.7 | 1,960.0 | 2,078.3 | 2,200.5 | 2,200.5 |
| 37 Special Project Income | 316.6 | 3.2 | 14.3 | 62.9 | 74.3 | 98.0 | | | |
| 38 Contribution Income | 2,116.6 | 2,215.6 | 2,223.6 | 2,312.7 | 2,295.3 | 2,577.2 | 2,629.0 | 2,761.9 | 2,761.9 |
| 41.1 AHR Exposition Income | 5,146.6 | 5,168.0 | 5,623.7 | 6,085.7 | 5,741.8 | 6,300.0 | 6,450.0 | 6,500.0 | 6,500.0 |
| 41.2 Contributions and Matching Gifts | 115.0 | 57.0 | 100.0 | 74.5 | 109.5 | 171.3 | 121.5 | 122.1 | 122.1 |
| 41.3 Exposition Income - Other Countries | 145.9 | 34.0 | 162.3 | | 234.0 | | 175.0 | 100.0 | 250.0 |
| 44 Reserve Transfers | 885.7 | 655.3 | 1,089.7 | 1,199.3 | 890.0 | 1,278.7 | 760.0 | 770.0 | 770.0 |
| 46 Miscellaneous Income | 534.4 | 322.7 | 330.7 | 364.7 | 805.2 | 554.7 | 405.4 | 419.3 | 399.3 |
| TOTAL REVENUES | 27,779.9 | 27,793.2 | 29,088.8 | 29,395.5 | 28,745.4 | 31,764.1 | 31,754.2 | 32,123.4 | 32,261.1 |
| EXPENSES: | | | | | | | | | |
| 51 Salaries | 7,910.9 | 8,780.7 | 9,182.9 | 9,730.4 | 9,720.9 | 9,813.6 | 10,051.2 | 10,363.8 | 10,669.6 |
| 52 Payroll Taxes, Benefits, Personnel | 2,536.2 | 2,738.8 | 2,650.4 | 2,875.3 | 2,636.9 | 2,772.7 | 3,059.4 | 3,124.3 | 3,172.8 |
| 61 Publishing and Promotion | 3,776.9 | 3,827.9 | 3,606.9 | 3,411.8 | 3,238.6 | 3,660.5 | 3,585.9 | 3,658.4 | 3,664.4 |
| 64 Meetings/Conferences/Trainings | 2,199.2 | 2,362.8 | 2,657.9 | 2,871.1 | 2,477.7 | 3,156.3 | 3,143.6 | 2,995.8 | 2,791.4 |
| 66 Travel | 2,076.6 | 1,863.8 | 2,263.0 | 2,228.8 | 2,169.0 | 2,413.0 | 2,464.0 | 2,584.7 | 2,580.2 |
| 68 Awards, Certif, Logo Cost of Goods Sold | 164.6 | 158.5 | 212.2 | 175.2 | 232.6 | 173.7 | 177.3 | 186.2 | 186.2 |
| 71 Research Projects & Grants | 2,469.6 | 2,321.1 | 2,725.3 | 2,941.5 | 2,226.6 | 3,002.9 | 2,878.3 | 2,938.7 | 2,938.7 |
| 73 Special Projects | 72.5 | 101.3 | 157.4 | 107.7 | 111.4 | 198.0 | 240.0 | 70.0 | 70.0 |
| 76 Public Relations | 51.0 | 79.4 | 66.7 | 58.1 | 70.5 | 74.6 | 75.9 | 79.1 | 79.1 |
| 78 Occupancy & Insurance | 559.2 | 588.6 | 553.9 | 639.3 | 768.3 | 932.6 | 757.1 | 782.8 | 782.8 |
| 82 Office Expense and Organizational Dues | 1,840.2 | 1,862.7 | 1,778.9 | 1,633.0 | 1,631.3 | 1,816.9 | 1,892.1 | 1,954.9 | 1,954.9 |
| 84 Outside Services | 1,659.7 | 1,713.1 | 1,967.0 | 1,906.3 | 2,243.0 | 2,385.1 | 2,115.8 | 2,240.4 | 2,227.4 |
| 88 Other Expenses | 530.8 | 673.6 | 720.1 | 786.7 | 798.0 | 763.5 | 833.3 | 806.8 | 801.7 |
| 88.1 Prepaid Expenses (contra acct) | 33.8 | (560.5) | (535.1) | (491.5) | (182.9) | | | | |
| 89 Opportunity Fund | 35.5 | | 140.0 | 140.0 | 150.0 | 50.0 | 150.0 | 150.0 | 150.0 |
| 90 Depreciation | 631.9 | 579.3 | 529.5 | 556.9 | 379.1 | 360.0 | 785.0 | 921.9 | 921.9 |
| 91 Allocation of Overhead & BOD | | 0.0 | 0.3 | | | (0.1) | 0.0 | | |
| TOTAL EXPENSES | 26,548.6 | 27,091.1 | 28,677.3 | 29,570.6 | 28,671.0 | 31,573.3 | 32,208.9 | 32,857.8 | 32,991.1 |
| SURPLUS (DEFICIT) before reserve income | 1,231.3 | 702.1 | 411.5 | (175.1) | 74.4 | 190.8 | (454.7) | (734.4) | (730.0) |
| 91.2 Gain on Sale of HQ | | | | | 6,174.5 | | | | |
| 91.5 Headquarters Building Contributions | 153.9 | | | | 361.0 | | | | |
| 92 Non-recurring Expenses | 639.5 | 477.9 | 69.5 | 163.4 | 114.5 | 60.0 | | | |
| Reserve Investment Income: | | | | | | | | | |
| 95 Investmt Income - Reserves (net of exp) | 222.5 | (186.1) | 2,219.6 | 1,402.9 | 742.7 | 895.6 | 913.5 | 959.2 | 959.2 |
| 96 Transfer Reserves Portion Used Currently | (885.7) | (655.3) | (1,089.7) | (1,244.3) | (1,122.2) | (1,260.2) | (760.0) | (770.0) | (770.0) |
| Remaining Reserve Investment Income | (663.2) | (841.4) | 1,129.9 | 158.6 | (379.5) | (364.6) | 153.5 | 189.2 | 189.2 |
| OVERALL SURPLUS (DEFICIT) after reserve income | 82.5 | (617.2) | 1,471.9 | (179.9) | 6,115.9 | (233.8) | (301.2) | (545.2) | (540.8) |

Attachment A

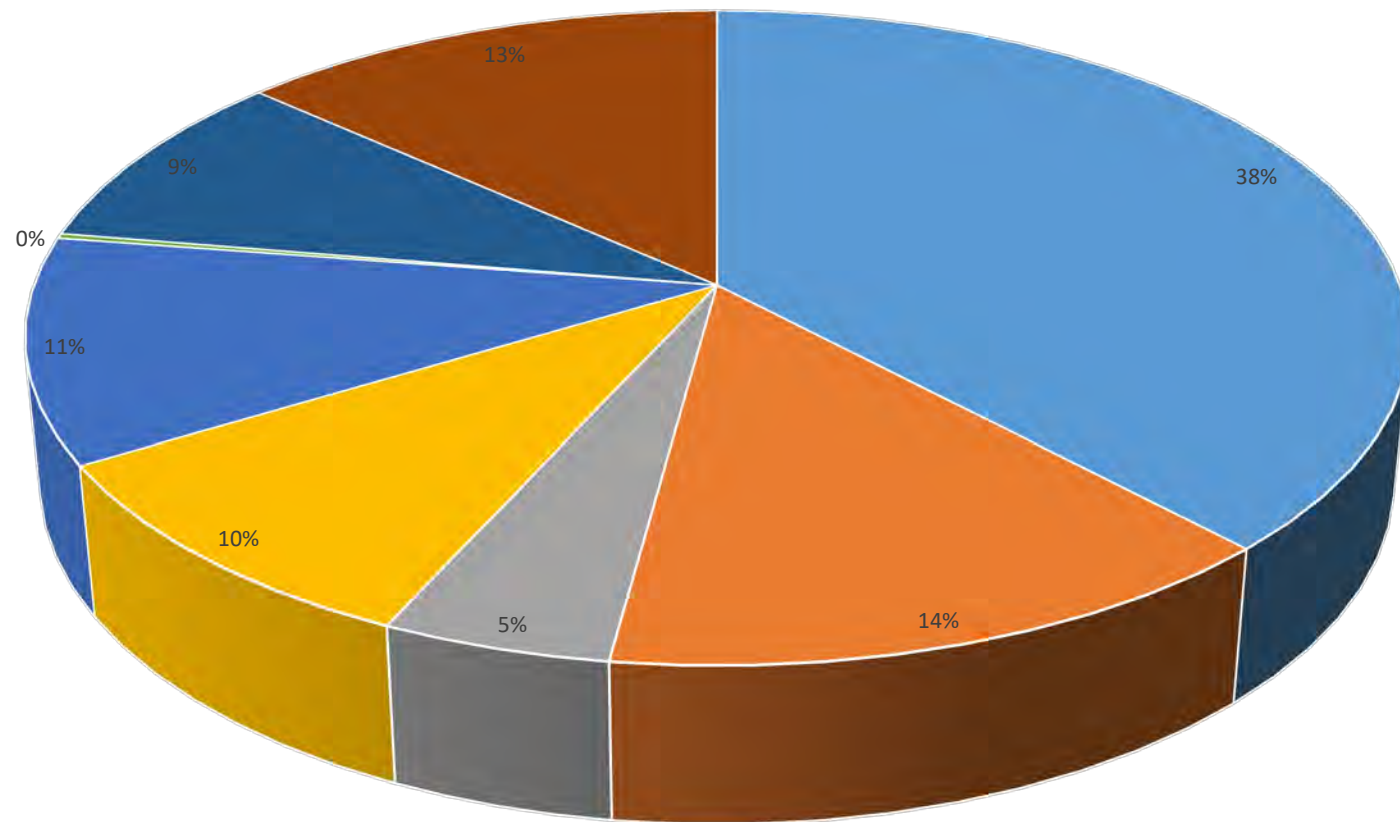
Strategic Business Development Ad Hoc Report to PEC

Margin Analysis - Compiled list for Orlando

| | | |
|---------------------------|-------|-------|
| 1 Consulting Engineer | 18445 | 32.9% |
| Student | 6226 | 11.1% |
| Manufacturer | 5057 | 9.0% |
| 1 Contractor | 4995 | 8.9% |
| 1 Manu. Rep | 3774 | 6.7% |
| Other | 3204 | 5.7% |
| Gov't | 3159 | 5.6% |
| 1 Design Build | 2923 | 5.2% |
| 1 Architect | 2874 | 5.1% |
| 1 Sales Engineer | 915 | 1.6% |
| 1 Commerical Facility | 759 | 1.4% |
| 1 Industrial Facility | 746 | 1.3% |
| 1 Property Manager | 723 | 1.3% |
| 1 Distributor | 663 | 1.2% |
| Utility | 575 | 1.0% |
| Association | 530 | 0.9% |
| 1 Educational Institution | 380 | 0.7% |
| 1 Research | 134 | 0.2% |
| Library | 11 | 0.0% |
| | 56093 | 100% |

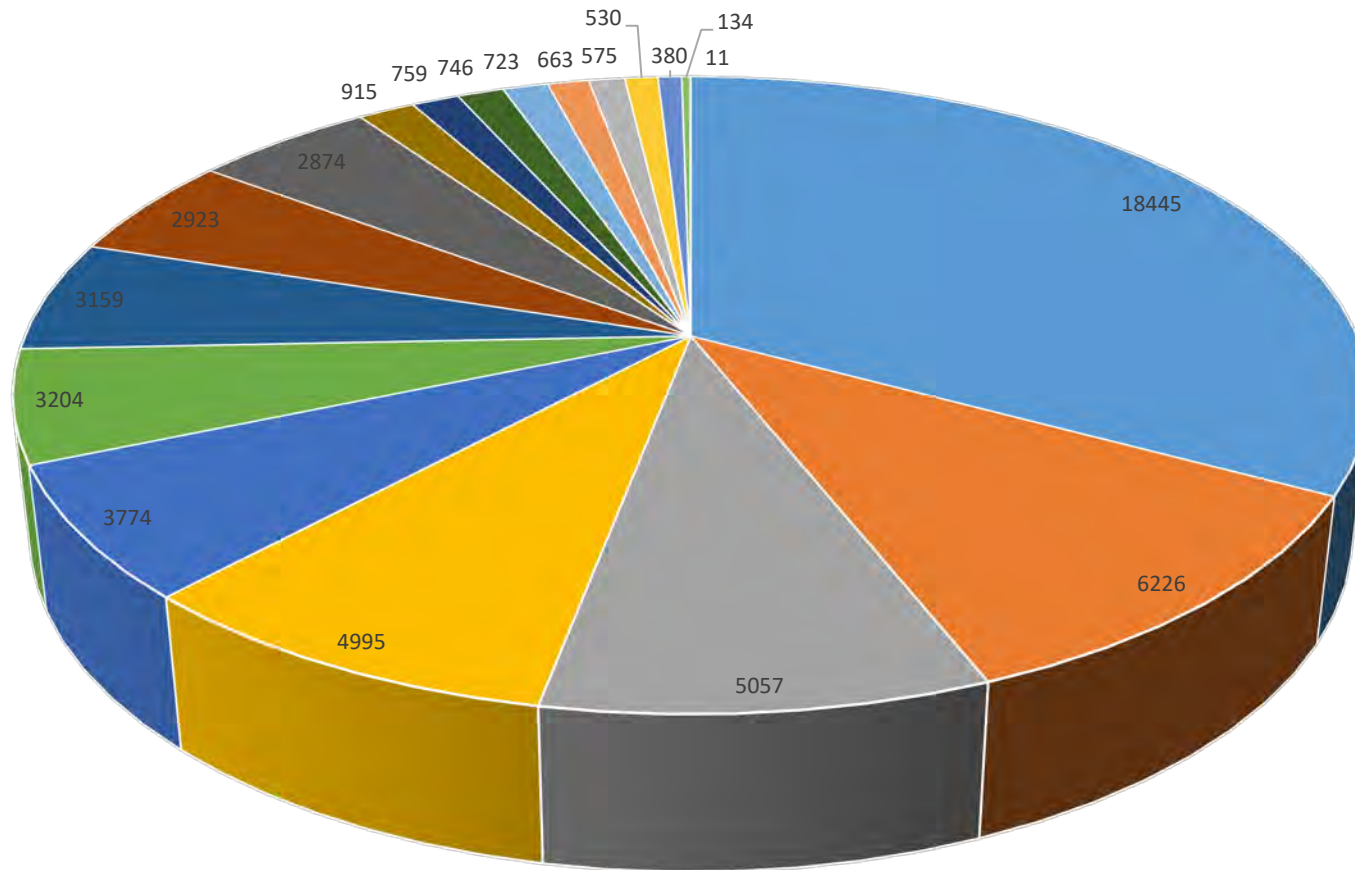
| | | |
|----------------------|-------|-----|
| Design | 21319 | 38% |
| Construction | 7918 | 14% |
| Operations and Maint | 2608 | 5% |
| Sales | 5352 | 10% |
| Student | 6226 | 11% |
| Research | 134 | 0% |
| Manufacturer | 5057 | 9% |
| Misc | 7479 | 13% |

Membership Percent



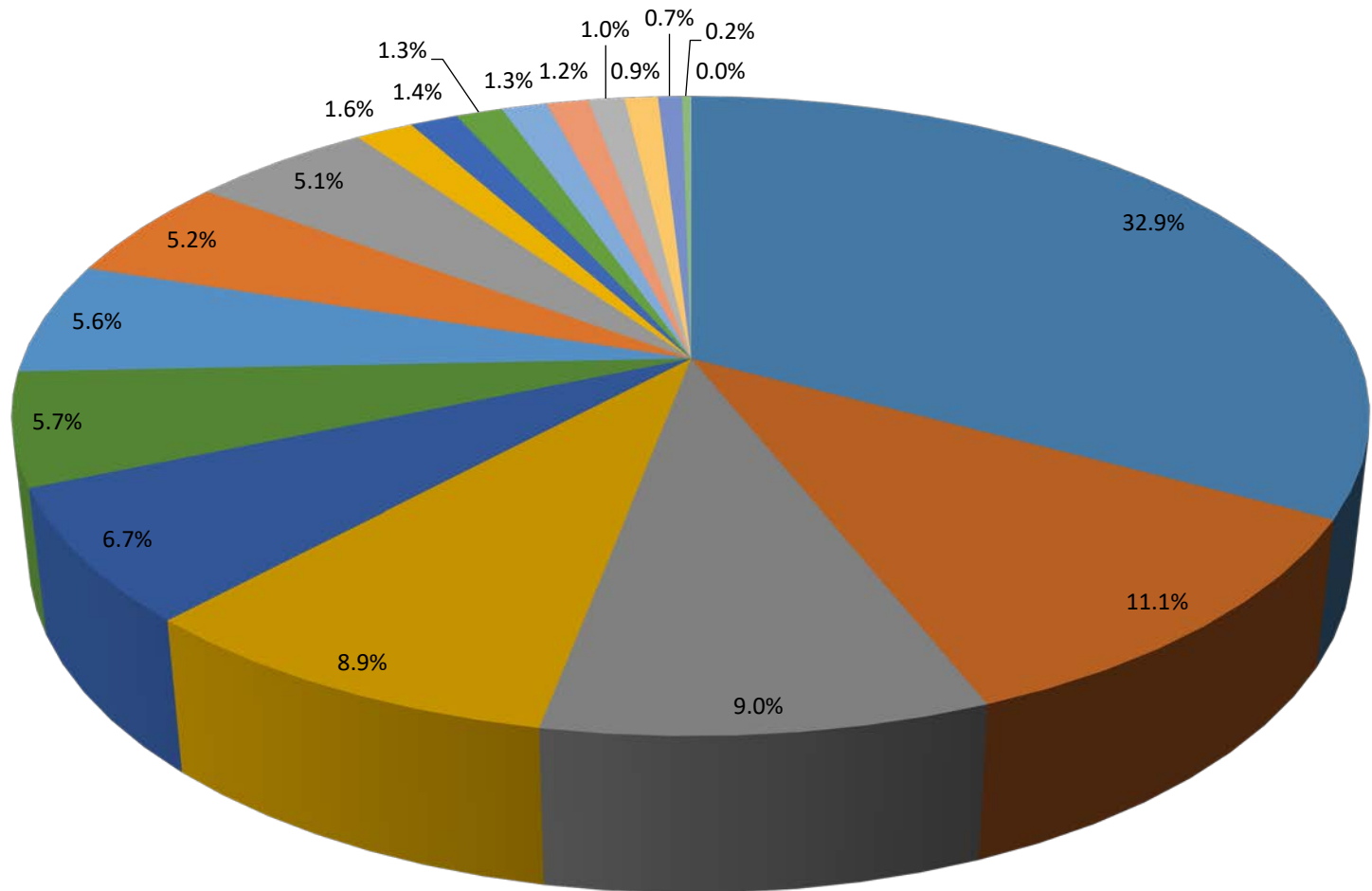
■ Design ■ Construction ■ Operations and Maint ■ Sales ■ Student ■ Research ■ Manufacturer ■ Misc

Membership headcount



- | | | | | |
|---------------------|-------------------------|------------------|-------------|----------------|
| Consulting Engineer | Student | Manufacturer | Contractor | Manu. Rep |
| Other | Gov't | Design Build | Architect | Sales Engineer |
| Commerical Facility | Industrial Facility | Property Manager | Distributor | Utility |
| Association | Educational Institution | Research | Library | |

Membership Percent



- | | | | | |
|-----------------------|---------------------------|--------------------|---------------|------------------|
| ■ Consulting Engineer | ■ Student | ■ Manufacturer | ■ Contractor | ■ Manu. Rep |
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CONFIDENTIAL

Global Training Center Report for the period 1 July 2019 – 31 December 2019

Prepared for Global Training Center Volunteer Oversight Subcommittee
Publishing and Education Council
January 2020

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Global Training Center Report for the period 1 July 2019 – 31 December 2019

January 2020

1. Performance Summary for the period July – December 2019

July – December 2019: The GTC presented 10 courses and trained 206 people, achieving a fiscal net performance of **\$35,515.10**

This was achieved by further developing sales channels through the Global Training Center, hosts (ASHRAE chapters, local societies, conference organizers), commercial companies and host combinations.

Instructor performances were generally well received by attendees. It should also be noted that instructor flexibility, responsiveness and ability to adjust their schedules is crucial. Reinforce the sales dynamic making distinction between business commitment rather than internal chapter activities. Samir Traboulsi and Hassan Younes have been extremely accommodating in that regard.

The base instructor honorarium during the period was **\$850** per day.

The base registration fee per registrant during the period was (Fees charged when courses are organized in Dubai; from which all other discounted fees, etc. are derived from).

| | |
|--------------|----------------------------------|
| 1-day course | \$311 (\$405 Non-members) |
| 2-day course | \$524 (\$641 Non-members) |
| 3-day course | \$757 (\$948 Non-members) |

Average revenue per registrant ranged from **\$156** to **\$763**.

Average cost per registrant ranged from **\$46** to **\$566.73**.

Variations in average revenue and cost per registrant as a result of different registration fees is due to the following factors:

1. Member/Non-member pricing
2. Attendees from developing economies
3. Chapter/ developing economy chapter hosts
4. Group discounts
5. Multiple course registration

The following represents the cost breakdown for all courses during the period:

- Honorariums \$31,450.00
- Training venue \$6,817.68
- Printing \$1,906.96
- Airfare \$6,232.97
- Hotel \$5,360.69
- Visa \$2,305.00

2. Business Model

Basic premise of our strategy is to offer training specifically for the Middle East, Africa and parts of Asia markets that is customized, suitably priced, sold and valued.

The following shows what is currently being done and what will be changed based on what has been learned from experience.

1. During the past year, more training distributors (chapters/hosts) have been identified and used taking our training to 9 different cities in 7 countries.

Plan is to pursue more distributors (chapters/hosts) whom are more knowledgeable about their market trends and needs, to make ASHRAE courses accessible in more locations. Training organized by different hosts are offered reduced fees since a bulk of our costs are eliminated.

- A lot of potential in the Saudi market. Worth considering other hosts in addition to the Saudi Council of Engineers.
 - Engage more chapters to organize local training by continuously reminding them of the value of offering ASHRAE content in their countries. Efforts require chapter commitments which is not always present.
2. Identify more GTC instructors in different countries.
 - Reduces travel time and costs (flight, hotel, visa etc.)
 - Ensures we are more responsive to potential opportunities.
 3. Attachment A (page 11) shows the documents used to screen potential instructors. To be used as new instructors are added or re-confirmed.
 4. Organize courses based on market trends
 - Planned topics in 2020: Data Centres, Refrigerant Updates, District Cooling.
 5. Eliminate cost associated with paper-based course books and certificates during training organized in Dubai starting 2020.
 6. Ensure evaluation forms are completed by all training attendees by utilising online evaluations. Attendees will be required to complete the evaluation forms to receive their soft copy certificates. Attachment B (page 13) shows a sample of the evaluation forms used.
 7. Working with different hosts has presented some logistical challenges hence the following:
 - More control over content and secured certificates sent to chapters/hosts. Certificates will either need to be filled out by the Dubai office, secured then sent to the organizer. Or set a limit to how many times a certificate template can be filled.
 - General guidelines pertaining to facilities used by hosts/chapters for ASHRAE courses are needed.
Facilities Guidelines:
 - Attendees should be seated comfortably and not too close to each other.
 - Training room should have good indoor air quality with the ability to control the air temperature and air flow in the room.
 - Training room should be well lit.

- Data projector should be centred at the front, complete with suitable sound system (lavaliere microphone,
- Training room should be well insulated from any disruptions from neighbouring rooms.
- Restrooms, break, and lunch areas should be easily accessible by all attendees.
- Chapter organizers are encouraged to bring in training sponsors which is crucial to help further reduce fees for attendees and cover chapter related costs. To ensure compliance with ASHRAE commercial policies, the following is included in all chapter agreements.

Promotion & Sponsorship Conditions

- All course(s) promotions should include the ASHRAE chapter name and logo. (If a distributor is cooperating with an ASHRAE chapter to organize the course(s)).
 - Training room must be free from all commercial branding (i.e. corporate sponsors). All sponsor related marketing must be placed outside of the training room.
 - If courses are organized alongside a conference, the below conditions must be adhered to:
 - No logos, banners or any promotional materials relevant to sponsor(s) can be placed inside the ASHRAE training room.
 - Sponsor(s) promotional displays and materials (if any) can be placed outside of the ASHRAE training room.
 - Advertising sponsor(s) on any of the conference organizers websites must be in a separate section than the ASHRAE course(s).
 - Advertising sponsor(s) on chapter websites must be in a separate section of the web site and must comply with all requirements of the ASHRAE Policy for Chapter Websites.
8. To meet Region-At-Large's diverse needs, having a pricing structure to meet conditions of Minimum Advertised Price Policy (MAP) and Resale Price Maintenance (RPM) are being set to reduce price disparities offered by distributors (hosts/chapters) in different countries, encourage distributors to invest in promotion and customer-friendly experiences and to encourage global competition among potential distributors.

Pricing Structure:

Non-Developing Economies:

- Individual fees charged when courses are organized by the Dubai office (25% less than US fees)

- Chapter fees charged when any non-developing economy chapter organizes an ASHRAE course (50% less than base member fee)
- In-House fees (50% less than base non-member fee)

Developing Economies:

Determined based on the countries listed under “Low-income economies” and “Lower-Middle-Income economies” published by the World Bank.

- Individual DE fees charged when individuals from DE would like to attend courses organized in Dubai (50% less than US fees)
- Chapter fees charged when any developing economy chapter organizes an ASHRAE course (50% less than DE member fee)
- In-House fees (50% less than base non-member fee)

Distributors:

- Prices for different distributors in the region (hosts and/or chapters) are charged a flat fee based on a minimum number of attendees. Additional attendees are charged extra.

Pricing Conditions for Distributors:

The distributor whether host or chapter can determine the course fees charged per registrant provided the below conditions are met:

- The distributor cannot advertise the per registrant price of course(s) below what ASHRAE is charging the distributor per person.
- The distributor cannot charge each registrant below what ASHRAE is charging the distributor per person.
- If the distributor is a developing economy chapter, course(s) promotions should clearly include the term “developing economy price”.
- If a distributor is a chapter wanting to bring in a sponsor to the course(s) to help reduce the fee per person even further, course(s) promotions should clearly state that the fees have been reduced due to sponsor.

3. Metrics for the period (Training Summary July – December 2019)

| | Date | Training | Instructor(s) | Location | Final Reg. No. | Total Revenue | Total Cost | Net Profit | Comments |
|----|----------------|--|--|---------------------|----------------|---------------|-------------|--------------|------------------------------|
| 1 | 4-5 Sept 2019 | HVAC Design: Level I - Essentials (MENA) | Omar Abdelaziz & Hassan Younes | Cairo | 18 | \$ 6,300.00 | \$ 5,710.50 | \$ 589.50 | DE Chapter fees are charged |
| 2 | 13-15 Oct 2019 | HVAC Design: Level I - Essentials (MENA) | Samir Traboulsi & Hassan Younes | Riyadh, KSA | 19 | \$ 8,415.00 | \$ 6,458.95 | \$ 1,956.05 | Host: SCE* |
| 3 | 16-17 Oct 2019 | HVAC Design: Level II – Applications (MENA) | Samir Traboulsi & Hassan Younes | Riyadh, KSA | 17 | \$ 5,700.00 | \$ 4,114.39 | \$ 1,585.61 | Host: SCE* |
| 4 | 27-29 Oct 2019 | HVAC Design: Level I - Essentials (MENA) | Samir Traboulsi & Hassan Younes | Dubai, UAE | 29 | \$ 21,643.84 | \$11,353.32 | \$ 10,290.52 | GTC |
| 5 | 30-31 Oct 2019 | HVAC Design: Level II – Applications (MENA) | Samir Traboulsi | Dubai, UAE | 27 | \$ 11,039.56 | \$ 5,132.32 | \$ 5,907.24 | GTC |
| 6 | 3-5 Nov 2019 | HVAC Design: Level I - Essentials (MENA) | Alkis Triantafyllopoulos & Hesham Safwat | Jeddah, KSA | 12 | \$ 8,910.00 | \$ 6,800.77 | \$ 2,109.23 | Host: SCE* |
| 7 | 6-7 Nov 2019 | HVAC Design: Level II – Applications (MENA) | Alkis Triantafyllopoulos | Jeddah, KSA | 13 | \$ 5,400.00 | \$ 3,037.68 | \$ 2,362.32 | Host: SCE* |
| 8 | 16-18 Nov 2019 | HVAC Design: Level I - Essentials (MENA) | Samir Traboulsi & Hassan Younes | Kuwait City, Kuwait | 26 | \$ 9,828.00 | \$ 5,737.83 | \$ 4,090.17 | Host: KSE** & Kuwait Chapter |
| 9 | 18 Nov 2019 | Designing for IAQ: Complying with Standard 62.1 (MENA) | Samir Traboulsi & Hassan Younes | Kuwait City, Kuwait | 10 | \$ 3,900.00 | \$ 2,138.64 | \$ 1,761.36 | Host: KSE** & Kuwait Chapter |
| 10 | 21 Nov 2019 | Variable Refrigerant Flow Systems (MENA) | Hesham Safwat | Kuwait City, Kuwait | 35 | \$ 5,460.00 | \$ 1,596.90 | \$ 3,863.10 | Host: KSE** & Kuwait Chapter |

| | | | | |
|--------------|------------|---------------------|---------------------|---------------------|
| TOTAL | 206 | \$ 86,596.40 | \$ 52,081.30 | \$ 34,515.10 |
|--------------|------------|---------------------|---------------------|---------------------|

*Saudi Council of Engineers

** Kuwait Society of Engineers

5. Attachments

Attachment A: Instructor Application Form

ASHRAE Africa, Middle East & Southwest Asia Training Initiative Application to Be an ASHRAE Instructor

1. Biographical and Contact Information

- Name (as you wish it to appear in promotional materials):
- Credentials (that you wish listed in order of Doctorate Degree, Engineering License, ASHRAE Certifications, Accreditations, Other Certifications)
- Email address:
- Phone number:
- Grade of ASHRAE Membership:
- Year Joined ASHRAE
- Past and Current ASHRAE Technical Committee Memberships (This is not a requirement but membership is encouraged. Corresponding memberships are offered.):
- In what country do you work:
- In what other countries have you worked:
- Where did you attend university/college:
- What types of work positions have you held:
- Current employer:
- What types of employers have you worked for:

2. Professional Background Information

- In what fields do you feel qualified to instruct? (for example, psychrometrics, indoor environmental quality, system design, building performance, modeling, building automation, equipment selection, air distribution, refrigerant selection, refrigerant management, commissioning, engineering sales, project management, energy management).
- In what applications do you have experience? (for example, large buildings, hospitals, laboratories, manufacturing facilities, data centers, food handling and transportation, commercial refrigeration, district energy systems)
- Who You Are Paragraph (Using the sample below write a paragraph that describes your experience, phrased to emphasize your qualifications to be an ASHRAE Instructor. Don't worry about grammar or style; focus on why someone would want to register for a course that you instruct.)

Sample: Nathalie Smith has more than XX years experience in the HVAC&R industry. She holds an engineering degree from XXXX University and has received awards for her engineering accomplishments from XXXXX and XXXXXX. She specializes in XXXXXXX applications and is a recognized authority in the fields of XXXXXX. Ms Smith has XXXXX years of experience as an instructor teaching courses on XXXXXXX and XXXXXXX. She is

currently employed as XXXXXXX by a supplier of building automation solutions and resides in Belgium. Ms Smith believes the greatest challenge facing engineers in the field of building and environmental technologies is applying cloud-based management of building services equipment and using performance data to improve building design.

Your Paragraph:

3. Photograph

Return with a Photograph as a JPEG (Photo should be head and shoulders, either a portrait or in a professional setting. You should appear happy, encouraging someone to want to take your course).

Anything else a registrant should know about your background and experience?

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Attachment B: Sample Training Evaluation Form

Course Name
Training Location
Training Date

Strongly Agree

Undecided

Strongly Disagree

Instructor 1: xxx

- | | | | | | |
|---|---|---|---|---|---|
| 1. Instructor was knowledgeable in the subject. | 5 | 4 | 3 | 2 | 1 |
| 2. Instructor presented the concepts and principles clearly and understandably. | 5 | 4 | 3 | 2 | 1 |
| 3. Instructor related the material to practical applications. | 5 | 4 | 3 | 2 | 1 |

Instructor 2: xxx

- | | | | | | |
|---|---|---|---|---|---|
| 1. Instructor was knowledgeable in the subject. | 5 | 4 | 3 | 2 | 1 |
| 2. Instructor presented the concepts and principles clearly and understandably. | 5 | 4 | 3 | 2 | 1 |
| 3. Instructor related the material to practical applications. | 5 | 4 | 3 | 2 | 1 |

COURSE CONTENT

- | | | | | | |
|--|---|---|---|---|---|
| 1. Objectives of the training were clearly stated. | 5 | 4 | 3 | 2 | 1 |
| 2. Content quality and format make the course notes valuable for future reference. | 5 | 4 | 3 | 2 | 1 |
| 3. Quality and clarity of the audio visuals enhanced my ability to understand the course concepts. | 5 | 4 | 3 | 2 | 1 |
| 4. Organization and order of the presentation supported effective mastery of the training topic. | 5 | 4 | 3 | 2 | 1 |
| 5. Material presented will be of practical use in my work. | 5 | 4 | 3 | 2 | 1 |
| 6. Training level met my needs and expectations. | 5 | 4 | 3 | 2 | 1 |

GENERAL

1. Are you an individual ASHRAE member? ____ YES ____ NO

2. Which of the following best characterizes your primary job function?
- ☐ Consulting Engineer ☐ Facilities Engr/Mgr ☐ Sales Engineer ☐ Regulator
- ☐ Educator/Research ☐ Utility Representative ☐ Design Engineer ☐ Student
- ☐ Code Official ☐ Contractor/Installer ☐ Architect ☐ Other _____
3. What is the principal activity of your firm?
- ☐ Consulting (Engineering or Architectural) ☐ Manufacturing
- ☐ Contracting/Design-Build ☐ Manufacturing Representative
- ☐ Building Owner & Facility Management ☐ Other _____
4. Which describes your highest level of education?
- ☐ High School ☐ Associates Degree/Certificate Program ☐ Bachelor's Degree
- ☐ Masters Degree ☐ Doctoral Degree
5. Why did you attend? (Check one) ☐ Personal choice ☐ Employer recommendation
6. Would you prefer for Middle East/Northern Africa courses to start on Saturday or on Sunday? ☐ Saturday ☐ Sunday
7. How did you become aware of this training?
- ☐ Associate at work ☐ ASHRAE/Newsletter/Publication ☐ ASHRAE web site
- ☐ ASHRAE Chapter ☐ ASHRAE brochure mailing to members ☐ ASHRAE Social Media
- ☐ ASHRAE email ☐ Other _____
8. What was your primary reason to register for this training?
- ☐ New to HVAC&R industry ☐ Recent college graduate (1 year or less) ☐ Knowledge/CEUs/Credits
- ☐ New job or new job requirements ☐ Other _____
9. Was the course content suitable for the Middle East/Northern Africa region? ☐ YES ☐ NO
- Why or why not?
10. What changes would you make to this training?
11. What topics would you recommend for other ASHRAE courses or seminars?

GENERAL COMMENTS:

ASHRAE
Consolidated
12 Months ended June 30, 2019

REVENUES

| | |
|--|-----------|
| 31 Membership Dues Earned Income | \$7,779.9 |
| 32 Publication Sales Income | 3,447.6 |
| 34 Advertising Income - Display | 3,078.7 |
| 34 Advertising Income - Classified | 10.9 |
| 34 Advertising Income - On-line | 868.6 |
| 35.1 Meeting & Seminar Income | 1,548.2 |
| 35.2 Certification Registration | 218.7 |
| 35.3 Education Registration | 1,642.7 |
| 37 Special Project Income | 74.3 |
| 38 Contribution Income | 2,295.3 |
| 41.1 AHR Exposition Income | 5,741.8 |
| 41.2 Contributions and Matching Gifts | 109.5 |
| 41.3 Exposition Income - Other Countries | 234.0 |
| 44 Reserve Transfers | 890.0 |
| 46 Miscellaneous Income | 805.2 |

TOTAL REVENUES **28,745.4**

EXPENSES:

| | |
|--|---------|
| 51 Salary Expense | 9,616.2 |
| 52 Payroll Taxes, Benefits, Personnel Exp | 2,607.8 |
| 61 Publishing and Promotion Expense | 3,238.6 |
| 64 Meetings & Conferences Expense | 2,477.7 |
| 66 Travel Expense | 2,169.0 |
| 68 Awards, Certif, Logo Cost of Goods Sold | 232.6 |
| 71 Research Projects & Grants Expense | 2,226.6 |
| 73 Special Projects Expense | 111.4 |
| 76 Public Relations Expense | 70.5 |
| 78 Occupancy & Insurance | 768.3 |
| 82 Office Expense and Organizational Dues | 1,628.9 |
| 84 Outside Services Expense | 2,242.6 |
| 88 Other Expense | 798.0 |
| 88.1 Prepaid Expense (contra acct) | (46.3) |
| 89 Opportunity Fund | 150.0 |
| 90 Depreciation Expense | 379.1 |

TOTAL EXPENSES **28,671.0**

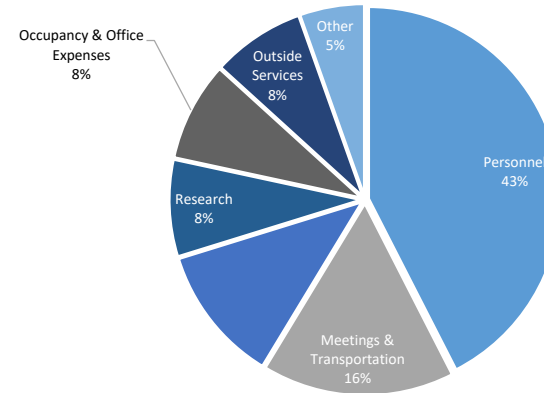
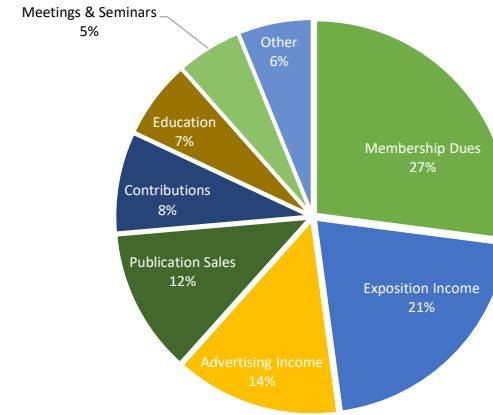
SURPLUS (DEFICIT) before reserve income 74.4

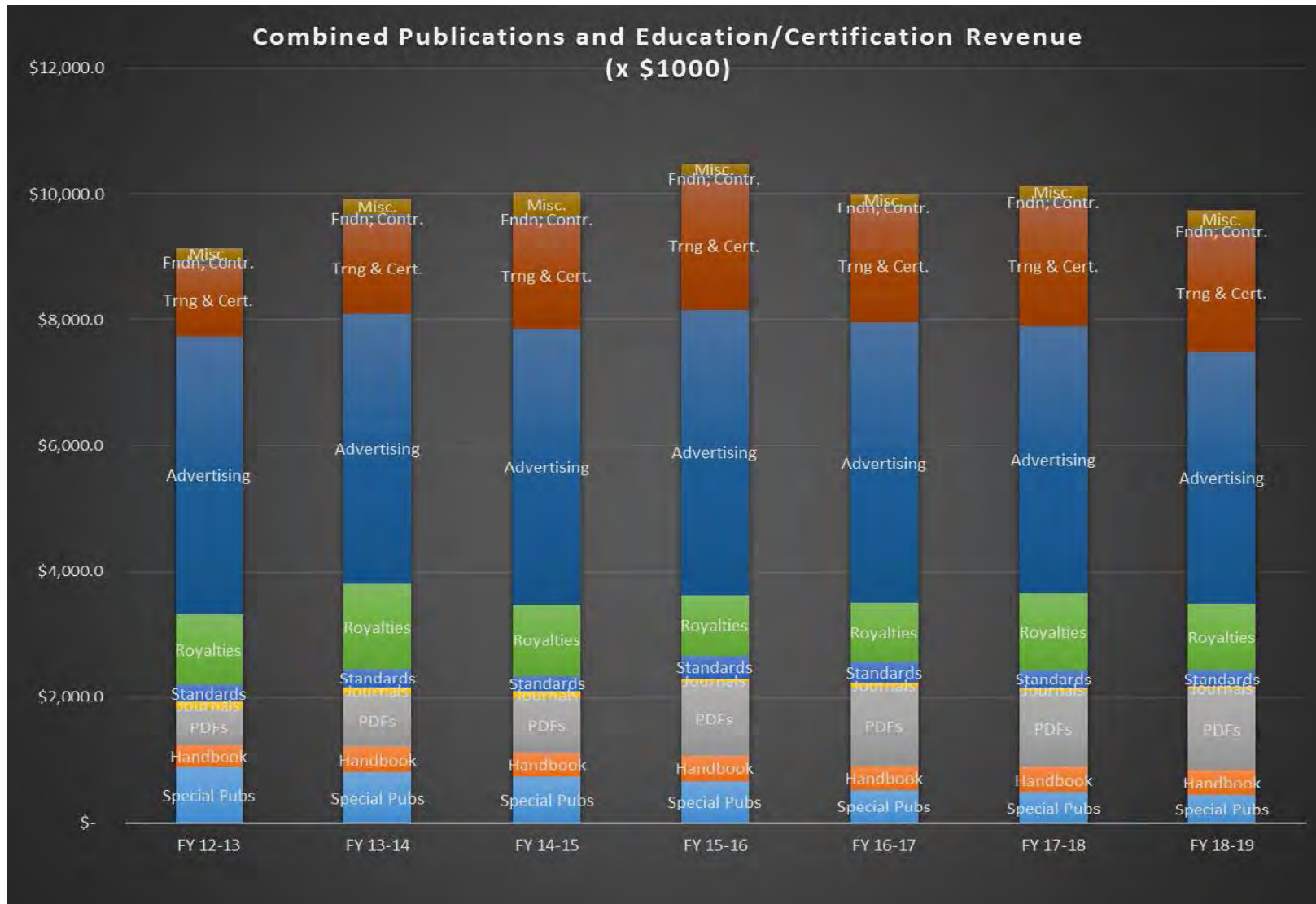
| | | |
|---------------------|-----------|------|
| Source of Funds | | |
| Membership Dues | \$7,779.9 | 27% |
| Exposition Income | 5,975.8 | 21% |
| Advertising Income | 3,958.2 | 14% |
| Publication Sales | 3,447.6 | 12% |
| Contributions | 2,404.8 | 8% |
| Education | 1,861.4 | 6% |
| Meetings & Seminars | 1,548.2 | 5% |
| Other | 1,769.5 | 6% |
| REVENUES | \$ 28,745 | 100% |

| | | |
|--------------------------------|-----------|------|
| Application of Funds | | |
| Personnel | 12,177.7 | 42% |
| Meetings & Transportation | 4,646.7 | 16% |
| Publications, Communications & | 3,309.1 | 12% |
| Research | 2,338.0 | 8% |
| Occupancy & Office Expenses | 2,397.2 | 8% |
| Outside Services | 2,242.6 | 8% |
| Other | 1,559.7 | 5% |
| EXPENSES | \$ 28,671 | 100% |

Attachment A

Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando





Definitions

Revenue

Sales for a product or service in \$US

Variable Margin

Revenue - direct costs to provide product/service that vary with volume e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship = \$45 Variable Margin or 45% Variable Margin

Gross Margin

Revenue - direct costs to provide product/service that vary with volume - staff labor directly associated with product of service e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship - \$25 Staff Labor = \$20 Gross Margin or 20% Gross Margin

Attachment A
Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

| SY 18-19 | Members Council | | Pub/Ed Council | | Corporate | |
|-----------------------|--------------------------|----------------------|----------------|-------------|------------|---------------|
| | Membership Dues/Handbook | Meetings/Conferences | Publications | Advertising | Education | Certification |
| Revenue | \$ 8,151.2 | \$ 1,589.2 | \$ 3,041.8 | \$ 4,073.6 | \$ 1,870.2 | \$ 225.7 |
| Direct Expenses | | | | | | |
| Staff Labor | 3,112.4 | 771.1 | 869.5 | 1,567.5 | 464.6 | 162.8 |
| Promotion | 435.6 | 34.7 | 64.8 | 96.1 | 31.7 | 8.9 |
| Materials | 769.2 | - | 358.5 | 657.3 | 109.6 | - |
| Commissions | - | 8.6 | - | 742.5 | - | - |
| Shipping/Postage | 376.9 | 0.6 | 162.9 | 566.5 | 33.0 | 4.9 |
| Meeting/Training Cost | 281.7 | 1,310.1 | 21.7 | 3.3 | 715.6 | - |
| Travel | 846.1 | 69.8 | 33.3 | 26.2 | 17.6 | 5.4 |
| Dev/Outside Services | 501.4 | 113.0 | 510.1 | 124.2 | 267.2 | 178.6 |
| Credit Card Charges | 221.0 | 44.9 | 44.4 | 1.4 | 53.5 | 6.1 |
| Bad Debt | - | - | 7.0 | 79.4 | - | - |
| Other/Misc. | 136.7 | 82.5 | 0.2 | 64.6 | 28.9 | 0.3 |
| Total Direct Expenses | 6,881.0 | 2,455.3 | 2,072.4 | 3,629.0 | 1,721.7 | 367.0 |
| Variable Margin \$ | 4,582.6 | (75.0) | 1,838.9 | 1,712.1 | 613.1 | 21.5 |
| Variable Margin % | 56% | -5% | 60% | 42% | 33% | 10% |
| Gross Margin \$ | 1,470.2 | (846.1) | 969.4 | 144.6 | 148.5 | (141.3) |
| Gross Margin % | 18% | -53% | 32% | 4% | 8% | -63% |

NOTES

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

There is \$8M in corp overhead. Cost is spread across all councils Corp overhead includes exec staff, BOD, marketing IT, Business Dev etc

Corp Overhead is allocated based on salaries. For PEC the allocation drives it into a loss position

Membership labor is high because it includes MC staff, TC staff PEC staff associated with Handbook Handbook printing and frt cost included in MC as it is a member benefit

\$466k in Handbook revenue in MC (\$466k copies sold to non members)

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

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Publication Revenue include ~\$1M in royalties

"Staff Labor" includes salary + bennies

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The revenue for Advertising comes from advertising sales in Journal, HPB Cost of journal, Research Journal and HPB is in advertising (PEC) There is no revenue from the Journal issues given to members because it is considered a member benefit

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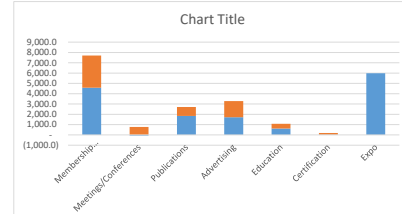
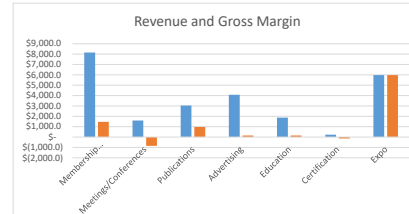
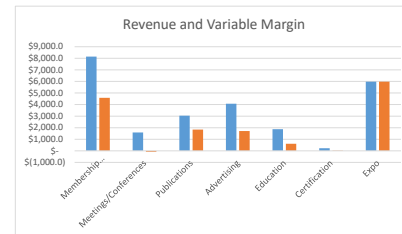
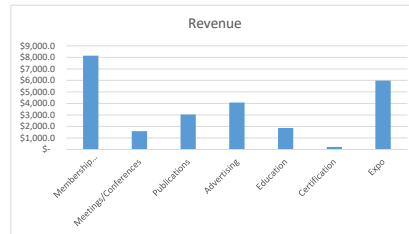
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Definitions

Revenue

Variable Margin

Gross Margin

PEC Revenue and Margin

Sales for a product or service in \$US

Revenue - direct costs to provide product/service that vary with volume e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship = \$45 Variable Margin or 45% Variable Margin

Revenue - direct costs to provide product/service that vary with volume - staff labor directly associated with product of service e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship - \$25 Staff Labor = \$20 Gross Margin or 20% Gross Margin

Attachment A
Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

| Current Situation | | Publications | Advertising | Education | Certification | TOTAL |
|-------------------------------|----|--------------|-------------|-----------|---------------|----------|
| Current Revenue | \$ | 3,042 | \$ 4,074 | \$ 1,870 | \$ 226 | \$ 9,211 |
| Current Gross margin (\$1000) | \$ | 969 | \$ 145 | \$ 149 | \$ (141) | \$ 1,121 |
| Current Gross Margin % | | 32% | 4% | 8% | -63% | 12% |

| Proposed Goals | | Publications | Advertising | Education | Certification | TOTAL |
|------------------------------------|----|--------------|-------------|-----------|---------------|-----------|
| Proposed Revenue Goal | \$ | 4,000 | \$ 4,100 | \$ 2,500 | \$ 500 | \$ 11,100 |
| Proposed Gross Margin (\$1000) | \$ | 1,280 | \$ 205 | \$ 800 | \$ 100 | \$ 2,385 |
| Proposed Gross Margin (%) | | 32% | 5% | 32% | 20% | 21% |
| Proposed Revenue Goal - AY | \$ | 3,500 | \$ 4,200 | \$ 2,600 | \$ 500 | \$ 10,800 |
| Proposed Gross Margin (\$1000) -AY | \$ | 1,150 | \$ 252 | \$ 858 | \$ 100 | \$ 2,360 |
| Proposed Gross Margin (%) -AY | | 33% | 6% | 33% | 20% | 22% |

Hugh

Alice

| | | | | | |
|------------------|--|--|---|--|---|
| Hugh's Thoughts; | Very good business model. Margins are good. Focus on growing revenue | Numbers paint bad picture but remember the Journal is given away as a member benefit. Change away from print makes advertising revenue more difficult. Work to maintain busies and have advertising cover cost of printing journal | Lots of upside on Revenue. Margin is disappointing. Need to understand and resolve our high cost. | Other organizations do not make much money with Certification but make it up with training. Certification cost is too high. Reconsider our business model and see if we can get cost out (i.e. do we really need to have "ANSI ready" tests? | PEC Generates \$1121k in margin dollars to operate ASHRAE. ASHRAE Corp allocations are based on Staff salary so PEC gets a large amount of corp cost which drives PEC to a loss position. This is just an allocation issue - what is important is margin Dollars which can fund programs. |
|------------------|--|--|---|--|---|

| | | | | |
|-------------------|---|---|---|---|
| Alice's Thoughts: | I'm less bullish than Hugh on publications because of potential revenue loss due to statutory changes (e.g., loss of copyright protection) and increasing access to no-cost publications; I do think revenues could grow by better targeting publications and NOT investing in publications unlikely to sell. | If advertising includes sponsorships, I believe we can do even better here. While there is downward pressure on print sales, sponsorship opportunities and online advertising present growth potential. | I here is tremendous potential with growing our education and training revenues, including through selling these courses to government entities, and partnering with other organizations to leverage our resources, and developing better (and more modern) online courses as there is a demand especially by young people for 365-24-7 access. We could also better leverage our certification program potentially through requiring an ASHRAE course or courses (e.g., this is done by the Association of Energy Engineers) | Possible opportunity to tie regulations to certification requirements. For example, as cities and states work to meet various carbon goals, they may choose to require facility managers to have training and/or certification, or building auditors to be certified. Another opportunity exists to work with DOE to better leverage their "Better Buildings Program" to generate more interest in ASHRAE certifications. |
|-------------------|---|---|---|---|

| | | | | |
|-------------------|---|---|---|--|
| Steve's Thoughts: | Agree good business model but not that easy. Will involve working with partners to execute this. Suggest a more modest goal than what Hugh suggested. The Steve goal is in two fiscal years. After that growth might be more aggressive. Objective is how to provide digital content in usable form to the individual member and not just corporate license holder. | Agree with Hugh's target. but could be higher. Emphasis shifts from selling space to giving branding opportunities and thought leadership exposure. This is tied to integrated marketing of online and print exposure. Both have to work hand in glove. If more electronic opportunities are offered (such as sponsored blogs) revenue can grow more quickly. Also development of regional market opportunities can further offer opportunities. We are weak in doing this now. | Too aggressive because of the member/volunteer nature of ASHRAE. What Hugh suggested is reasonable IF there was not concern for chapters in developing countries to offer training at ASHRAE prices and more decentralization of educational offerings. Also, we compete with ourselves with DL program and webinar program form CTTC. If all educational activities were centralized, Hugh's suggestion would work; but if not, I would go with my suggestion. | I think many organizations make money from certification and for sure it is attached to training. That is the number 1 opportunity for ASHRAE in my view. This is not just a fiscal comment but a comment that relates to the value proposition globally and contribution to the industry. |
|-------------------|---|---|---|--|

Society Level Revenue and Margin

| | Current Model | | | | | Proposed Model | | | | |
|------------|----------------|-------------|-------------------|------------------|--------|----------------|-------------|-------------------|------------------|--------|
| | Revenue (\$US) | Revenue (%) | Gross Margin (\$) | Gross Margin (%) | | Revenue (\$US) | Revenue (%) | Gross Margin (\$) | Gross Margin (%) | |
| Membership | \$ 9,740.40 | | 39.1% | \$ 624.1 | 8.1% | \$ 9,740.40 | | 36.3% | \$ 624.1 | 6.9% |
| Expo | \$ 5,975.8 | | 24.0% | \$ 5,975.8 | 77.4% | \$ 5,975.8 | | 22.3% | \$ 5,975.8 | 66.5% |
| PEC | \$ 9,211.30 | | 37.0% | \$ 1,121.20 | 14.5% | \$ 11,100.00 | | 41.4% | \$ 2,385.00 | 26.5% |
| Total | \$ 24,927.50 | | 100.0% | \$ 7,721.1 | 100.0% | \$ 26,816.20 | | 100.0% | \$ 8,984.9 | 100.0% |

ASHRAE
CONSOLIDATED (General and Research)
12 Months Ended June 30

Attachment A
Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

| | Actual | Actual | Actual | Actual | Actual | Budget | DRAFT Budget | DRAFT Budget | DRAFT Budget |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | FY 2015 | FY 2016 | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 |
| REVENUES | | | | | | | | | |
| 31 Membership Dues Earned Income | \$7,430.5 | \$7,634.5 | \$7,663.7 | \$7,772.8 | \$7,779.9 | \$8,151.3 | \$8,419.4 | \$8,650.9 | \$8,867.2 |
| 32 Publication Sales Income | 3,483.9 | 3,626.1 | 3,504.1 | 3,664.0 | 3,447.6 | 3,783.7 | 3,864.3 | 3,975.2 | 3,977.2 |
| 34 Advertising Income - Display | 3,710.8 | 3,779.4 | 3,577.7 | 3,294.3 | 3,078.7 | 3,103.1 | 3,008.8 | 2,956.8 | 2,956.8 |
| 34 Advertising Income - Classified | 32.0 | 19.3 | 18.0 | 14.0 | 10.9 | 10.0 | 12.0 | 15.0 | 15.0 |
| 34 Advertising Income - On-line | 595.6 | 715.8 | 821.2 | 899.2 | 868.6 | 1,070.0 | 1,115.0 | 1,160.0 | 1,160.0 |
| 35.1 Meetings/Conferences Income | 1,578.5 | 1,529.9 | 2,151.9 | 1,737.6 | 1,548.2 | 2,426.1 | 2,425.5 | 2,191.7 | 1,981.1 |
| 35.2 Certification Registration | 183.3 | 187.6 | 196.8 | 213.2 | 218.7 | 280.0 | 290.0 | 300.0 | 300.0 |
| 35.3 Education Registration | 1,504.5 | 1,844.8 | 1,611.1 | 1,700.6 | 1,642.7 | 1,960.0 | 2,078.3 | 2,200.5 | 2,200.5 |
| 37 Special Project Income | 316.6 | 3.2 | 14.3 | 62.9 | 74.3 | 98.0 | | | |
| 38 Contribution Income | 2,116.6 | 2,215.6 | 2,223.6 | 2,312.7 | 2,295.3 | 2,577.2 | 2,629.0 | 2,761.9 | 2,761.9 |
| 41.1 AHR Exposition Income | 5,146.6 | 5,168.0 | 5,623.7 | 6,085.7 | 5,741.8 | 6,300.0 | 6,450.0 | 6,500.0 | 6,500.0 |
| 41.2 Contributions and Matching Gifts | 115.0 | 57.0 | 100.0 | 74.5 | 109.5 | 171.3 | 121.5 | 122.1 | 122.1 |
| 41.3 Exposition Income - Other Countries | 145.9 | 34.0 | 162.3 | | 234.0 | | 175.0 | 100.0 | 250.0 |
| 44 Reserve Transfers | 885.7 | 655.3 | 1,089.7 | 1,199.3 | 890.0 | 1,278.7 | 760.0 | 770.0 | 770.0 |
| 46 Miscellaneous Income | 534.4 | 322.7 | 330.7 | 364.7 | 805.2 | 554.7 | 405.4 | 419.3 | 399.3 |
| TOTAL REVENUES | 27,779.9 | 27,793.2 | 29,088.8 | 29,395.5 | 28,745.4 | 31,764.1 | 31,754.2 | 32,123.4 | 32,261.1 |
| EXPENSES: | | | | | | | | | |
| 51 Salaries | 7,910.9 | 8,780.7 | 9,182.9 | 9,730.4 | 9,720.9 | 9,813.6 | 10,051.2 | 10,363.8 | 10,669.6 |
| 52 Payroll Taxes, Benefits, Personnel | 2,536.2 | 2,738.8 | 2,650.4 | 2,875.3 | 2,636.9 | 2,772.7 | 3,059.4 | 3,124.3 | 3,172.8 |
| 61 Publishing and Promotion | 3,776.9 | 3,827.9 | 3,606.9 | 3,411.8 | 3,238.6 | 3,660.5 | 3,585.9 | 3,658.4 | 3,664.4 |
| 64 Meetings/Conferences/Trainings | 2,199.2 | 2,362.8 | 2,657.9 | 2,871.1 | 2,477.7 | 3,156.3 | 3,143.6 | 2,995.8 | 2,791.4 |
| 66 Travel | 2,076.6 | 1,863.8 | 2,263.0 | 2,228.8 | 2,169.0 | 2,413.0 | 2,464.0 | 2,584.7 | 2,580.2 |
| 68 Awards, Certif, Logo Cost of Goods Sold | 164.6 | 158.5 | 212.2 | 175.2 | 232.6 | 173.7 | 177.3 | 186.2 | 186.2 |
| 71 Research Projects & Grants | 2,469.6 | 2,321.1 | 2,725.3 | 2,941.5 | 2,226.6 | 3,002.9 | 2,878.3 | 2,938.7 | 2,938.7 |
| 73 Special Projects | 72.5 | 101.3 | 157.4 | 107.7 | 111.4 | 198.0 | 240.0 | 70.0 | 70.0 |
| 76 Public Relations | 51.0 | 79.4 | 66.7 | 58.1 | 70.5 | 74.6 | 75.9 | 79.1 | 79.1 |
| 78 Occupancy & Insurance | 559.2 | 588.6 | 553.9 | 639.3 | 768.3 | 932.6 | 757.1 | 782.8 | 782.8 |
| 82 Office Expense and Organizational Dues | 1,840.2 | 1,862.7 | 1,778.9 | 1,633.0 | 1,631.3 | 1,816.9 | 1,892.1 | 1,954.9 | 1,954.9 |
| 84 Outside Services | 1,659.7 | 1,713.1 | 1,967.0 | 1,906.3 | 2,243.0 | 2,385.1 | 2,115.8 | 2,240.4 | 2,227.4 |
| 88 Other Expenses | 530.8 | 673.6 | 720.1 | 786.7 | 798.0 | 763.5 | 833.3 | 806.8 | 801.7 |
| 88.1 Prepaid Expenses (contra acct) | 33.8 | (560.5) | (535.1) | (491.5) | (182.9) | | | | |
| 89 Opportunity Fund | 35.5 | | 140.0 | 140.0 | 150.0 | 50.0 | 150.0 | 150.0 | 150.0 |
| 90 Depreciation | 631.9 | 579.3 | 529.5 | 556.9 | 379.1 | 360.0 | 785.0 | 921.9 | 921.9 |
| 91 Allocation of Overhead & BOD | | 0.0 | 0.3 | | | (0.1) | 0.0 | | |
| TOTAL EXPENSES | 26,548.6 | 27,091.1 | 28,677.3 | 29,570.6 | 28,671.0 | 31,573.3 | 32,208.9 | 32,857.8 | 32,991.1 |
| SURPLUS (DEFICIT) before reserve income | 1,231.3 | 702.1 | 411.5 | (175.1) | 74.4 | 190.8 | (454.7) | (734.4) | (730.0) |
| 91.2 Gain on Sale of HQ | | | | | 6,174.5 | | | | |
| 91.5 Headquarters Building Contributions | 153.9 | | | | 361.0 | | | | |
| 92 Non-recurring Expenses | 639.5 | 477.9 | 69.5 | 163.4 | 114.5 | 60.0 | | | |
| Reserve Investment Income: | | | | | | | | | |
| 95 Investmt Income - Reserves (net of exp) | 222.5 | (186.1) | 2,219.6 | 1,402.9 | 742.7 | 895.6 | 913.5 | 959.2 | 959.2 |
| 96 Transfer Reserves Portion Used Currently | (885.7) | (655.3) | (1,089.7) | (1,244.3) | (1,122.2) | (1,260.2) | (760.0) | (770.0) | (770.0) |
| Remaining Reserve Investment Income | (663.2) | (841.4) | 1,129.9 | 158.6 | (379.5) | (364.6) | 153.5 | 189.2 | 189.2 |
| OVERALL SURPLUS (DEFICIT) after reserve income | 82.5 | (617.2) | 1,471.9 | (179.9) | 6,115.9 | (233.8) | (301.2) | (545.2) | (540.8) |

Attachment A

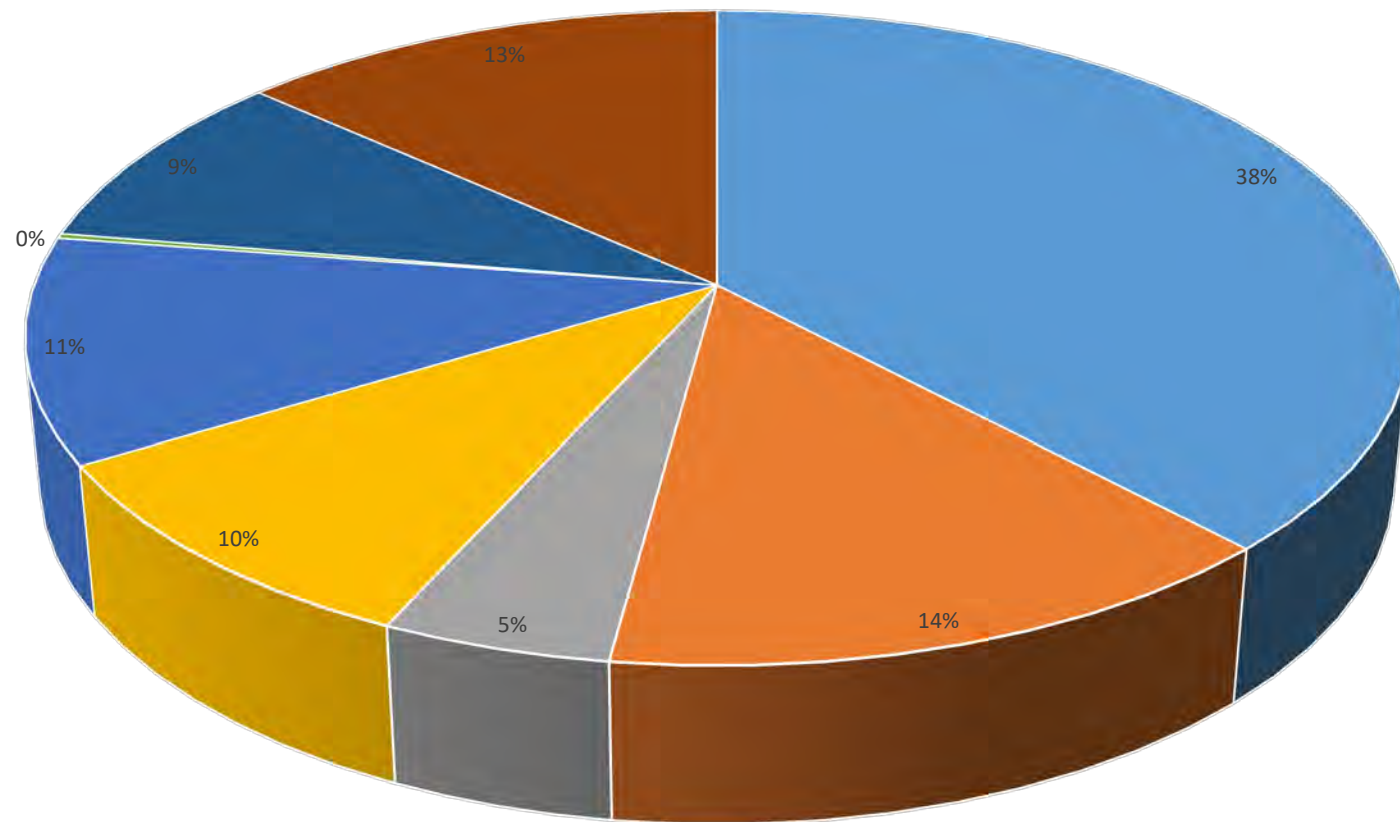
Strategic Business Development Ad Hoc Report to PEC

Margin Analysis - Compiled list for Orlando

| | | |
|---------------------------|-------|-------|
| 1 Consulting Engineer | 18445 | 32.9% |
| Student | 6226 | 11.1% |
| Manufacturer | 5057 | 9.0% |
| 1 Contractor | 4995 | 8.9% |
| 1 Manu. Rep | 3774 | 6.7% |
| Other | 3204 | 5.7% |
| Gov't | 3159 | 5.6% |
| 1 Design Build | 2923 | 5.2% |
| 1 Architect | 2874 | 5.1% |
| 1 Sales Engineer | 915 | 1.6% |
| 1 Commerical Facility | 759 | 1.4% |
| 1 Industrial Facility | 746 | 1.3% |
| 1 Property Manager | 723 | 1.3% |
| 1 Distributor | 663 | 1.2% |
| Utility | 575 | 1.0% |
| Association | 530 | 0.9% |
| 1 Educational Institution | 380 | 0.7% |
| 1 Research | 134 | 0.2% |
| Library | 11 | 0.0% |
| | 56093 | 100% |

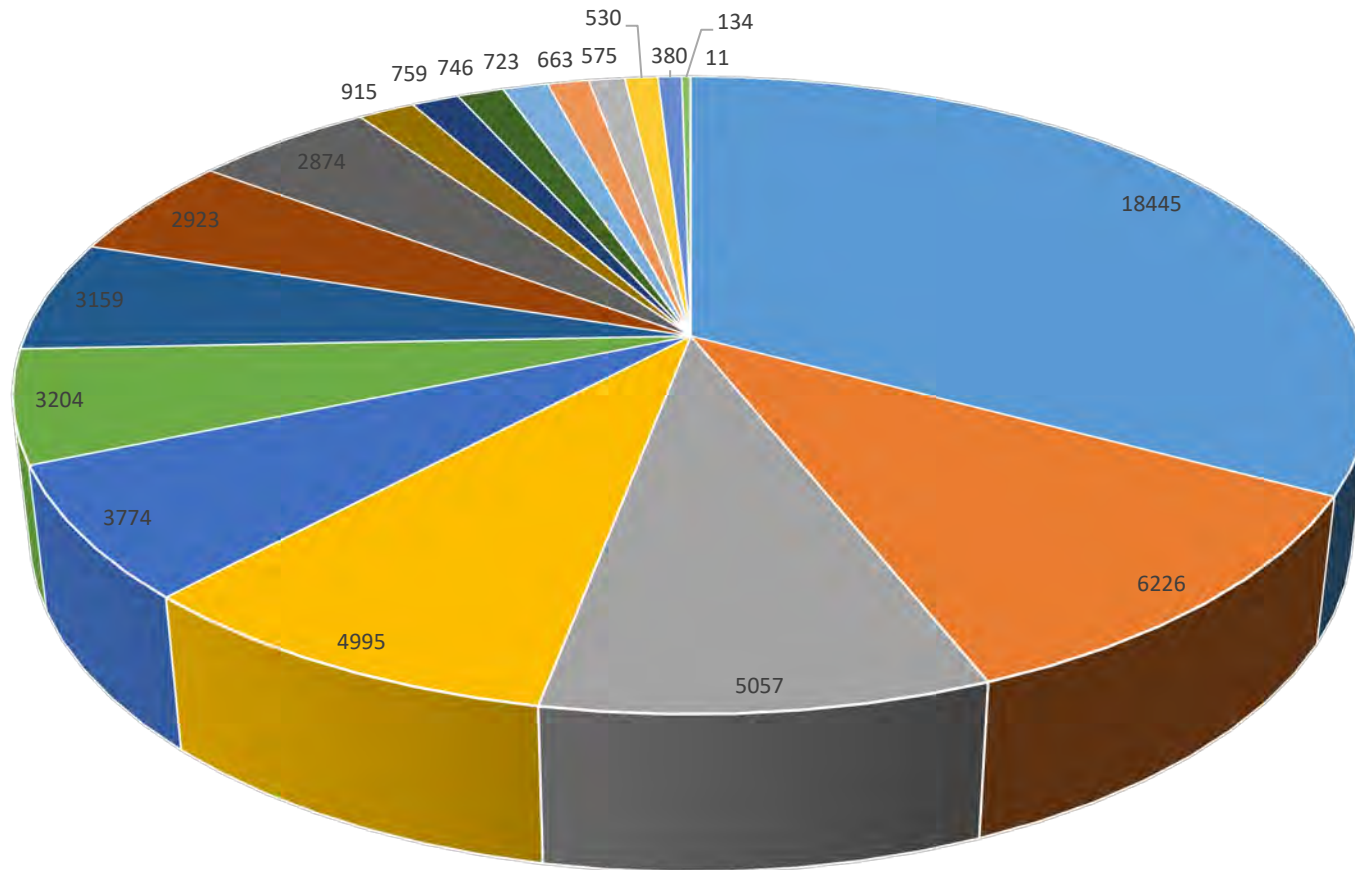
| | | |
|----------------------|-------|-----|
| Design | 21319 | 38% |
| Construction | 7918 | 14% |
| Operations and Maint | 2608 | 5% |
| Sales | 5352 | 10% |
| Student | 6226 | 11% |
| Research | 134 | 0% |
| Manufacturer | 5057 | 9% |
| Misc | 7479 | 13% |

Membership Percent



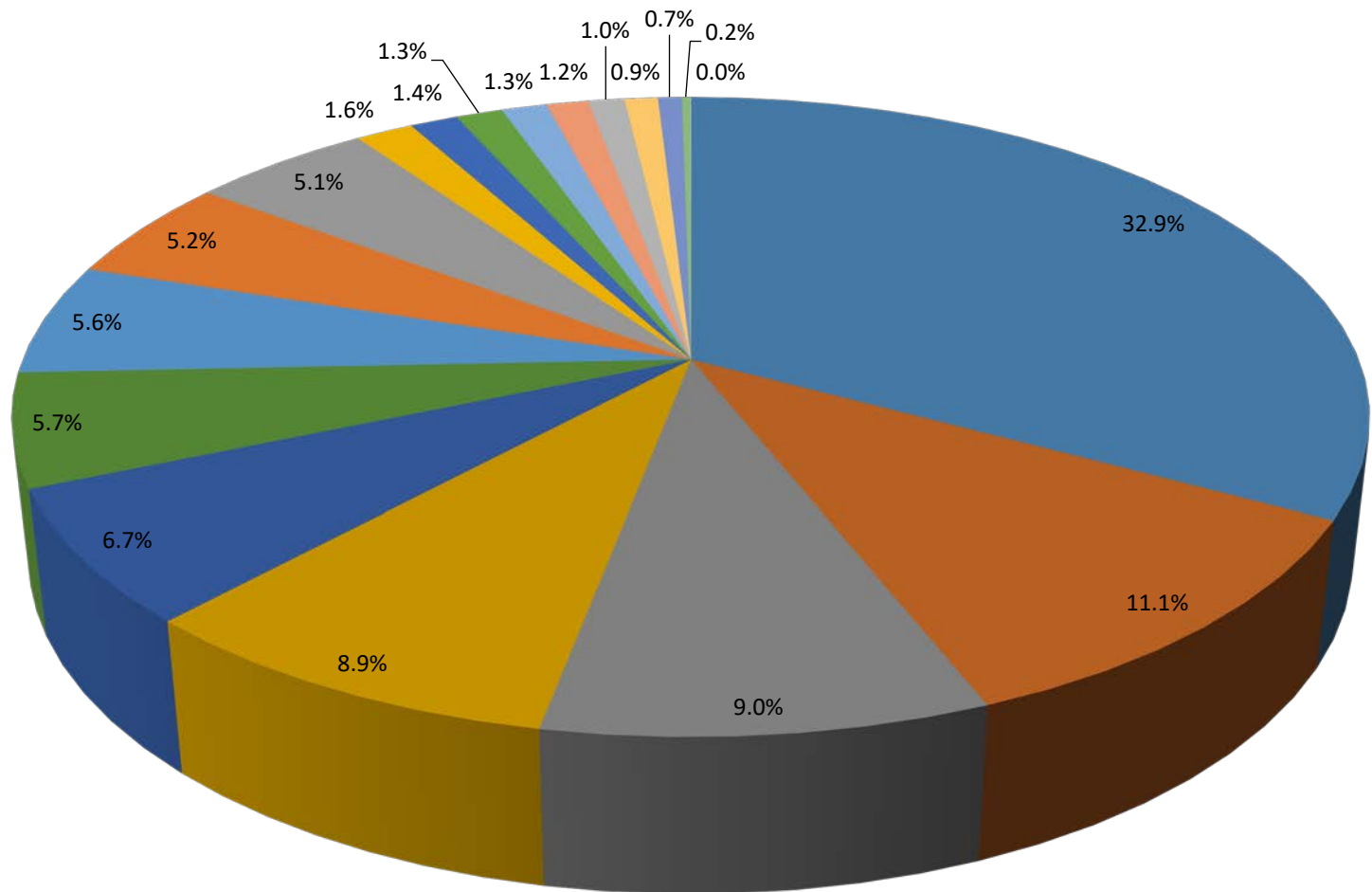
■ Design ■ Construction ■ Operations and Maint ■ Sales ■ Student ■ Research ■ Manufacturer ■ Misc

Membership headcount



- | | | | | |
|---------------------|-------------------------|------------------|-------------|----------------|
| Consulting Engineer | Student | Manufacturer | Contractor | Manu. Rep |
| Other | Gov't | Design Build | Architect | Sales Engineer |
| Commerical Facility | Industrial Facility | Property Manager | Distributor | Utility |
| Association | Educational Institution | Research | Library | |

Membership Percent



- | | | | | |
|-----------------------|---------------------------|--------------------|---------------|------------------|
| ■ Consulting Engineer | ■ Student | ■ Manufacturer | ■ Contractor | ■ Manu. Rep |
| ■ Other | ■ Gov't | ■ Design Build | ■ Architect | ■ Sales Engineer |
| ■ Commercial Facility | ■ Industrial Facility | ■ Property Manager | ■ Distributor | ■ Utility |
| ■ Association | ■ Educational Institution | ■ Research | ■ Library | |



Report to Pub/Ed Council

Winter Meeting
Orlando, Florida

Presenter: Timothy G. Wentz, PE, HBDP | Fellow/ Presidential Member ASHRAE

Charge to the Ad Hoc

- Review the current business models and operating practices to determine how revenues/profits could be enhanced.
- Survey members and customers to establish if a demand exists for products and services that ASHRAE may be able to provide
- Study products and services being provided by bodies similar to ASHRAE both in North America and internationally which ASHRAE can provide
- Recommend an outline of potential new offerings with ballpark costs and revenue projections.
- Ensure alignment with the Strategic Plan, particularly Goals 1a, 1b and 3a

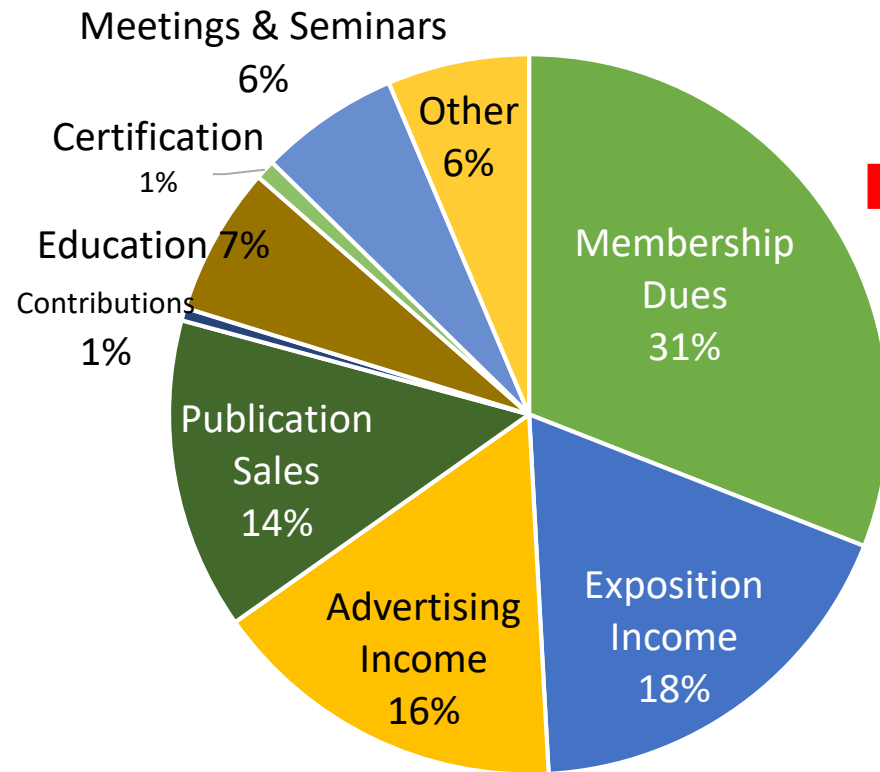


Charge to the Ad Hoc

- Determine where we are today
- Ascertain where we want to be
- Develop a plan to attain our goal



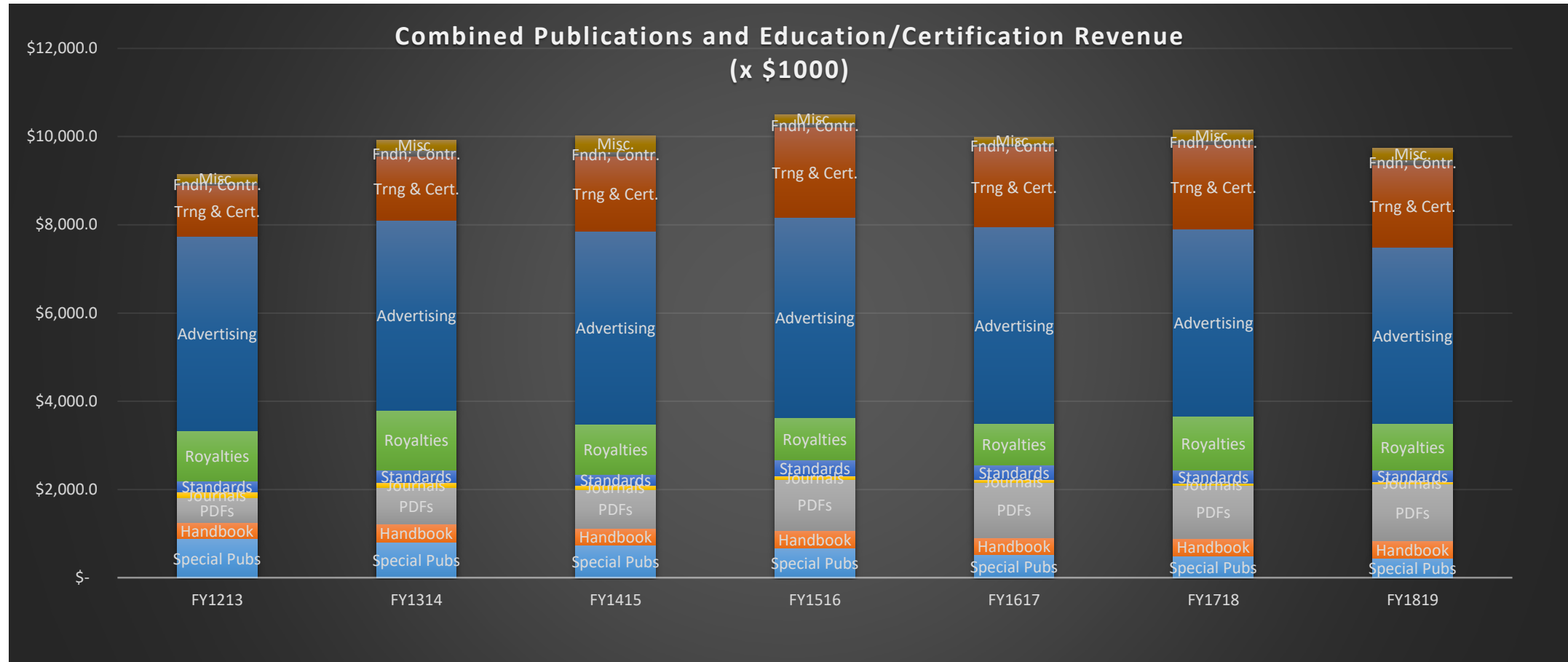
Nothing New



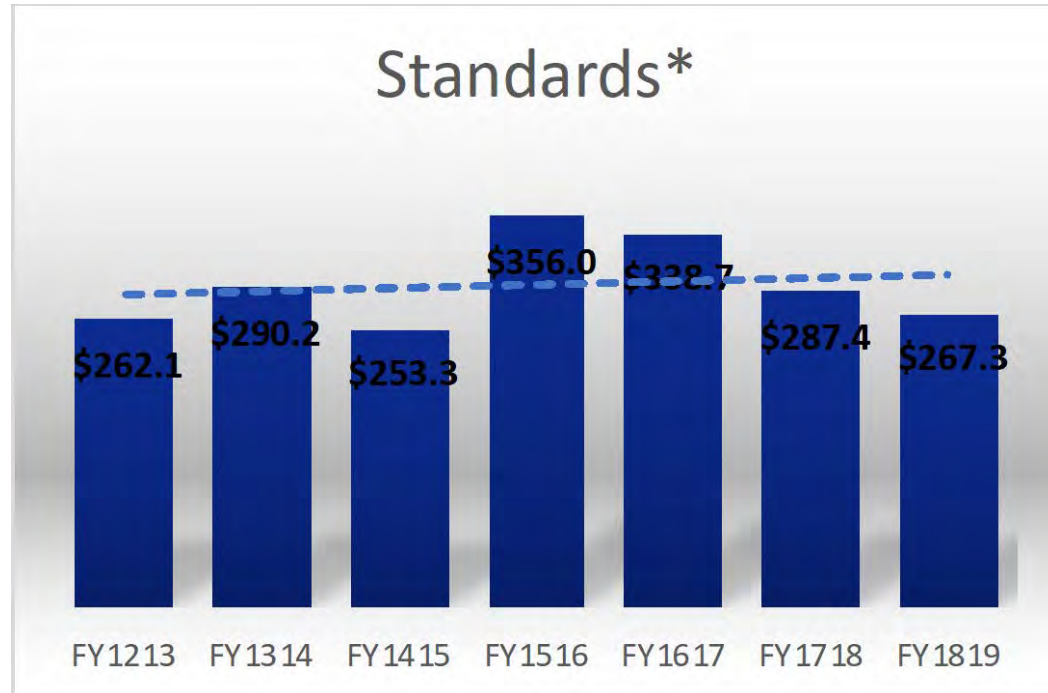
Source of Funds

| | | |
|---------------------|-----------|------|
| Membership Dues | \$7,624.3 | 31% |
| Exposition Income | 4,475.8 | 18% |
| Advertising Income | 3,958.2 | 16% |
| Publication Sales | 3,447.6 | 14% |
| Certification | 218.7 | 1% |
| Education | 1,642.7 | 7% |
| Contributions | 141.8 | 1% |
| Meetings & Seminars | 1,548.2 | 6% |
| Other | 1,569.5 | 6% |
| REVENUES | \$ 24,627 | 100% |

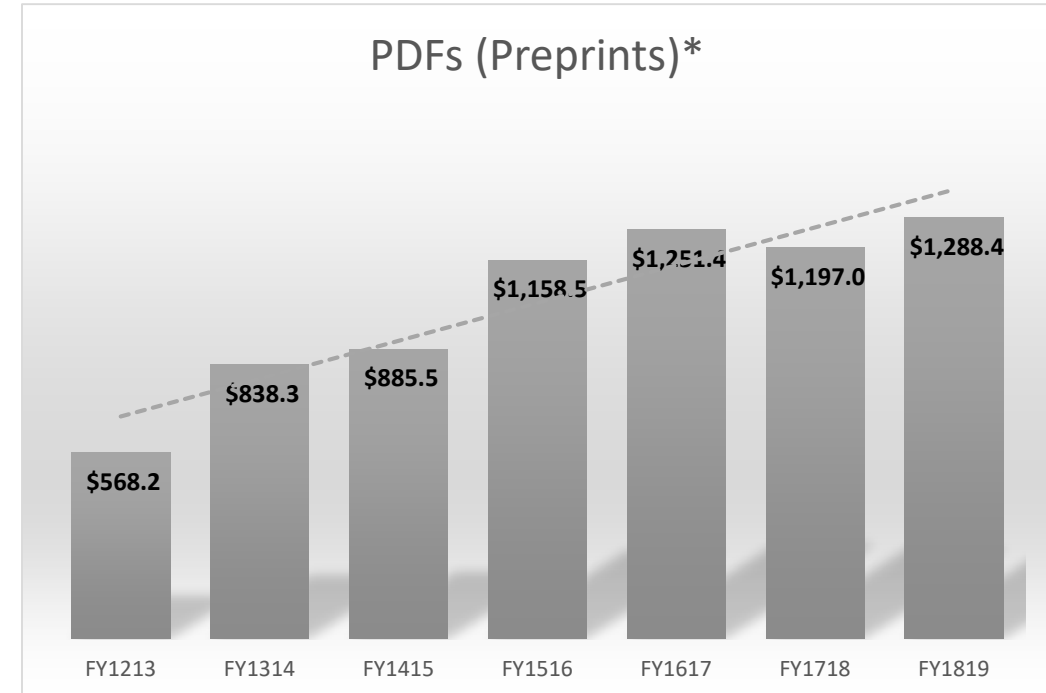
Nothing New



Nothing New

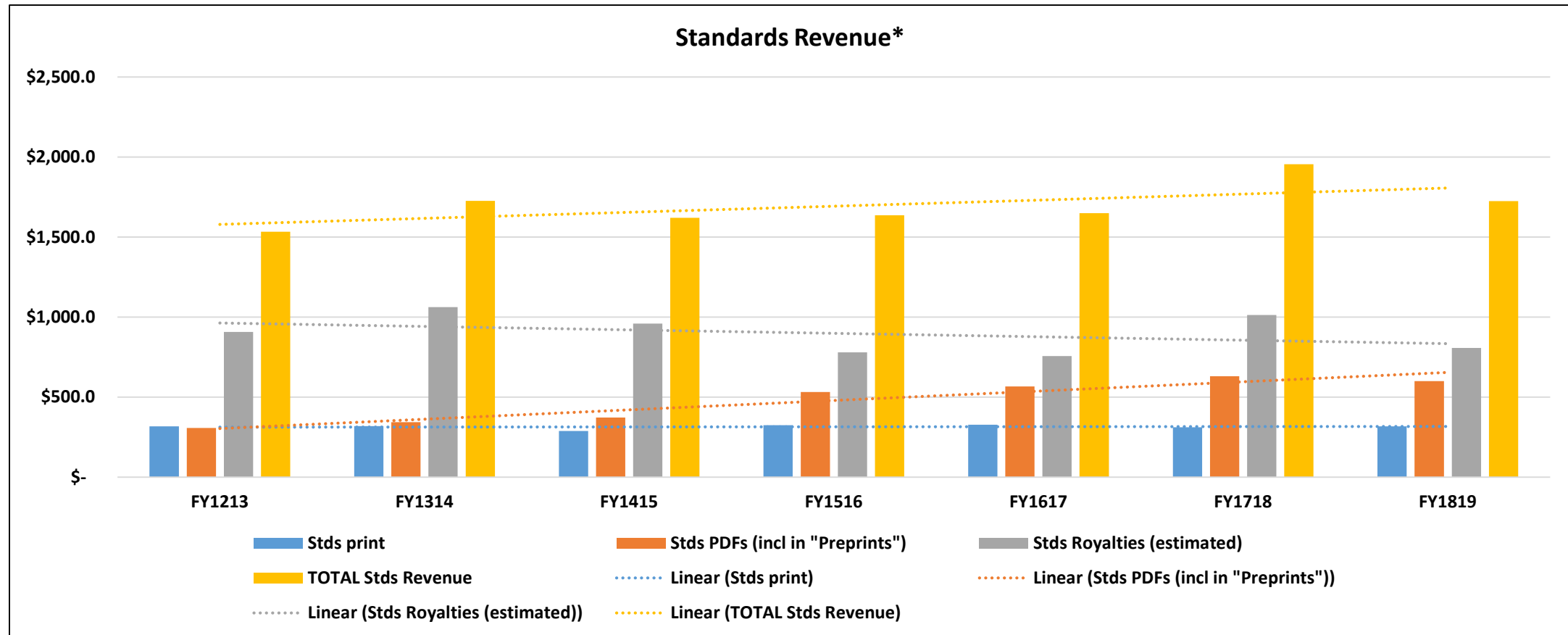


*Print only. PDF's are in Preprints

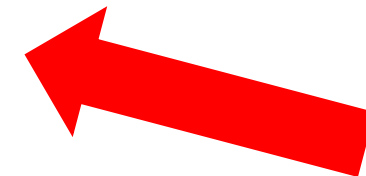


*includes PDF's of standards

Nothing New



*Does not include Overhead or BOD Council allocated costs (\$8.5MM in FY18-19)



Nothing New

- Overhead are costs that support the business but do not generate revenue
- ASHRAE has about \$8M US in overhead
- Overhead is assigned to Councils based upon staff assignment
- PEC has portions of an additional 17 staff assigned to the Council from support areas
 - Mail room
 - Accounting
 - Etc.
- Overhead is then assigned on the total staff, support staff included



OVERHEAD

Nothing New

Pub/Ed Council Surplus/Deficit Report

| | 2017 Thousands USD | 2018 Thousands USD | 2019 Thousands USD | Trend versus 2017 |
|---|-----------------------|-----------------------|-----------------------|----------------------|
| Total Revenue | 9,955.6 | 10,108.9 | 9,691.3 | ↓ |
| Total Expenses Incl OH & BOD | 12,484.2 | 13,361.7 | 13,234.8 | ↑ |
| Total (Deficit) after OH + BOD after | 2,528.6 | 3,252.8 | 3,543.5 | ↑ |

Note: All figures taken from Society Financial Reports.

Nothing New

Society Surplus/Deficit Reports

| Fiscal Year | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | AVE |
|------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| Budget Surplus/(Deficit) | \$ (158) | \$ (335) | \$ 674 | \$ (449) | \$ (283) | \$ (301) | \$ (13) | |
| Actual Surplus/(Deficit) | \$ 320 | \$ 404 | \$ 1,231 | \$ 702 | \$ 411 | \$ (175) | \$ 75 | |
| Positive/Negative Difference | + | + | + | + | + | + | + | |
| Difference (absolute) | \$ 478 | \$ 739 | \$ 558 | \$ 1,151 | \$ 694 | \$ 126 | \$ 88 | |
| % Error | 149% | 183% | 45% | 164% | 169% | 72% | 118% | 129% |

Nothing New

- What picture does this data paint for the Board?



And now for something completely different



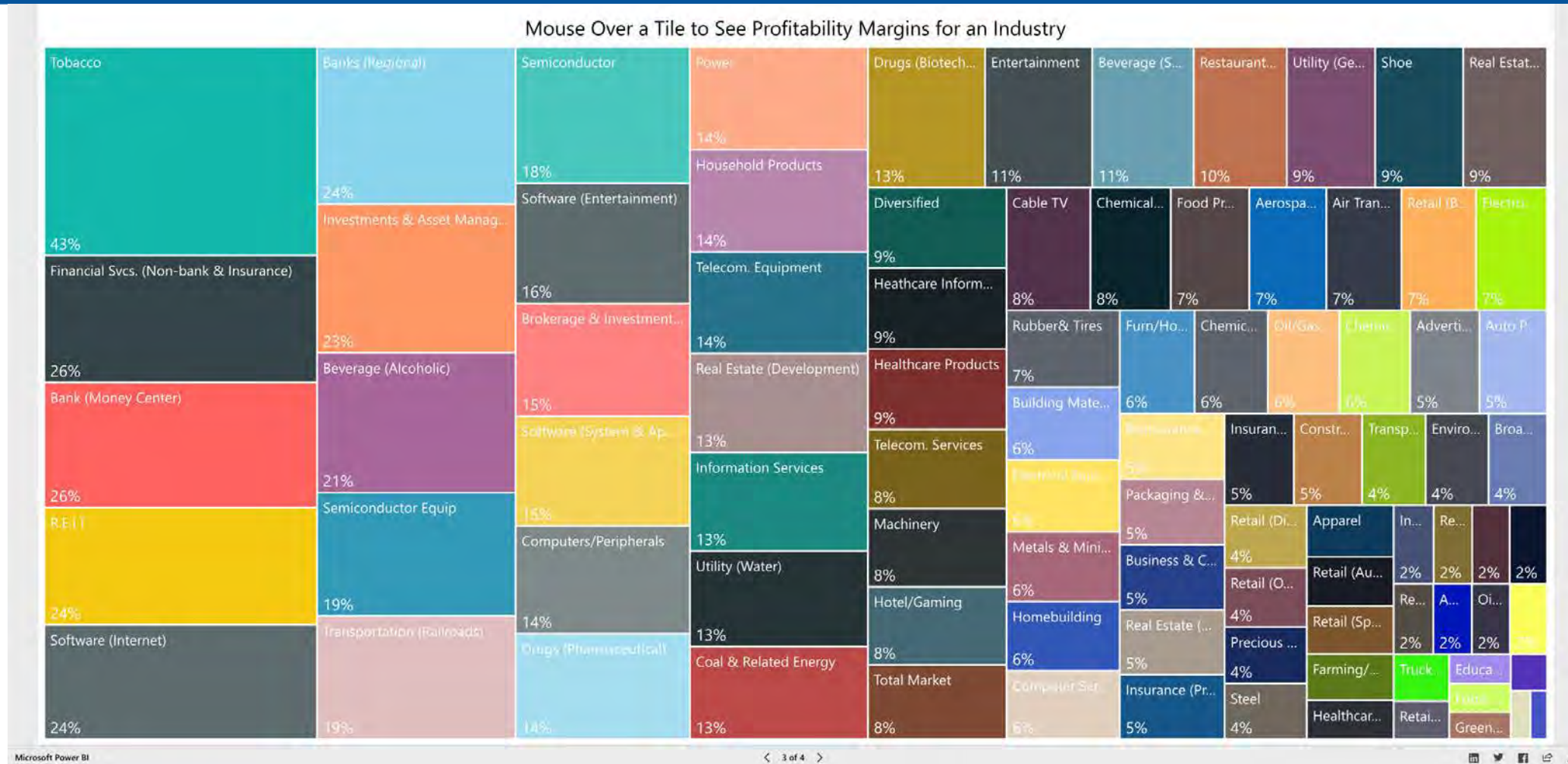
A Monty Python Moment

And now for something completely different

- ASHRAE has a very strong and robust accounting system
 - Accurately records revenue and expenses in a consistent manner in accordance with generally accepted accounting rules
- Significant difference between accounting and finance
 - Finance - Management discipline focusing on margins



The World of Margins



From Financial Rhythm by Phillip Campbell, based on data from Prof. Aswath Damodaran, Stern School of Business, New York University, 2019



How the Picture Changes

- The language of finance

Revenue = Sales for a product or service (\$US)

Variable Margin = Revenue

- Direct costs of product/service that vary with volume

Gross Margin = Revenue

- Direct costs of product/service that vary with volume

- Staff labor directly associated with product/service



How the Picture Changes

| Revenue Source | Gross Margin | | |
|----------------------|--------------|-------|-------|
| | 16-17 | 17-18 | 18-19 |
| Dues | 16% | 20% | 18% |
| Publications | 40% | 30% | 32% |
| Advertising | 12% | 7% | 4% |
| Meetings/Conferences | -21% | -54% | -53% |
| Education | 9% | 14% | 8% |
| Certification | -87% | -52% | -63% |
| AHR Expo | 100% | 100% | 100% |

| Pub/Ed Council | | | | |
|-----------------------|----------------|-------------|-----------|---------------|
| SY 18-19 | Publications** | Advertising | Education | Certification |
| Revenue | \$3,041.8 | \$4,073.6 | \$1,870.2 | \$225.7 |
| Direct Expenses | | | | |
| Staff Labor | 869.5 | 1,567.5 | 464.6 | 162.8 |
| Promotion | 64.8 | 96.1 | 31.7 | 8.9 |
| Materials | 358.5 | 657.3 | 109.6 | - |
| Commissions | - | 742.5 | | |
| Shipping/Postage | 162.9 | 566.5 | 33.0 | 4.9 |
| Meeting/Training | | | | |
| Costs | 21.7 | 3.3 | 715.6 | - |
| Travel | 33.3 | 26.2 | 17.6 | 5.4 |
| Dev/Outside | | | | |
| Services | 510.1 | 124.2 | 267.2 | 178.6 |
| Credit Card | | | | |
| Charges | 44.4 | 1.4 | 53.5 | 6.1 |
| Bad Debt | 7.0 | 79.4 | | |
| Other/Misc. | 0.2 | 64.6 | 28.9 | 0.3 |
| Total Direct Expenses | 2,072.4 | 3,929.0 | 1,721.7 | 367.0 |
| Variable Margin \$ | 1,838.9 | 1,712.1 | 613.1 | 21.5 |
| Variable Margin % | 60% | 42% | 33% | 10% |
| Gross Margin \$ | \$969.4 | \$144.6 | \$148.5 | \$(141.3) |
| Gross Margin % | 32% | 4% | 8% | -63% |

How the Picture Changes

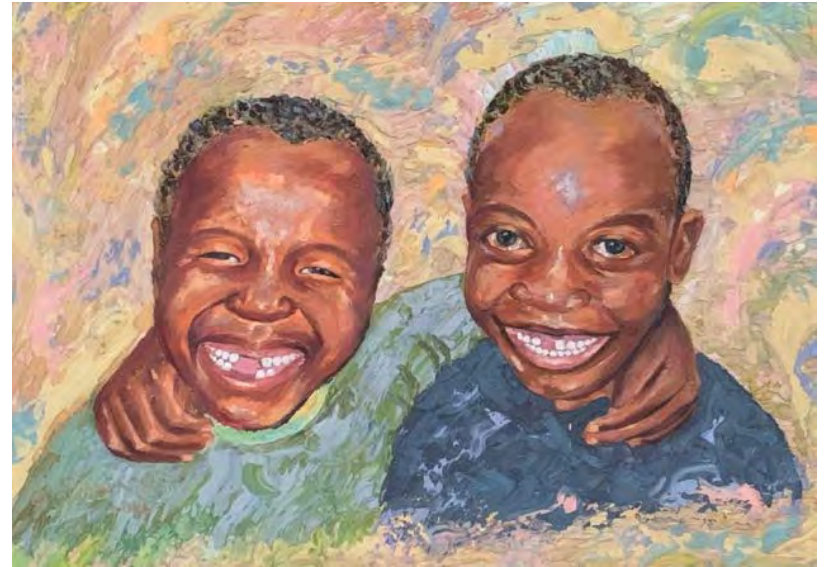
We can see clearly now (apologies to Johnny Nash):

- Publications operates at a strong gross margin
- Advertising operates at a low gross margin
 - This is OK, as advertising as ASHRAE is required to pay tax on “business unrelated to its primary business”.
- Education is operating at a low gross margin
- Certification is operating at a negative gross margin



How the Picture Changes

- Looking at ASHRAE's products through the lens of finance paints a much different picture



How the Picture Changes

- A focus on margins
 - Revenue is only important only in that it allows you to identify and analyze margins
 - Improves clarity and transparency – an ASHRAE core value
 - Better decision-making owing to deeper understanding of product contributions
 - Greater ability to identify and seize strategic opportunities
 - The path forward on product evaluation becomes much simpler



How the Picture Changes

- Future work of the ad hoc is cast in a completely new light
 - For products and services with low margins, make recommendation on how to lower cost or raise price (or both)
 - For products with good margins make recommendations on how to increase sales
 - Are we already high in market share or is there room to grow?
 - Look at other revenue streams (new products and services) based on what we see other organizations offering and emerging needs in the marketplace) and evaluate by margin



How the Picture Changes

Enhanced Goal Setting – Where We Want To Be

| | Publications | Advertising | Education | Certification | Goal | Current Value |
|------------------------------|--------------|-------------|-----------|---------------|----------|---------------|
| Proposed Revenue Goal | \$4,500 | \$4,300 | \$2,600 | \$600 | \$12,000 | \$9,211 |
| Proposed Gross Margin | \$1,440 | \$215 | \$625 | \$120 | \$2,400 | \$1,121 |
| Proposed Gross Margin | 32% | 5% | 24% | 20% | 20% | 12% |

*In \$1,000 US



How the Picture Changes

- Imagine an ASHRAE better focused on financial performance:
 - Expanded and enhanced revenue streams
 - Less reliance on expo income
 - More resilient to large economic swings
 - Faster, more agile in seizing opportunities
 - Better forecasting of financial position
 - Greatly enhanced decision-making



Questions





Report to Pub/Ed Council

Winter Meeting
Orlando, Florida

Presenter: Timothy G. Wentz, PE, HBDP | Fellow/ Presidential Member ASHRAE

Charge to the Ad Hoc

- Review the current business models and operating practices to determine how revenues/profits could be enhanced.
- Survey members and customers to establish if a demand exists for products and services that ASHRAE may be able to provide
- Study products and services being provided by bodies similar to ASHRAE both in North America and internationally which ASHRAE can provide
- Recommend an outline of potential new offerings with ballpark costs and revenue projections.
- Ensure alignment with the Strategic Plan, particularly Goals 1a, 1b and 3a

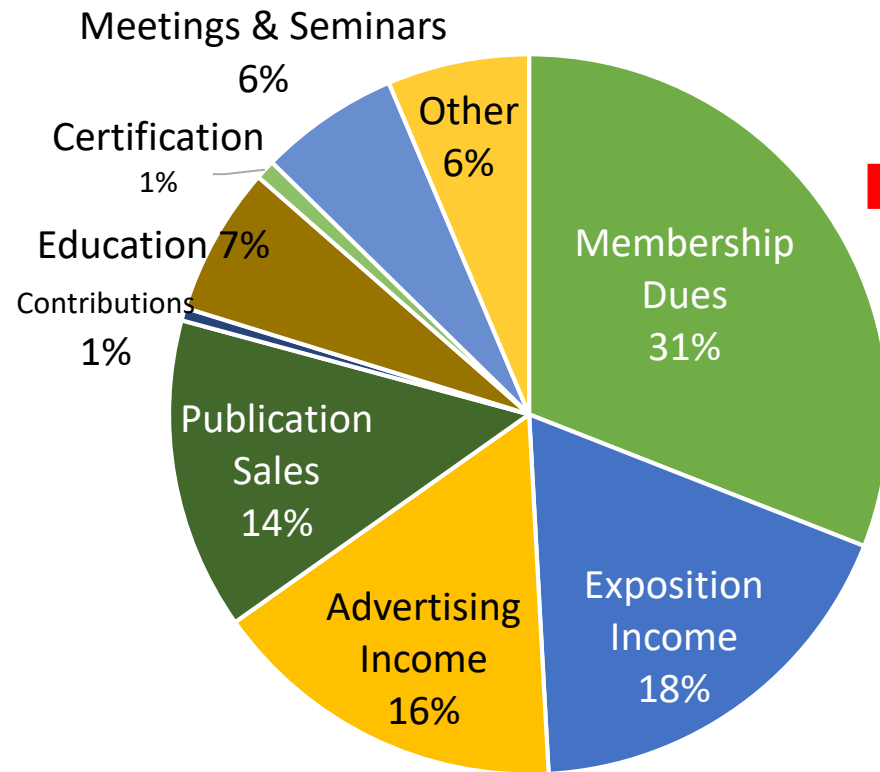


Charge to the Ad Hoc

- Determine where we are today
- Ascertain where we want to be
- Develop a plan to attain our goal



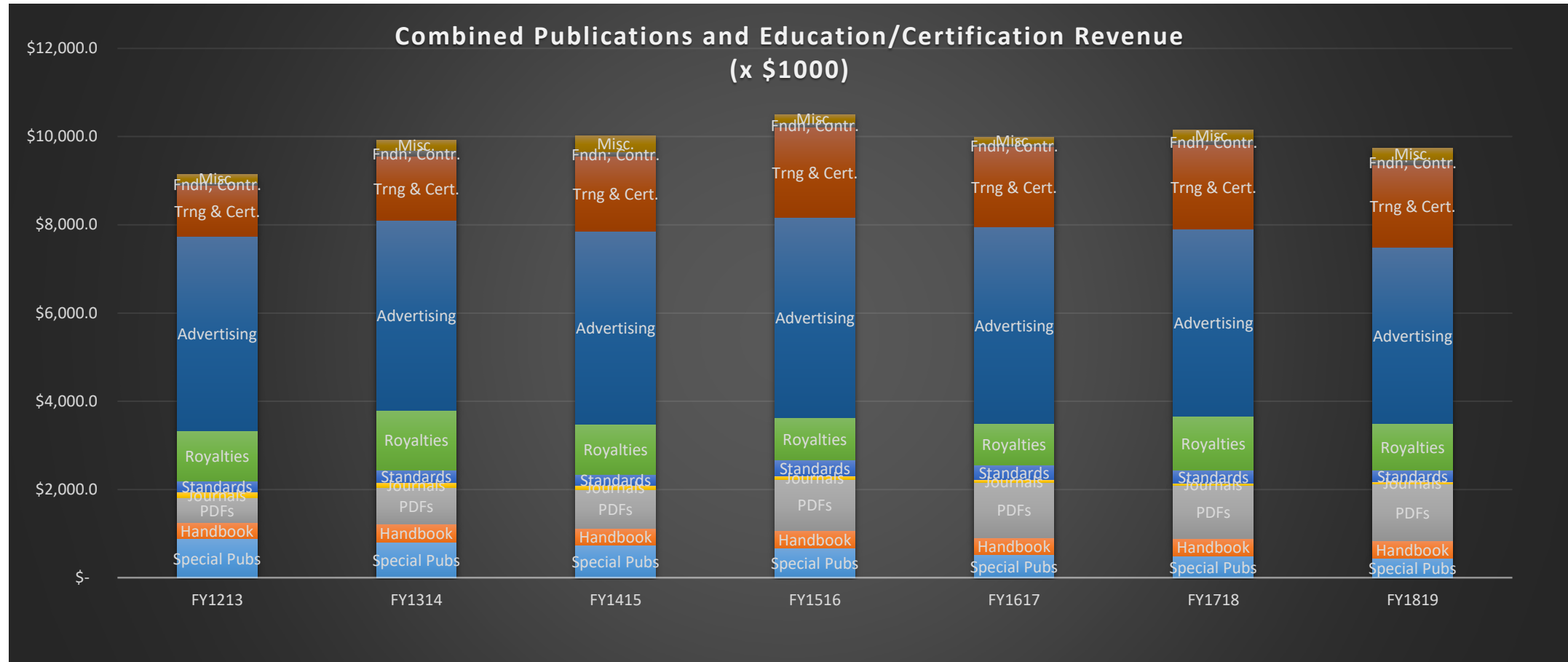
Nothing New



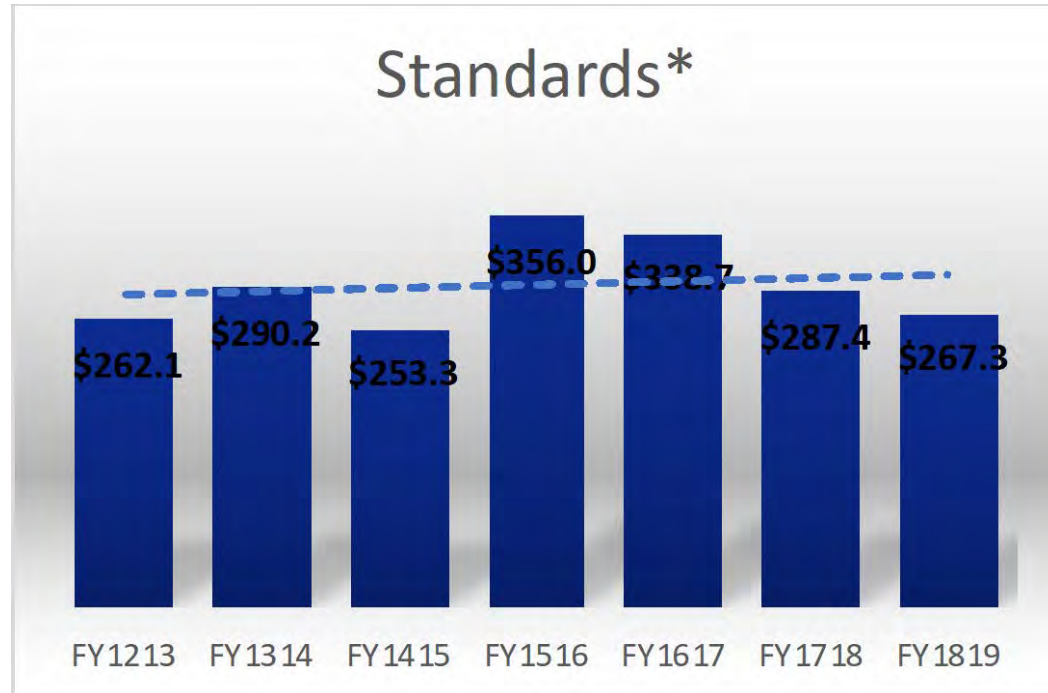
Source of Funds

| | | |
|---------------------|-----------|------|
| Membership Dues | \$7,624.3 | 31% |
| Exposition Income | 4,475.8 | 18% |
| Advertising Income | 3,958.2 | 16% |
| Publication Sales | 3,447.6 | 14% |
| Certification | 218.7 | 1% |
| Education | 1,642.7 | 7% |
| Contributions | 141.8 | 1% |
| Meetings & Seminars | 1,548.2 | 6% |
| Other | 1,569.5 | 6% |
| REVENUES | \$ 24,627 | 100% |

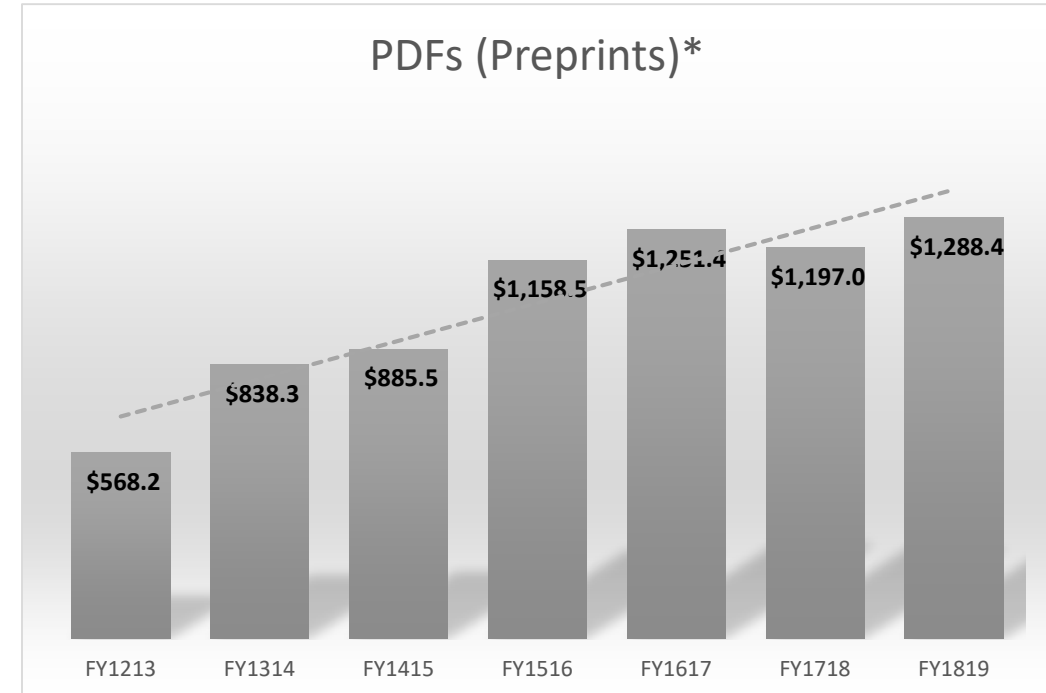
Nothing New



Nothing New

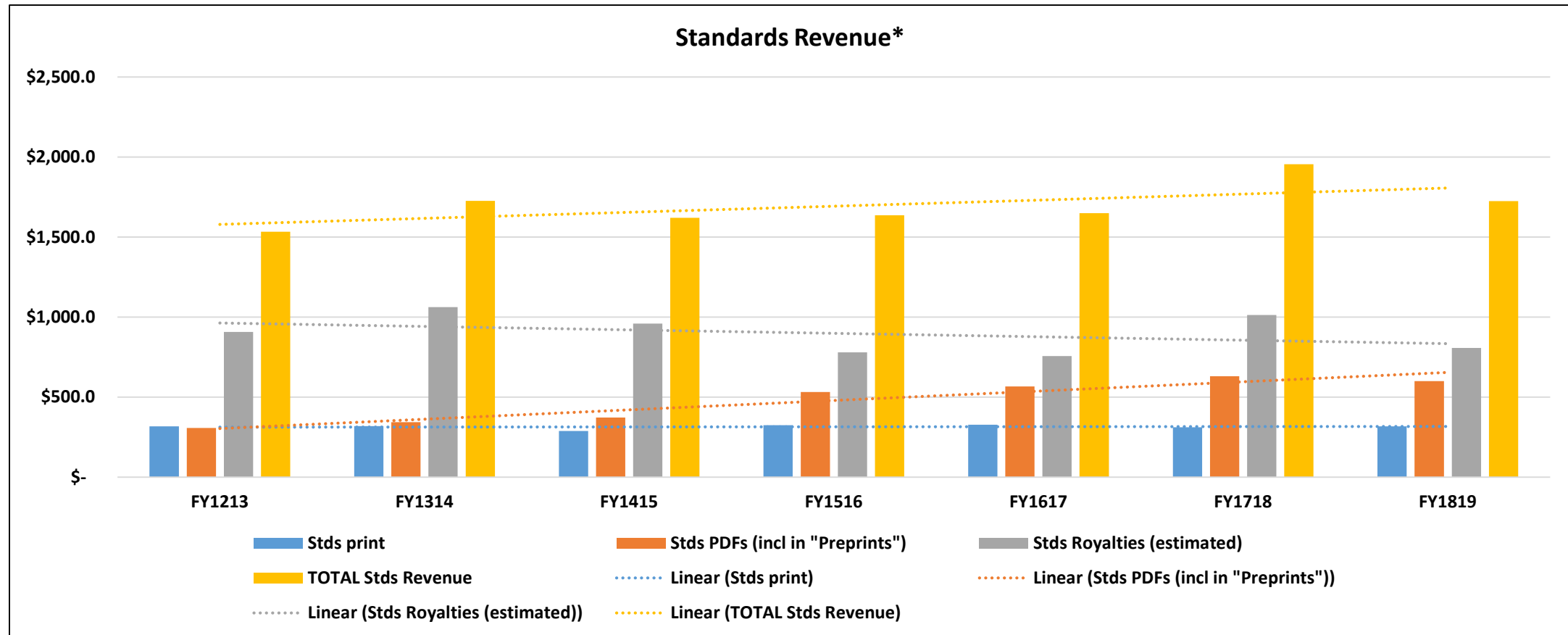


*Print only. PDF's are in Preprints

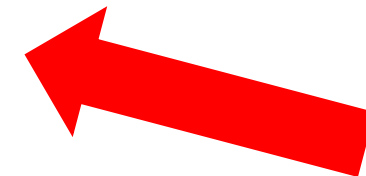


*includes PDF's of standards

Nothing New



*Does not include Overhead or BOD Council allocated costs (\$8.5MM in FY18-19)



Nothing New

- Overhead are costs that support the business but do not generate revenue
- ASHRAE has about \$8M US in overhead
- Overhead is assigned to Councils based upon staff assignment
- PEC has portions of an additional 17 staff assigned to the Council from support areas
 - Mail room
 - Accounting
 - Etc.
- Overhead is then assigned on the total staff, support staff included



OVERHEAD

Nothing New

Pub/Ed Council Surplus/Deficit Report

| | 2017 Thousands USD | 2018 Thousands USD | 2019 Thousands USD | Trend versus 2017 |
|---|-----------------------|-----------------------|-----------------------|----------------------|
| Total Revenue | 9,955.6 | 10,108.9 | 9,691.3 | ↓ |
| Total Expenses Incl OH & BOD | 12,484.2 | 13,361.7 | 13,234.8 | ↑ |
| Total (Deficit) after OH + BOD after | 2,528.6 | 3,252.8 | 3,543.5 | ↑ |

Note: All figures taken from Society Financial Reports.

Nothing New

Society Surplus/Deficit Reports

| Fiscal Year | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | AVE |
|------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| Budget Surplus/(Deficit) | \$ (158) | \$ (335) | \$ 674 | \$ (449) | \$ (283) | \$ (301) | \$ (13) | |
| Actual Surplus/(Deficit) | \$ 320 | \$ 404 | \$ 1,231 | \$ 702 | \$ 411 | \$ (175) | \$ 75 | |
| Positive/Negative Difference | + | + | + | + | + | + | + | |
| Difference (absolute) | \$ 478 | \$ 739 | \$ 558 | \$ 1,151 | \$ 694 | \$ 126 | \$ 88 | |
| % Error | 149% | 183% | 45% | 164% | 169% | 72% | 118% | 129% |

Nothing New

- What picture does this data paint for the Board?



And now for something completely different



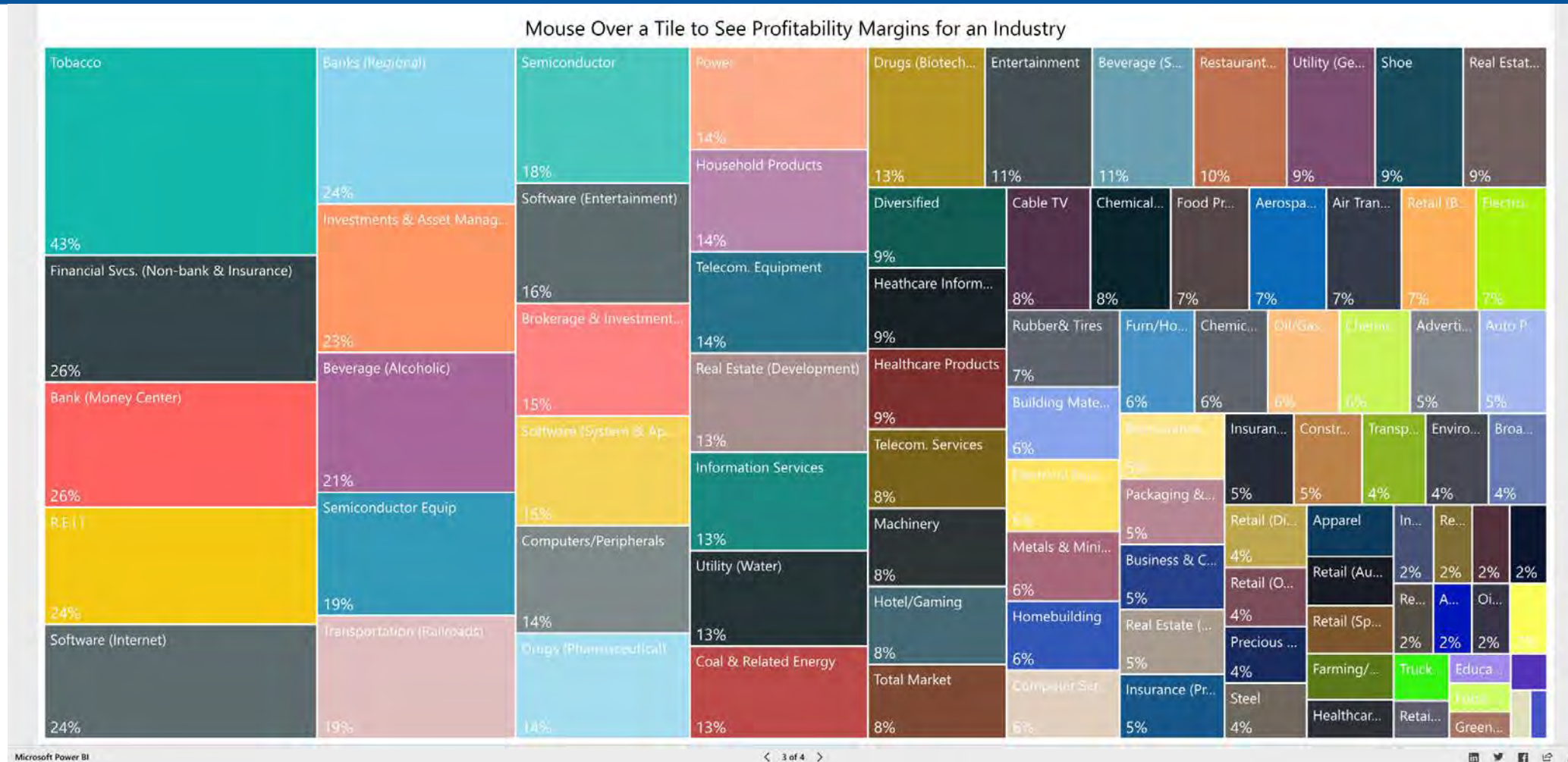
A Monty Python Moment

And now for something completely different

- ASHRAE has a very strong and robust accounting system
 - Accurately records revenue and expenses in a consistent manner in accordance with generally accepted accounting rules
- Significant difference between accounting and finance
 - Finance - Management discipline focusing on margins



The World of Margins



From Financial Rhythm by Phillip Campbell, based on data from
Prof. Aswath Damodaran, Stern School of Business, New York University, 2019



How the Picture Changes

- The language of finance

Revenue = Sales for a product or service (\$US)

Variable Margin = Revenue

- Direct costs of product/service that vary with volume

Gross Margin = Revenue

- Direct costs of product/service that vary with volume

- Staff labor directly associated with product/service



How the Picture Changes

| Revenue Source | Gross Margin | | |
|----------------------|--------------|-------|-------|
| | 16-17 | 17-18 | 18-19 |
| Dues | 16% | 20% | 18% |
| Publications | 40% | 30% | 32% |
| Advertising | 12% | 7% | 4% |
| Meetings/Conferences | -21% | -54% | -53% |
| Education | 9% | 14% | 8% |
| Certification | -87% | -52% | -63% |
| AHR Expo | 100% | 100% | 100% |

| Pub/Ed Council | | | | |
|-----------------------|----------------|-------------|-----------|---------------|
| SY 18-19 | Publications** | Advertising | Education | Certification |
| Revenue | \$3,041.8 | \$4,073.6 | \$1,870.2 | \$225.7 |
| Direct Expenses | | | | |
| Staff Labor | 869.5 | 1,567.5 | 464.6 | 162.8 |
| Promotion | 64.8 | 96.1 | 31.7 | 8.9 |
| Materials | 358.5 | 657.3 | 109.6 | - |
| Commissions | - | 742.5 | | |
| Shipping/Postage | 162.9 | 566.5 | 33.0 | 4.9 |
| Meeting/Training | | | | |
| Costs | 21.7 | 3.3 | 715.6 | - |
| Travel | 33.3 | 26.2 | 17.6 | 5.4 |
| Dev/Outside | | | | |
| Services | 510.1 | 124.2 | 267.2 | 178.6 |
| Credit Card | | | | |
| Charges | 44.4 | 1.4 | 53.5 | 6.1 |
| Bad Debt | 7.0 | 79.4 | | |
| Other/Misc. | 0.2 | 64.6 | 28.9 | 0.3 |
| Total Direct Expenses | 2,072.4 | 3,929.0 | 1,721.7 | 367.0 |
| Variable Margin \$ | 1,838.9 | 1,712.1 | 613.1 | 21.5 |
| Variable Margin % | 60% | 42% | 33% | 10% |
| Gross Margin \$ | \$969.4 | \$144.6 | \$148.5 | \$(141.3) |
| Gross Margin % | 32% | 4% | 8% | -63% |

How the Picture Changes

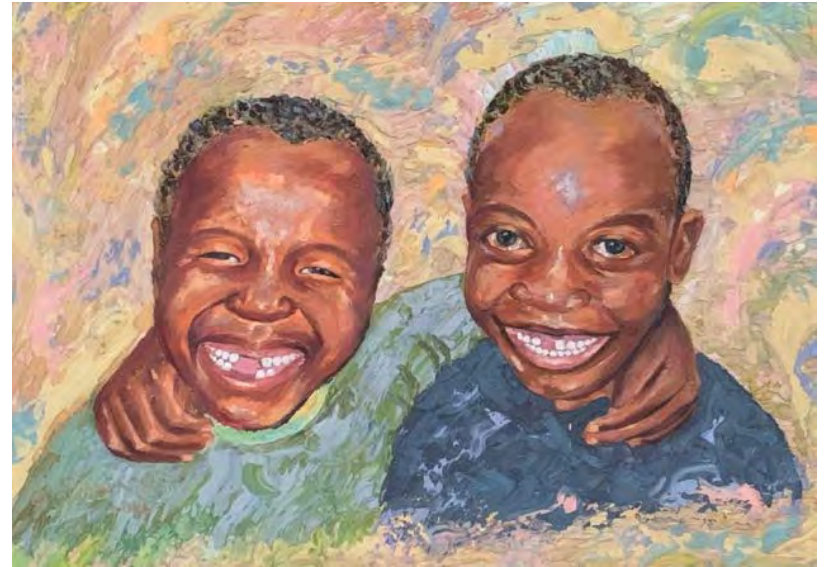
We can see clearly now (apologies to Johnny Nash):

- Publications operates at a strong gross margin
- Advertising operates at a low gross margin
 - This is OK, as advertising as ASHRAE is required to pay tax on “business unrelated to its primary business”.
- Education is operating at a low gross margin
- Certification is operating at a negative gross margin



How the Picture Changes

- Looking at ASHRAE's products through the lens of finance paints a much different picture



How the Picture Changes

- A focus on margins
 - Revenue is only important only in that it allows you to identify and analyze margins
 - Improves clarity and transparency – an ASHRAE core value
 - Better decision-making owing to deeper understanding of product contributions
 - Greater ability to identify and seize strategic opportunities
 - The path forward on product evaluation becomes much simpler



How the Picture Changes

- Future work of the ad hoc is cast in a completely new light
 - For products and services with low margins, make recommendation on how to lower cost or raise price (or both)
 - For products with good margins make recommendations on how to increase sales
 - Are we already high in market share or is there room to grow?
 - Look at other revenue streams (new products and services) based on what we see other organizations offering and emerging needs in the marketplace) and evaluate by margin



How the Picture Changes

Enhanced Goal Setting – Where We Want To Be

| | Publications | Advertising | Education | Certification | Goal | Current Value |
|------------------------------|--------------|-------------|-----------|---------------|----------|---------------|
| Proposed Revenue Goal | \$4,500 | \$4,300 | \$2,600 | \$600 | \$12,000 | \$9,211 |
| Proposed Gross Margin | \$1,440 | \$215 | \$625 | \$120 | \$2,400 | \$1,121 |
| Proposed Gross Margin | 32% | 5% | 24% | 20% | 20% | 12% |

*In \$1,000 US



How the Picture Changes

- Imagine an ASHRAE better focused on financial performance:
 - Expanded and enhanced revenue streams
 - Less reliance on expo income
 - More resilient to large economic swings
 - Faster, more agile in seizing opportunities
 - Better forecasting of financial position
 - Greatly enhanced decision-making



Questions





Publishing and Education Council (PEC)

Tuesday, February 4, 2020

Hilton Hotel, Orlando, FL

Voting Members

| | | | |
|------------------|----------|---------------------------|--------|
| Farooq | Mehboob | Chair | |
| William | Dean | Vice Chair | |
| Kelley | Cramm | Member | |
| Katherine | Hammack | Member/Director | |
| Ahmed Alaa Eldin | Mohammed | Member/Director | |
| Chandra | Sekhar | Member/Director | |
| Jonathan | Symko | Member/Director | |
| Cameron | Labunski | Member/Past Certification | |
| Lawrence | Markel | Member/Past ECC | absent |
| Daniel | Dettmers | Member/Past Handbook | |
| Larry | Fisher | Member/Past PDC | |
| Jin Jin | Huang | Member/Past Publications | |
| Douglas | Fick | Member-at-Large | |
| Ginger | Scoggins | Member-at-Large | |

Non-Voting Members

| | | | |
|------------|----------|---------------------------|--------|
| Mark | Bettin | Certification Chair | |
| Kurt | Monteiro | Certification Vice Chair | |
| Suzanne | Leviser | HB Chair | |
| Michael | Patton | HB Vice Chair | absent |
| Stanley | Westhoff | Historical Chair | |
| Dean | Borges | Historical Vice Chair | absent |
| Charles | Henck | PDC Chair | |
| Jeremy | Smith | PDC Vice Chair/Planning | |
| Keith | Reihl | PDC Vice Chair/Operations | |
| Chee Sheng | Ow | Publications Chair | |
| Hugh | McMillan | Publications Vice Chair | absent |
| Mark | Owen | Staff Liaison | |

Visitors

Jeff Littleton
 Eunice Njeru
 David Soltis
 Tim Kline
 Heather Kennedy
 Emily Sigman
 Karen Murray
 Cindy Michaels
 Jay Scott
 Steve Comstock
 Julia Keen
 Jay Scott
 Sarah Foster
 Tim McGinn
 Adeeba
 Mehboob
 Ayah Said
 Doug Zentz
 Sherif Omran
 Maria Todorovic
 Kelly Gunn
 Mehmet Poyz
 Atilla Biyikogh

Additional Distribution:

Jeff Littleton, Executive Vice President, Candace DeVaughn,
 ASHRAE Staff Directors, Publications & Education Managers

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Motions

Meeting of February 4, 2020

| No. | Page | Motion |
|-----|------|---|
| 1 | 6 | <p>Approved the draft minutes as distributed for the June 25, 2019 Kansas City, MO.</p> <p>Approved 12-0-0, CNV</p> |
| 2 | 9 | <p>Rejected Membership Promotion Committee's <u>Motion 11 (01/15/2019)</u>: That e-learning courses be translated to major non-English languages based on membership demographics.</p> <p><u>Background</u>: ASHRAE's vision is to be a global leader and foremost source of technical and educational information. Based on membership demographics, the top eight non-English speaking countries include: Canada (French), India (Urdo), Hong Kong (Chinese), Philippines (Tagalog), UAE (Arabic), Malaysia (Malay), Brazil (Portuguese), and Mexico (Spanish). Voice-over audio recording of the e-learning materials will provide greater global membership value. Translations can be completed by volunteer members with peer review.</p> <p><u>Fiscal Impact</u>: Recommend \$0 fiscal impact. Generate income with new e-learning benefit and increase use of e-learning.</p> <p>Approved 10-1-1, CNV</p> |
| 3 | 10 | <p>Approved the following changes to ROB as follows:</p> <p>2.101.007.3 ASHRAE shall publish and distribute on-line an electronic newsletter to its members. The name of the e-Newsletter shall be Society Connections, and it shall be an "official publication of the Society." (SBL 10.2) (06-03-20-01)</p> <p>2.101.007.4 (15-01-25/14-07-02-17) ASHRAE shall publish and distribute to subscribers a journal of archival-quality research. The name of the publication shall be HVAC&R Research to Science and Technology for the Built Environment, and it shall be an "official publication of the Society."</p> <p><u>Background</u>: These changes simply correct inaccuracies in (1) the mode of delivery (email, not "on-line") and (2) the names of the referenced publications ("eSociety" has supplanted "<i>Society Connections</i>" for some time; the "HVAC&R Research" is a remnant typo from the previous revision). (<i>Functional Planning Subcommittee Approved 5-0-0</i>)</p> <p><u>Fiscal Impact</u>: None.</p> <p>Approved 12-0-0, CNV</p> |

- 4 11 Approved changes to the Publications Committee MOP as shown in *Attachment A* of the of the Functional Planning Subcommittee Report to PEC.

Background: These changes will reflect the reporting and procedural changes that will happen with the new PEC restructure plan to be implemented July 1, 2020. Additional editorial and clean up changes to these documents were also made. *(Functional Planning Subcommittee Approved 5-0-0)*

Fiscal Impact: None.

Approved 12-0-0, CNV

PUBLISHING & EDUCATION Minutes · February 4, 2020 · Orlando

Action Items

Meeting of February 4, 2020

| No. | Responsible | Page | Action |
|-----|-------------|------|---|
| 1 | Staff | 6 | Post approved minutes of the June 25, 2019 Kansas City, MO on the PEC page of the ASHRAE website and the PEC Basecamp. Complete. (February 4, 2020) |
| 2 | Staff | 7 | Provide information concerning remuneration of PDC instructors. |
| 3 | Staff | 7 | Make a final selection of datapoints for a PEC Dashboard available for Chair council review and finalize dashboard by the Austin meeting in June. |
| 4 | Staff | 9 | Include a data point indicating when an eLearning course is launched, when it is updated and how often each reiteration is downloaded. |
| 5 | Staff | 9 | Create a procedure to coordinate new eLearning courses with new “hot topic” publications. |
| 6 | Staff | 9 | Coordinate with CTTC to include marketing for eLearning with marketing of the Tech Hour. |
| 7 | Staff | 10 | Send referral response to Membership Promotion Committee’s <u>Motion 11 (01/15/2019)</u> : <i>That e-learning courses be translated to major non-English languages based on membership demographics.</i> (Attachment B) |
| 8 | Staff | 10 | Investigate the feasibility and cost to have subtitles included on eLearning courses. |
| 9 | Staff | 10 | Report to Fiscal Planning subcommittee expense savings on off-site saving after ASHRAE moves Headquarters to the new building. |
| 10 | Staff | 12 | Investigate applying to include ASHRAE Handbook in UNESCO’s Memory of the World archive. |
| 11 | Staff | 15 | Develop a survey tool that collects feedback from our grassroots levels, including our international membership, with respect to their product needs (books, ASHRAE Journal articles, apps, and other tools) and to link this information back to TAC council and other relevant sections for their further actions |

1. Call to Order

Mr. Mehboob called the meeting to order at 8:01 a.m.

2. ASHRAE Code of Ethics Commitment

Mr. Mehboob reviewed with the council the ASHRAE Code of Ethics.

In this and all other ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, integrity and respect for others, and we shall avoid all real or perceived conflicts of interests. (See full Code of Ethics: <https://www.ashrae.org/about-ashrae/ashrae-code-of-ethics>.)

3. Introduction of Members and Visitors

Members of the council roll call was conducted with an introduction of staff and other visitors.

4. Review of Agenda

Mr. Mehboob reviewed the agenda with the council.

5. Approval of Meeting Minutes - Meeting of June 25, 2019 Kansas City, MO

It was moved and seconded:

(1) Approve the draft minutes as distributed for the June 25, 2019 Kansas City, MO.

MOTION (1) Approved 12-0-0, CNV

An action was assigned to staff to post the approved minutes on the PEC page of the ASHRAE website and the PEC Basecamp website. **(ACTION ITEM 1) Complete.** (February 4, 2020)

6. Review of Action Items - Meeting of June 25, 2019 Kansas City, MO

Mr. Owen reviewed actions items from the previous meeting with council members.

| No | Responsible | Page | Action |
|----|-------------|------|---|
| 1 | Staff | 5 | Post approved minutes of the April 18, 2019 GoToMeeting on the PEC page of the ASHRAE website and the PEC Basecamp. Complete. |

7. Items Referred from Other Groups to PEC

None.

8. Review of PEC MBOs

Mr. Mehboob reviewed the PEC MBOs with the council. Updates included on MBO List shown in **Attachment A**.

PEC MBO #1 - Appoint PEC Ad Hoc to address Strategic Business Development for potential new revenue streams.

Mr. Mehboob reported on the makeup of this ad hoc committee. Ad Hoc Members: Tim Wentz – Chair, Megan Tosh, Ebrahim S Al-Hajri, Jon Symco, Hugh Crowther, Farooq Mehboob, Steve Comstock, Alice Yates, Mark Owen - Staff Liaison

PEC MBO #2 - Develop Strategy for expanding ALI Instructor core and establish procedures and criteria for instructor appointment and remuneration.

PDC is currently working to develop the criteria for instructors and staff will provide information concerning remuneration of instructors. An action was signed to Mr. Owen to have an explanation prepared for the Austin meeting in June 2020. **(ACTION ITEM 2)**

PEC MBO #3 - Analyze Certification Program and develop metrics for evaluating potential for new certifications aligned with Strategic Plan initiatives 1 & 2 after surveying members to establish interest and demand.

Certification Committee will report with a final report at the Austin Meeting in June.

PEC MBO #4 - Analyze performance of special publications over the past three years and develop criteria for evaluating and approving special publication requests on a business case basis aligned with strategic plan initiative 3.

Functional Planning Subcommittee has created a drafted an evaluation form and will have a conference call before the Austin meeting to finalize their recommendations to PEC.

PEC MBO #5 - Develop PEC 'Dashboard' showing relevant data pertaining to operations of PEC committees. This aligns with strategic plan initiative 3.

Staff has compiled a list of possible data points for a dashboard of PEC activities. An action item was assigned to Mr. Owen make a final selection of datapoints and have a PEC Dashboard available for council review by the Austin meeting. **(ACTION ITEM 3)**

9. Items Referred by PEC to Other Groups

One item was covered in the attached eLearning Subcommittee report to PEC. **(Attachment B)**

10. Subcommittee Reports

10.1 Journal Advertising Sales

Mr. Owen gave the subcommittee report. **(Attachment C)**

ASHRAE Journal's paid advertising share of market (SOM) is 66% of all pages sold during the first 6 months of FY2019-20, compared to the same 66% SOM in July 2018-December 2019. At the same time, a net loss of 44 paid pages impacted ASHRAE Journal revenue. For the calendar year 2019, total advertising pages declined 75 pages for HVACR Engineering publications, with 39 pages less in ASHRAE Journal. Increased market competition for advertising dollars, and advertiser interest in new media channels account for much of the decline. The Journal remains advertisers' No. 1 choice for the past ten years. SOM has risen from 47% in 2009 to 62% for 2019 calendar year. Journal rates per page have been steadily increasing since greater rates and an expanded integration program were implemented.

Online-only advertising for ASHRAE Journal is forecast to be less than FY19-20 budget amount of \$875,000. Staff is developing new opportunities to accelerate online advertising revenue growth for the Society. Mr. Owen presented a list of completed advertising programs along with those in development, along with projected potentials for FY20. The estimated fiscal impact of these new programs for FY19-20 exceeds \$100,000 in additional revenue.

HPB magazine advertising revenue is projected to finish at \$110,000 for the magazine and \$115,000 for online-only advertising sales. Staff was assigned an action item to produce a proposal for adapting High Performing Buildings for maximizing revenue while reducing expenses.

Ms. Hammack referenced the CHP technical article within the December issue of ASHRAE Journal that did not have a corresponding advertisement. She said the impression with December is that technical editorial content is in front of the magazine while advertisements are placed in back. Mr. Owen said a policy change in advertising placement will result in more even distribution of advertising in future issues. Advertising staff was assigned an action item to analyze and report to the subcommittee on advertising trends within recent ASHRAE Journal issues for advertising placed within or near technical features covering technology applicable to the advertised product.

Mr. Owen informed PEC that Mr. Jay Scott, our current Editor of ASHRAE Journal will be retiring and the new ASHRAE Journal Editor will be Ms. Sarah Foster.

10.2 eLearning

Mr. Owen gave the subcommittee report. **(Attachment D)**

Subscription revenue for ASHRAE eLearning is on track to make the 2019-2020 forecast with a very aggressive marketing effort. Using the November 2019 financials, the cumulative subscription revenue for the fiscal year to date is 74.3K on a forecast of 230K with most revenue from individual subscriptions. eLearning is expecting a 60K transfer from the Foundation to fund two new courses and course updating to achieve an interactive learning experience for the learner. Additional UNEP activities are forecasted to bring in 166K.

ASHRAE eLearning is updating its courses to meet the demand of interactive learning in the marketplace. Current demand for courses was used to evaluate course updating and retirement. Fundamental courses have proven to be the most popular with corporate customers. In 2019-

2020, the goal is to update 10 courses. *Attachment A* of the eLearning Subcommittee Report has more details.

An action item was assigned to staff to include when a course was launched, when it has been updated and how often each reiteration is downloaded. **(ACTION ITEM 4)**

To broaden and diversify the eLearning course catalog as well as meet member learning needs, eLearning continues to work with member volunteers to design and develop new courses as shown in *Attachment B* of the eLearning Subcommittee Report.

An action item was assigned to staff to create a procedure to coordinate new eLearning courses with new “hot topic” publications. **(ACTION ITEM 5)**

An action item was assigned to staff to coordinate with CTTC to include marketing for eLearning with marketing of the Tech Hour. **(ACTION ITEM 6)**

The subcommittee discussed a systematic approach of developing courses including synergy between eLearning. and ASHRAE Learning Institute (ALI) for decisions about new course development.

Attachment C of the eLearning Subcommittee Report shows UNEP activities including a new Energy Efficiency Literacy course, the translation of the Refrigerants Literacy course from English to French and the launch of the ASHRAE-UNEP portal, where all ASHRAE-UNEP partnership resources are housed. These projects are funded under the ASHRAE-UNEP contracts.

eLearning received the following a referral from Membership Promotion Committee. (*Attachment C* of the eLearning Subcommittee Report)

Ms. Hammack moved and Ms. Cramm seconded:

- (2) That PEC reject Membership Promotion Committee’s Motion 11 (01/15/2019): That e-learning courses be translated to major non-English languages based on membership demographics.**

Background: ASHRAE’s vision is to be a global leader and foremost source of technical and educational information. Based on membership demographics, the top eight non-English speaking countries include: Canada (French), India (Urdo), Hong Kong (Chinese), Philippines (Tagalog), UAE (Arabic), Malaysia (Malay), Brazil (Portuguese), and Mexico (Spanish). Voice-over audio recording of the e-learning materials will provide greater global membership value. Translations can be completed by volunteer members with peer review.

Fiscal Impact: Recommend \$0 fiscal impact. Generate income with new e-learning benefit and increase use of e-learning.

MOTION (2) Approved 10-1-1, CNV

The eLearning Subcommittee reviewed the cost associated with translation per course and the fiscal impact is estimated to be 30K-35K per course.

After PEC discussion, the council will make a motion to reject the referred motion with suggestions that RVC's survey interest in a title and a language before PEC take on this expensive procedure. Historically ASHRAE documents published in other titles have not sold well so with the additional costs of the eLearning platform the motion is too board and unaware of the fiscal costs.

An action Item to staff to send a referral response to Membership Promotion Committee.

(ACTION ITEM 7) An action Item to staff to investigate the feasibility and cost to have subtitles included on eLearning courses. **(ACTION ITEM 8)**

10.3 Fiscal Planning

Ms. Hammack gave the subcommittee report. **(Attachment E)**

The subcommittee reviewed the Publishing and Education Council December 2019 Financials.

The subcommittee discussed future elimination for off-site storage expenses after ASHRAE Headquarters moves into the larger building in October 2020. An action item was assigned to staff to report back to the subcommittee the amount of savings. **(ACTION ITEM 9)**

The subcommittee discussed the value of developing training opportunities to work in conjunction with ASHRAE Certification. Staff reported that steps are being taken to implement this combination as soon as possible.

10.4 Functional Planning

Mr. Symko gave the subcommittee report. **(Attachment F)**

(3) Approve and recommend to the Board of Directors (BOD) the following changes to the Rule of the Board (ROB):

2.101.007.3

ASHRAE shall publish and distribute ~~on-line~~ an electronic newsletter to its members. The ~~name-of-the~~ e-Newsletter ~~shall be Society Connections, and it~~ shall be an "official publication of the Society."

(SBL 10.2) (06-03-20-01)

2.101.007.4

(15-01-25/14-07-02-17)

ASHRAE shall publish and distribute to subscribers a journal of archival-quality research. The name of the publication shall be ~~HVAC&R Research to~~ *Science and Technology for the Built Environment*, and it shall be an "official publication of the Society."

Background: These changes simply correct inaccuracies in (1) the mode of delivery (email, not "on-line") and (2) the names of the referenced publications ("eSociety" has supplanted "*Society Connections*" for some time; the "HVAC&R Research" is a remnant typo from the previous revision). *(Functional Planning Subcommittee Approved 5-0-0)*

Fiscal Impact: None.

MOTION (3) Approved 12-0-0, CNV

(4) Approve changes to the Publications Committee MOP as shown in Attachment A.

Background: These changes will reflect the reporting and procedural changes that will happen with the new PEC restructure plan to be implemented July 1, 2020. Additional editorial and clean up changes to these documents were also made. (*Functional Planning Subcommittee Approved 5-0-0*)

Fiscal Impact: None.

MOTION (4) Approved 12-0-0, CNV

Functional Planning Subcommittee will have a conference call before the annual meeting in Austin to review proposed changes to PDC MOP to reflect alignment with the new PEC restructure that goes in to effect July 1, 2020, as well as, MBOs assigned to the subcommittee for oversight. *Attachment B* of the Functional Planning Subcommittee report is an example of a possible publication ns evaluation.

10.5 Research Journal

Mr. Owen gave the subcommittee report. (**Attachment G**)

STBE received 69,751 article downloads in 2019, an increase of 43% over 2018. 129 papers were published in 2019, with 10 of them open access (OA). The journal's 2018 impact factor is 1.199, ranking 42/63 in the construction and building technology category of Journal Citation Reports (JCR). Additional detailed information is contained in the Publisher's Report from Taylor & Francis shown in *Attachment A* of the Research Journal Subcommittee Report.

STBE's editor, Dr. Jeff Spitler, discussed with the subcommittee developing a presentation or article with guidance on submitting papers to STBE for authors and the idea of an expanded review board for the review of STBE papers.

The subcommittee has selected a paper for the 2019 STBE Best Paper Award and sent their nomination to the Honors and Awards Committee. The award will be presented at the annual meeting in Austin.

11. Committee Reports

11.1 Certification

Mr. Bettin gave the committee's report. (**Attachment H**)

Certification Committee has received 20% more certification applications Through January 31, 2020, (292) over the previous SYTD (244). This is primarily due to Certified HVAC Design (CHD) application.

Certification Committee reported nearly at budget for revenue through December 2019 with a for expense anticipating a \$20,000 decrease.

The committee reported that PEC MBO assignments are in progress with details list on *Attachment A* of the committee's report.

Currently, four (BCxP, BEAP, BEMP and HBDP) of ASHRAE's seven certification programs are ANSI-accredited. The Certification Committee is continuing to pursue ANSI accreditation for all ASHRAE certification programs, in order to avoid confusion in the marketplace and add value. Staff reminded the committee accreditation application fees are a onetime expense and likely would be fall within currently budgeted expense.

Certification Committee reported completing the ANSI annual Management System Review, evaluating the results of internal and external audits, feedback from applicants and candidates, assessment of ASHRAE's exam development and delivery contractor, an impartiality threat analysis, the status of preventive and corrective actions, follow-up actions from previous management reviews, and the 2019 complaints log.

The committee reported Certification Digital Badging launched. A total of 542 (70%) of 773 badges issued have been accepted by certificants. There have been over 5,300 badge views in various electronic media. As examinees continue to pass their exam and certificants continue to renew their certification, more badges will be issued.

As part of its oversight role, the Certification Committee is working with the Marketing Department to develop a marketing plan to improve performance of underperforming certification programs. Possible root causes and potential corrective marketing activities have been identified. A meeting is scheduled for February 2020.

Certification Committee reported on exam development activities in 2019-20 to ensure the continued relevancy and validity of ASHRAE's certification programs:

- BCxP: New exam form scheduled to launch March 2020.
- BEMP: New exam form scheduled to launch March 2020.
- HBDP: New form to launch July 1, 2020.
- HFDP: New form to launch in February 2020.

Certification Committee's 2019-20 MBOs Status are shown in *Attachment B*.

11.2 Handbook

Ms. Levisur gave the committee's report. (**Attachment I**)

Handbook Committee would like ASHRAE staff investigate further the possibility of applying to include ASHRAE Handbook in UNESCO's Memory of the World archive. An action Item was assigned to staff to report back to the committee by the Austin 2020 annual meeting.

(ACTION ITEM 10)

PUBLISHING & EDUCATION Minutes · February 4, 2020 · Orlando

Handbook Committee plans revisions to the committee MOP and ROB to be presented at the Austin meeting June 2020 which will align the committee documents with the planned PEC restructure.

Handbook Committee is evaluating meeting room requirements for the Austin annual meeting to consolidate spaces where available.

ASHRAE staff will pursue a solution to allow other internet browsers besides Explorer to be used with the ASHRAE Authoring Portal. This limitation has historically derived from SharePoint limitations, but new software versions may allow more flexibility.

The committee continues to seek cost-efficient ways to reward contributors on the TCs, including “HB contributor” stickers for future meetings on attendee badges.

The updated Handbook Committee 2019-2020 MBOs are shown in *Attachment A* of their report.

11.3 Historical

Mr. Westoff gave the committee’s report. (**Attachment J**)

Historical Committee were updated on the progress of all projects for 125th anniversary. All projects have been completed or will be complete by the 2020 Annual Conference in Austin.

Historical Committee discussed the pilot plaque project that will be installed in Orange, Texas after the Region VIII CRC. The Committee agreed that for the foreseeable future, plaques will continue to be self-funded. The Committee discussed the use of virtual plaques in lieu of physical plaques.

Historical Committee reviewed names for the next two Leadership Voices interviews to be filmed in Austin and discussed the importance of including not just Presidential members but also industry innovators and leaders.

Historical Committee acknowledged that although they do not endorse candidates for either Hall of Fame or Pioneers of the Industry, they as a Committee can nominate someone.

Historical Committee discussed the necessity of continuity of communication, to keep Regional and Chapter Historians involved in history at the Society level.

Historical Committee reviewed a report on the status of PAOE points on the part of chapters by regions and approved suggested changes to PAOE for fiscal year 2020-21 with the goal of continuing to encourage non-participating chapters to reach minimum or par.

Historical Committee 2019-2020 MBOs are shown in *Attachment A* of the committee’s report to PEC.

11.4 Professional Development (PDC)

Mr. Henck gave the committee’s report. (**Attachment K**)

PDC edited, reviewed and approved the MOP for the new Training and Education Committee (TEC) and submitted it to the Functional Planning Subcommittee.

In response to PEC MBO #2: - ***Develop Strategy for expanding ALL Instructor core and establish procedures and criteria for instructor appointment and remuneration.*** - the committee drafted a report with recommendations on the criteria for selection of course instructors as shown in *Attachment A* of the PDC report.

PDC reported discussions are underway with instructors to create exam prep courses for the Building Commissioning Professional BCxP, Building Energy Assessment Professional (BEAP), and new HVAC Design (CHD) certification exams.

PDC reported five (5) new courses were presented in conjunction with the Orlando conference. Of those, the *V in HVAC - What, Why, Where, How and How Much* drew the highest number of registrants with the hands-on *Best Practices for Installing DDC Systems* course not far behind.

PDC reported the combined total of all course registrants was 1,123, which was the 2nd highest number of attendees in the past 10 years, close behind Vegas 2017 with 1,161 registrants.

Courses with the five highest registrations were:

- 122 - Guideline 36: Best in Class HVAC Control Sequences
- 76 - Designing and Operating High-Performing Healthcare HVAC Systems
- 82 - Variable Refrigerant Flow Systems: Design and Applications
- 68 - V in HVAC - What, Why, Where, How and How Much (New!)
- 67 - Humidity Control II: Real-World Problems and Solutions

PDC 2019-2020 MBOs are included as *Attachment B* of the report to PEC.

11.5 Publications

Mr. Ow gave the committee's report. (**Attachment L**)

Publications Committee voted in executive session to select the winner for the 2019 Journal Paper Award, the title and author(s) of which Jay Scott will forward to the Honors and Awards Committee for award presentation to the author(s) at the 2020 ASHRAE Annual Conference.

Publications Committee voted to support development and publication of the proposed book *ASHRAE Design Guide for Kitchen Ventilation Systems*.

Publications Committee finalized the process for committee participation in RAC's new PTAR process (wherein those submitting a proposal to receive RAC funding specifically earmarked for a publication as a deliverable will go through submission and approval procedures with RAC and Publications Committee) and is participating in a guinea pig project with RAC.

Publications Committee discussed PEC MBOD #4 and the publications performance data they need from ASHRAE staff that will enable them to determine the criteria for evaluating and approving special publication requests on a business case basis.

The committee will hold a conference call before the 2020 ASHRAE Annual Conference to complete their work on this MBO.

Publications Committee discussed PEC MBO #5 and the data they need from ASHRAE staff that will enable them to determine the publications data appropriate for the PEC Publications Committee created a subcommittee that will finalize their results for a PEC Dashboard before the 2020 the ASHRAE Annual Conference.

Updates on the Publications Committee MBOs for the 2019-2020 Society year are included in *Attachment A* of their report.

In line with Goal 3 of the 2019-2024 ASHRAE Strategic Plan, Publications Committee recommends that ASHRAE develop a survey tool that collects feedback from our grassroots levels, including our international membership, with respect to their product needs (books, *ASHRAE Journal* articles, apps, and other tools) and to link this information back to TAC council and other relevant sections for their further actions. An action item was assigned to staff to develop this tool. **ACTION ITEM 11**

12. Ad Hoc Committee Reports

12.1 Strategic Business Development

Mr. Wentz gave the ad hoc report. (**Attachment M**)

Ad Hoc Members: Tim Wentz – Chair, Megan Tosh, Ebrahim S Al-Hajri, Jon Symco, Hugh Crowther, Farooq Mehboob, Steve Comstock, Alice Yates, Mark Owen - Staff Liaison
PEC Strategic Business Development Ad Hoc Committee gave the council a presentation on the analysis and recommendations for future opportunities of business development.

12.2 Volunteer Oversight for Global Training Center (GTC)

Mr. Mohamed gave the ad hoc report. (**Attachment N**)

Ad Hoc Members: Ahmed Alaa Eldin Mohamed – Chair, Ginger Scoggins, Larry Fisher, Steve Comstock, Ayah Said, Mark Owen - Staff Liaison

PEC Volunteer Oversight for GTC Ad Hoc Committee gave a report to the council with analysis details of performance of the GTC.

13. Old Business

Mr. Mehboob reported no old business items.

14. New Business

Mr. Arnold made a brief presentation to the council concerning PEC reporting to Planning Committee and BOD on Strategic Plan Initiatives by the council.

15. Adjourn

Mr. Mehboob adjourned the meeting at 11:58 a.m.

Attachment List

Pages

| | |
|---------------------|---|
| Attachment A | PEC MOBs 2019-2020 - Update Feb 04 2020 |
| Attachment B | Members Council Referral to eLearning |
| Attachment C | Journal Advertising Sales SC Report |
| Attachment D | eLearning SC Report |
| | <i>Attachment A Course Updates Progress Report</i> |
| | <i>Attachment B New/In-Progress/Proposed</i> |
| | <i>Attachment C ASHRAE-UNEP Projects</i> |
| | <i>Attachment D Members Council Referral to eLearning</i> |
| Attachment E | Fiscal Planning SC Report |
| Attachment F | Functional Planning SC Report |
| | <i>Attachment A Publications Committee MOP</i> |
| | <i>Attachment B ASHRAE New Special Publications Evaluation Criteria</i> |
| Attachment G | Research Journal SC Report |
| | <i>Attachment A Publisher's Report</i> |
| Attachment H | Certification Committee Report |
| | <i>Attachment A PEC MBO #3 - Certification Response</i> |
| | <i>Attachment B Certification Committee 2019-2020 MBOs</i> |
| Attachment I | Handbook Committee Report |
| | <i>Attachment A Handbook Committee 2019-2020 MBOs</i> |
| Attachment J | Historical Committee Report |
| | <i>Attachment A Historical Committee 2019-2020 MBOs</i> |
| Attachment K | PDC Report |
| | <i>Attachment A Instructor Qualifications</i> |
| | <i>Attachment B PDC 2019-2020 MBOs</i> |
| Attachment L | Publications Committee Report |
| | <i>Attachment A Publications Committee 2019-2020 MBOs</i> |
| Attachment M | Strategic Business Development Ad Hoc Report |
| Attachment N | GTC Report |
| Attachment O | PEC Report to BOD - Nov 15 2019 |
| | <i>Attachment A PEC Fiscal Performance</i> |
| | <i>Attachment B PEC MBOs 2019-2020 - update Nov 15 2019</i> |
| Attachment P | PEC Report to BOD - Feb 04 2020 |
| | <i>Attachment A Strategic Business Development Ad Hoc Report</i> |
| Attachment Q | PEC Report to BOD - Feb 04 2020 - after Orlando conference |



**Certification Committee
Report to Publishing and Education Council (PEC)**

ASHRAE 2020 Winter Conference / Orlando, FL

Item Requiring Council Attention

None.

Information Items

1. Increased Certification Application Rate YTD vs. LYTD

Through January 31, 2020, ASHRAE has received 20% more certification applications (292) over the previous SYTD (244). This is primarily due to CHD application.

2. 2019-20 Budget & Forecast

Through the period ending Dec. 31, 2019, Certification is nearly at budget for Revenue and the forecast for Expense anticipates a decrease of \$20,000.

3. PEC MBO #3 (*Attachment A*)

“Analyze Certification Program and develop metrics for evaluating potential for new certifications aligned with Strategic Plan initiatives 1 (*promote best practices that enable adaptability, resilience and recovery of buildings and communities*) & 2 (*promote understanding of indoor environmental quality (IEQ) among practitioners*) after surveying members to establish interest and demand.”

Execution of this MBO is in progress. Please see Attachment A for details.

4. ANSI

A. Accreditation

Currently, four (BCxP, BEAP, BEMP and HBDP) of ASHRAE's seven certification programs are ANSI-accredited. The Certification Committee has determined to pursue ANSI accreditation of all ASHRAE certification programs, in order to avoid confusion in the marketplace and add value. In this event, ASHRAE would add the CHD, HFDP and OPMP scopes. Staff advise that any additional expense would be a onetime application fee and likely would be fall within currently budgeted expense.

B. Management System Review

An ANSI requirement, the Certification Committee completed its annual Management System Review, evaluating the results of internal and external audits, feedback from applicants and candidates, assessment of ASHRAE's exam development and delivery contractor, an impartiality threat analysis, the status of preventive and corrective actions, follow-up actions from previous management reviews, and the 2019 complaints log.

5. Marketing

A. Digital Badging

Certification [Digital Badging](#) launched. A total of 542 (70%) of 773 badges issued have been accepted by certificants. There have been over 5,300 badge views in various electronic media. As examinees continue to pass their exam and certificants continue to renew their certification, more badges will be issued.

- ✓ Helps Certificants get the recognition they've earned
- ✓ Shareable in electronic media e.g. LinkedIn profile, website and email signature
- ✓ Rich meta-data includes certification scope and key job knowledge, skills and abilities
- ✓ Real-time, third-party verification

Example:



B. Monitoring Program Effectiveness

As part of its oversight role, the Certification Committee is partnering with ASHRAE Marketing to develop a marketing plan to return two underperforming certification programs to health. Possible root causes and potential corrective marketing activities have been identified. A meeting is scheduled for Feb. 13.

6. Exam Development

Ongoing exam development activities in 2019-20 will help ensure the continued relevancy and validity of ASHRAE's certification programs:

BCxP: New exam form scheduled to launch March, 2020.

BEMP: New exam form scheduled to launch March, 2020.

HBDP: New form to launch July 1, 2020.

HFDP: New form to launch in February 2020.

7. 2019-20 MBOs- Draft (*Attachment B*)

Respectfully submitted,
Mark Bettin
Certification Committee, Chair
02/04/2020

To execute PEC MBO #3, the Certification Committee has identified the following steps:

A. *Generate proposals for possible certification program(s) that support Strategic Plan Initiatives 1 and 2. In Progress*

- Nineteen (19) TCs and SSPCs were invited to consider submitting a proposal for such a new Certification program. These TCs and SSPCs likewise were invited to attend the Certification Committee meeting on Feb. 1 and given the opportunity to have a Certification Committee member attend their meeting in Orlando and be a resource to answer questions and provide guidance. In the end, five TC and SSPC Chairs requested Certification Committee Member attendance at their meeting in Orlando.
- The due date to submit a proposal is 3/15/2020.

B. Develop metric for evaluating the likelihood of success for the proposed program(s).

COMPLETED. The “ASHRAE Certification Program Proposal Evaluation Algorithm” was created in 2015.

C. Survey members regarding interest and demand in the possible certification program(s).

A step in the Certification program evaluation process is to conduct market research into the need and demand for the proposed certification program.

D. Evaluate the likelihood of proposed program success.

The due date to submit a proposal is 3/15/2020. The “ASHRAE Certification Program Proposal Evaluation Algorithm” clearly defines the criteria for recommending new certification programs.



Certification Committee MBOs Society Year: 2019-2020

Mission: To serve humanity by advancing the arts and sciences of heating, ventilation, air conditioning, refrigeration and their allied fields.

Vision: A healthy and sustainable built environment for all.

Goal #1: Position ASHRAE as an Essential Knowledge Resource for a Sustainable, High-Performance Built Environment.

Goal #2: Maximize Member Value and Engagement.

Goal #3: Optimize ASHRAE's Organizational Structure to Maximize Performance.

Certification Committee Scope: The Certification Committee is responsible for developing, implementing, and monitoring ASHRAE certification programs.

Chair: Mark Bettin, OPMP

Date: January 17, 2020

| Objective | SP 2019 -24 ¹ | Completion Date | Fiscal Impact | Responsible Party | Status | Comment |
|---|--------------------------|-----------------|----------------------|--|--------------------|---|
| 1. Attain 80% recertification rate for the 2019 renewal class, exceeding the industry average of 76%. | 2C | 3/31/2020 | Currently budgeted . | Chair, Certification Committee, Staff | <i>In progress</i> | 171 applications received through 12/31/2019. Late application period began 1/1/2020. |
| 2. Grow the number of certification applications by 10% over 2015-16 total of 500, a record high. | 3A | 6/30/2020 | None, Staff Time | Chair, Certification Committee, HVAC Designer Exam | <i>In progress</i> | Through 12/31/2019, 30% increase in applications (234 total) over LYTD. |

| | | | | | | |
|--|----|-----------|--------------------------|--|--------------------|---|
| | | | | Subcommittee, Staff | | |
| 3. Enhance relevancy of ASHRAE certification to ASHRAE members and the industry in general. | 2C | 6/30/2020 | Volunteer and Staff Time | Chair, Certification Committee, HVAC Designer Exam Subcommittee, Staff | <i>In progress</i> | <p>- Launched examination for new HVAC Designer (CHD) certification on June 3, 2019.</p> <p>- Digital badging launched September, 2019. As of Jan. 15, 726 digital badges issued with 511 badges claimed for a 70% acceptance rate, against an industry average of 45%. 4,979 badge views for an 9.3 average views per share rate, against an industry average of 2.0 views. 38 "expired" badges.</p> |
| 4.1 Manage certification programs against the ANSI/ISO/IEC 17024 accreditation standard. | 2B | 6/30/2020 | Currently budgeted . | Chair, Certification Committee, Staff | <i>In progress</i> | <p>- BCxP, BEAP, BEMP and HBDP are accredited.</p> <p>- Certification staff attended 2019 Client Day and 17024 Workshop meetings Sept. 18-19.</p> |
| 4.2. Launch new HBDP and HFDP exam forms updated per revised exam Detailed Content Outlines. | 3A | 11/1/2019 | Currently budgeted . | Chair, Certification Committee, HVAC Designer Exam Subcommittee, Staff | <i>In progress</i> | <p>New exam items are being pre-tested. Additional HBDP exposures are needed. New HFDP form slated to launch by Feb. 15, 2020. New HBDP form to launch by 7/1/2020.</p> |
| 4.3. Recruit 2020-23 class of Exam Subcommittee members. | 2A | 6/30/2020 | | Chair, Certification Committee, Nominations Task Force, Staff | | |

| | | | | | | |
|---|----------------------|-----------|--|---------------------------------------|----------------------|--|
| 5. Monitor the effectiveness of current certification programs, and recommend and implement any steps to improve program effectiveness. | 3A | 6/30/2019 | None. | Chair, Committee Task Force, Staff | Completed. | Task Force recommendations accepted by Certification Committee in Oct. 4 meeting. |
| 6. Finalize 2019-20 MBOs. | 2:A, B, C; 3:A, B | 9/30/2019 | To be determined. | Chair, Certification Committee, Staff | Completed. | Task Force to incorporate new Strategic Plan and Committee self-assessment. |
| 7. Evaluate Live Remote Proctoring as an alternative exam delivery mode. | 3B | 6/30/2020 | To be determined. | Chair, Certification Committee, Staff | <i>In progress</i> . | A proposal from PSI has been received. In winter 2020 ANSI to issue "remote proctoring questionnaire," a guidance document, to aid certifying bodies in evaluating vendor "remote proctoring services. |
| 8. Evaluate the certification and recertification application fee schedule for any possible updates in the February 1, 2020 meeting. | 3A | 1/12/19 | None. Possible 2020-21 revenue increase. | Chair, Certification Committee, Staff | | The Certification Committee agreed to maintain the current fee schedule one additional year through June 30, 2020. |
| 9. Analyze Certification Program and develop metrics for evaluating potential for new certifications aligned with Strategic Plan initiatives 1 (<i>promote best practices that enable adaptability, resilience and recovery of buildings and communities</i>) & 2 (<i>promote understanding of indoor environmental quality (IEQ) among practitioners</i>) after surveying members to establish interest and demand | 2B, 3A | 6/30/2020 | Staff time. | Chair, Certification Committee | <i>In progress</i> | Assigned by PEC and evaluated by Certification Committee in Oct. 4 meeting. Next steps to complete objective: 1. Generate proposals for possible certification program(s) that support SP Initiatives 1 and 2. 19 TCs and SSPCs invited to submit proposals by 3/15/2020, 2. Survey members regarding interest and demand in the possible certification program(s) |

| | | | | | | |
|---|--|--|--|--|--|--|
| | | | | | | 3. Develop metric for evaluating the likelihood of success for the proposed program(s) COMPLETED. 4. Evaluate the likelihood of proposed program success. |
| Recommendations for Strategic Planning: | | | | | | |

'2019-24 Strategic Plan: Goals & Objectives

1. Position ASHRAE as an Essential Knowledge Resource for a Sustainable, High-Performance Built Environment

- A. Utilize a holistic approach to ASHRAE's offerings and activities to drive positive economic, environmental and social impact through innovation in building design and operations.
- B. Expand capabilities globally to create, aggregate and disseminate essential information and knowledge focusing on emerging market trends and transformative approaches

2. Maximize Member Value and Engagement

- A. Infuse enthusiasm, vitality and diversity throughout ASHRAE events and services
- B. Expand the impact of collaboration and partnerships with industry organizations, universities and government agencies
- C. Leverage technology to increase member engagement, awareness and value

3. Optimize ASHRAE's Organizational Structure to Maximize Performance

- A. Prototype and launch new approaches that will increase ASHRAE's relevance and speed to market for key offerings
- B. Optimize ASHRAE's organizational systems and structures to increase capacity, efficiency and effectiveness
- C. Cultivate industry and member philanthropy to extend ASHRAE's impact and reach



**Handbook Committee Report to
Publishing and Education Council (PEC)
Meeting of February 4, 2020**

Action Items

1. Handbook Committee recommends that we investigate further the possibility of applying to include ASHRAE Handbook in UNESCO's Memory of the World archive.
Fiscal impact: none
Vote: 15 Y/1 N/0 abs CNV

Information Items

1. Presently there are no changes to the HBC MOP or ROB. Revisions are planned in time for the Austin meeting in June 2020.
2. HBC will evaluate their meeting room requirements before the Austin (2020) annual meeting and consolidate spaces where possible.
3. ASHRAE staff will pursue a solution to allow Internet browsers beyond just Internet Explorer to be used with the ASHRAE Authoring Portal. (This limitation has historically derived from SharePoint limitations, but new software versions may allow more flexibility.)
4. HBC continues to seek cost-efficient ways to reward contributors on the TCs, including "HB contributor" stickers for future meetings (similar to "Research Contributor" stickers on attendee badges).
5. The status of the 2019-2020 MBOs is attached. (*Attachment A*)

Respectfully submitted,

Suzanne LeViseur, Chair
Handbook Committee
2 February 2020
SL: hek

| Objective | | Completion Date | Fiscal Impact | Responsible Party | Status | Comment |
|-----------|---|-----------------|----------------------------|-------------------|-------------|--|
| 1 | Solicit ideas from volume subcommittee chairs for process improvements. | 6/20 | None | HBC | Continuous | |
| 2 | Improve peer-to-peer training of incoming volume subcommittee chairs. | 6/20 | None | Vice Chair | Continuous | Mentoring of new members |
| 3 | Review the relevance, scope, and objectives of subcommittees. | 6/20 | None | HBC ExCom | Continuous | Reshape HBC to best function under the new TC structure (when implemented) in a way that serves both HBC's and TCs' needs |
| 4 | Encourage TCs to develop extra features (spreadsheets, sidebar discussions, video, etc.) for Handbook Online. Suggest using YEA members | 6/20 | None | HBC | In progress | |
| 5 | Address volume imbalances | 6/20 | Could reduce mailing costs | HBC ExCom | In progress | Applications and Fundamental volumes are nearly twice the size of Refrigeration volume. Look at the possibility of shifting some material to a different volume. |
| 6 | Improve international representation /input in the handbook process | 6/20 | None | HBC ExCom | Ongoing | Continue with the effort started by Don Fenton |
| | | | | | | |
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Historical Committee (HC)
Report to Publishing and Education Council (PEC)
ASHRAE 2020 Winter Conference / Orlando, FL

Information Items

1 Historical Committee heard an update on the progress of all projects for 125th anniversary. All projects have been completed or will be complete by the 2020 Annual Conference in Austin.

2 Historical Committee discussed the pilot plaque project that will be installed in Orange, Texas after the Region VIII CRC. The Committee agreed that for the foreseeable future, plaques will continue to be self-funded. The Committee discussed the use of virtual plaques in lieu of physical plaques.

3 Historical Committee reviewed names for the next two Leadership Voices interviews to be filmed in Austin.

4 Historical Committee discussed the importance of including not just Presidential members but also industry innovators and leaders.

5 Historical Committee acknowledged that although they do not endorse candidates for either Hall of Fame or Pioneers of the Industry, they as a Committee can nominate someone.

6 Historical Committee discussed the necessity of continuity of communication, to keep Regional and Chapter Historians involved in history at the Society level.

7 Historical Committee reviewed a report on the status of PAOE points on the part of chapters by regions and approved suggested changes to PAOE for fiscal year 2020-21 with the goal of continuing to encourage non-participating chapters to reach minimum or par.

11 MBOs *Attachment A*

Respectfully submitted,

Stan Westhoff, Chair Historical Committee
02/02/2020
SW: ess

*Historical Committee Report to PEC
Attachment A*

Historical Committee 2019-2020 MBOs – Stan Westhoff, Historical Chair 02/02/2020

| Objective | SP Goal | Completion Date | Fiscal Impact | Delegated to: | Status | Comment |
|--|---------|---------------------|-------------------------|---|-----------------------------------|--|
| HC MBO 1 Develop proposals to improve the opportunities for Regional Historians to participate in Historical Committee activities. | 1 | Winter 2020 Orlando | None | RVC Guideline sub committee | Ongoing | Continue on-line participation of (RVCs) at Committee meetings. |
| HC MBO 2 Develop PAOE Recommended Changes to 2020-2021 PAOE | 1 | 2020 Austin | none | | Complete February | To get ahead of the PAOE Committee Cycle with proposal for the following year's PAOE Letter in Summer 2020. |
| HC MBO 3 History VC PAOE Update Summary Report at Annual & Winter Meetings to include copy similar to 2018-2019 Annual meeting | 1 | Winter & Annual | None | VC Report | Complete February | To encourage RVCs to target the below PAR performing Chapters in their Region based on the previous year's History PAOE Summary. |
| HC MBO 4 Encourage Chapter Historians who don't Attend their Regional CRC to complete the Chapter Historians Training Power Point and promote on-line workshop participation at CRCs | 1 | Winter 2020 | minor | RVC Guideline sub committee | Complete February | Update the Chapter Historians Training PowerPoint. Add points for submittal of a completed MBO with phone discussion with RVC History prior August 30 of fiscal year. Promote on-line workshop participation at CRCs |
| HC MBO 5 Assist in publicizing 125 th Anniversary. Develop information of historical interest that can be presented at Society & Regional Meetings | 1 | Summer 2020 | Major | 125th Anniversary Celebration sub committee | Complete June 2020 | Continue 125th Seminar and Historical Articles Promotions with PEC to support the 125th anniversary and demonstrate to members the strength in depth of our Society. |
| HC MBO 6 Develop proposal for publication/s to celebrate 125th Anniversary | 1 | Summer 2020 | To Be Advised | Historical Committee | Complete February | Continue working on and supporting 125th Publications to PEC. |
| HC MBO 7 Foster collaboration with other international societies to improve our historical research and support history-related activities of the Society | 4 | Summer 2020 | None | Historical Committee | Ongoing | Continue work on collaboration. HC has links with similar groups in CIBSE and AiCARR - opportunity to pursue to work w/similar committees in CEN, International Institute of Ammonia Refrigeration (IIR), International Institute of Refrigeration (IIR), & Global Cold Chain Alliance (GCCA). |
| HC MBO 8 Encourage younger members of ASHRAE to have interest in history-related activities of the Society | 2 | Summer 2020 | None | Historical Committee | Complete February | Proposing to keep the PAOE line item "For a local Chapter Historical activity performed by an actively engaged YEA member" |
| HC MBO 9 Leadership Recall Arrange for videos at Annual meeting 2020 | 2 | Summer 2020 | Verify \$1,000 Budgeted | Historical Committee | Ongoing | Arrange two Presidential interviews. Review other potential interviewees |
| HC MBO 10 Digitize Archived Journals + Transactions | 3 | Summer 2020 | Major | Historical Committee/PEC | Ongoing | Encourage digitalization of all Society Journals and Transactions |
| HC MBO 11 Incorporate a Women In Engineering component to the 125 Year ASHRAE Anniversary celebration | 1 | Summer 2020 | None | Historical Committee | Complete (WIA now called diverse) | Continue WIA PAOE Support in History |
| Jun 22–26, 2019 – Kansas City, MO | | | | | | Feb 1-5, 2020 – Orlando, FL |



**Professional Development Committee
Report to Publishing and Education Council (PEC)**

ASHRAE 2020 Winter Conference – Orlando

Information Items

1. The committee edited, reviewed and approved the MOP for the new Training and Education Committee (TEC) and submitted it to the Functional Planning Subcommittee.
2. In response to PEC MBO #2: ***Develop Strategy for expanding ALI Instructor core and establish procedures and criteria for instructor appointment and remuneration.***
The committee drafted a report with recommendations on the criteria for selection of course instructors. The report is attached. We felt that the honorarium paid to instructors would vary based upon the location of the courses and cost of the courses. It should be left up to staff to set the course costs. We will add this to our reference manual. See *Attachment A*.
3. Discussion are underway with instructors to create exam prep courses for the Building Commissioning Professional BCxP, Building Energy Assessment Professional (BEAP), and new HVAC Design (CHD) certification exams.
4. We had one referral from Members Council and have sent a response.
5. Five (5) new courses were presented in conjunction with the Orlando conference. Of those, the *V in HVAC - What, Why, Where, How and How Much* drew the highest number of registrants with the hands-on *Best Practices for Installing DDC Systems* course not far behind.
6. The combined total of all course registrants is 1,123 – the 2nd highest number of attendees in the past 10 years, close behind Vegas 2017 with 1,161. Courses with the five highest registrations are:
 - 122 - Guideline 36: Best in Class HVAC Control Sequences
 - 76 - Designing and Operating High-Performing Healthcare HVAC Systems
 - 82 - Variable Refrigerant Flow Systems: Design and Applications
 - 68 - V in HVAC - What, Why, Where, How and How Much (New!)
 - 67 - Humidity Control II: Real-World Problems and Solutions
7. Professional Development Committee 2019-2020 MBOs are included as *Attachment B*.

Respectfully submitted,
Charles E. Henck, Professional Development Committee Chair
February 3, 2020

INSTRUCTOR QUALIFICATIONS

Instruction Qualifications

1. Solid grasp of engineering fundamentals.
2. Practical experience to answer questions for students and to be able to distinguish between theory and practice in day to day engineering.
3. Skill and ability to teach and present well in a compelling and engaging manner. This means preparing ahead of time and not just reading the slides.
4. Motivation and interest in teaching. We're not looking for reluctant instructors who will turn over regularly.

Search Criteria

1. ASHRAE DL Series: Sort by high ratings and participation. DL's with these criteria have already expressed and interested in teaching and presenting and have the skills to do so.
2. Regular Chapter Speakers: Most local chapters have their go to speakers. Many of those speakers are motivated to give back and/or to develop their careers and speaking abilities. Chapters are not going to recommend unskilled speakers who aren't capable of presenting.
3. Sole (Sr.) Practicing Engineers: There are a quite a few consultants working on sunset or second careers that have a tremendous depth of practical experience that would be applicable to teaching. Need to carefully screen for the speaking / teaching ability.
4. Academia: There are many great teachers produced by academia. The challenge is screening out those who do not have the practical experience needed or who are mostly focused on research and less interested in teaching but may agree to build a resume.

Professional Development Committee

MBOs for Society Year 2019-2020

Chair: Charlie Henck Date: June 24, 2019

| Objective | SP | Complete by | Fiscal Impact | Responsible Party | Comment/ Status |
|---|----|-------------|---------------|-------------------------|---|
| 1. Review new strategic plan for items that apply to PDC and develop a plan to implement. | | Jun-20 | None | Planning Subcommittee | |
| 2. Develop topics and RFPs for an additional (3) practical applications courses to 'fill the gaps' in our current offerings for developing young engineers. | | Jun-20 | None | Planning Subcommittee | In progress |
| 3. Review all SDLs and issue RFPs for the ones that need updating. | | Jun-20 | None | Operations Subcommittee | Review by Jan complete Issue RFP by June |
| 4. Review all existing courses and sunset those that have not been used in 5 years or recommend updates | | Jun-20 | None | Operations Subcommittee | Continuous |
| 5. Update of the Reference Manual | | Jun-20 | None | Operations Subcommittee | Update with approval of restructure |
| 6. Every course reviewed by PDC Liaison prior to presentation— Quality check | | Jun-20 | None | Operations Subcommittee | Continuous |
| 7. Improve marketing of courses/branding. Work with ASHRAE marketing for improvement | | Jun-20 | TBD | Planning Subcommittee | Continuous |
| Additional Recommendations for Strategic Planning: Not at this time | | | | | |

Publications Committee Report to Publishing and Education Council

Tuesday, February 4, 2020, 8:00-12:00

Major Motions Passed

1. Publications Committee voted in executive session to select the winner for the 2019 Journal Paper Award, the title and author(s) of which Jay Scott will forward to the Honors and Awards Committee for award presentation to the author(s) at the 2020 ASHRAE Annual Conference.
2. Publications Committee voted to support development and publication of the proposed book *ASHRAE Design Guide for Kitchen Ventilation Systems*.

Action Items for PEC

(None)

Information Items

1. Publications Committee finalized the process for committee participation in RAC's new PTAR process (wherein those submitting a proposal to receive RAC funding specifically earmarked for a publication as a deliverable will go through submission and approval procedures with RAC and Publications Committee) and is participating in a guinea pig project with RAC.
2. For PEC MBO #4, Publications Committee discussed the publications performance data they need from ASHRAE staff that will enable them to determine the criteria for evaluating and approving special publication requests on a business case basis. The committee will hold a conference call before the 2020 ASHRAE Annual Conference to complete their work on this MBO.
3. For PEC MBO #5, Publications Committee discussed the data they need from ASHRAE staff that will enable them to determine the publications data appropriate for the PEC Dashboard. The committee created a subcommittee that will finalize their results before the 2020 the ASHRAE Annual Conference.
4. Updates on the Publications Committee MBOs for the 2019-2020 Society year are included in *Attachment A*.
5. In line with Goal 3 of the 2019-2024 ASHRAE Strategic Plan, Publications Committee recommends that ASHRAE develop a survey tool that collects feedback from our grassroots levels, including our international membership, with respect to their product needs (books, *ASHRAE Journal* articles, apps, and other tools) and to link this information back to TAC council and other relevant sections for their further actions.

Respectfully submitted,
Chee S. Ow, Chair
Publications Committee
2 February 2020

Publications Committee
MBOs for Society Year 2019-2020
Chair: Chee S. Ow **Date:** 2 February 2020

| Objective | SP 2019 | Compl. by | Fiscal Impact | Resp. Party | Comment/Status |
|--|---------|-----------|---------------|--|-------------------|
| Establish evaluation criteria for Publications Topic Acceptance Request (PTAR) submissions in line with RAC liaison processes. | 1b | June 2020 | Nil | Roberto Aguilo and Hugh McMillan (Chair) | In progress |
| Review Pub. Committee Orientation materials. | 3b | June 2020 | Nil | Rennie Tisdale (Chair) and Hugh McMillan | Completed 8/20/19 |
| Determine international readership needs for ASHRAE Journal. | 1b, 2c | June 2020 | Nil | Vikram Murthy (Chair) and Adeeba Mehboob | Ongoing |
| Additional Recommendations for Strategic Planning: In line with Goal 3 of the 2019-2024 ASHRAE Strategic Plan, Publications Committee recommends that ASHRAE develop a survey tool that collects feedback from our grassroots levels, including our international membership, with respect to their product needs (books, <i>ASHRAE Journal</i> articles, apps, and other tools) and to link this information back to TAC council and other relevant sections for their further actions. | | | | | |

SP 2019 = Strategic Plan 2019 Initiative addressed by objective



Attachment M
PEC Minutes – Orlando Jan 2020

Report to Pub/Ed Council

Winter Meeting
Orlando, Florida

Presenter: Timothy G. Wentz, PE, HBDP | Fellow/ Presidential Member ASHRAE

Charge to the Ad Hoc

- Review the current business models and operating practices to determine how revenues/profits could be enhanced.
- Survey members and customers to establish if a demand exists for products and services that ASHRAE may be able to provide
- Study products and services being provided by bodies similar to ASHRAE both in North America and internationally which ASHRAE can provide
- Recommend an outline of potential new offerings with ballpark costs and revenue projections.
- Ensure alignment with the Strategic Plan, particularly Goals 1a, 1b and 3a

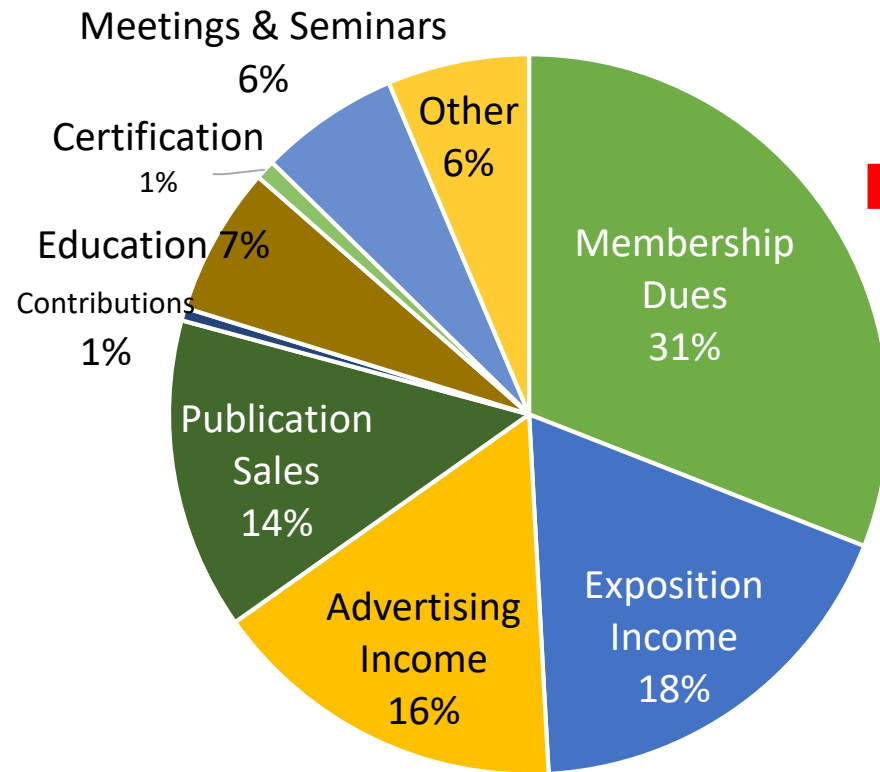


Charge to the Ad Hoc

- Determine where we are today
- Ascertain where we want to be
- Develop a plan to attain our goal



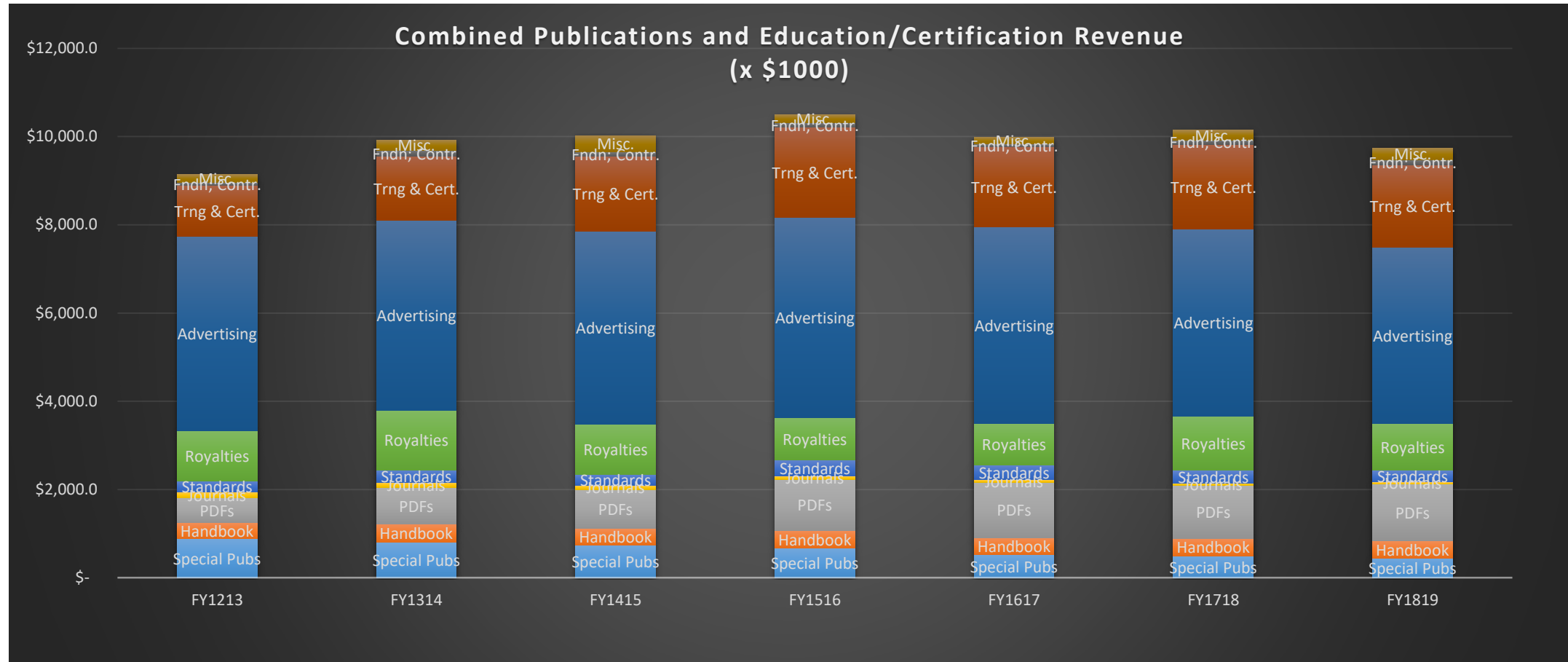
Nothing New



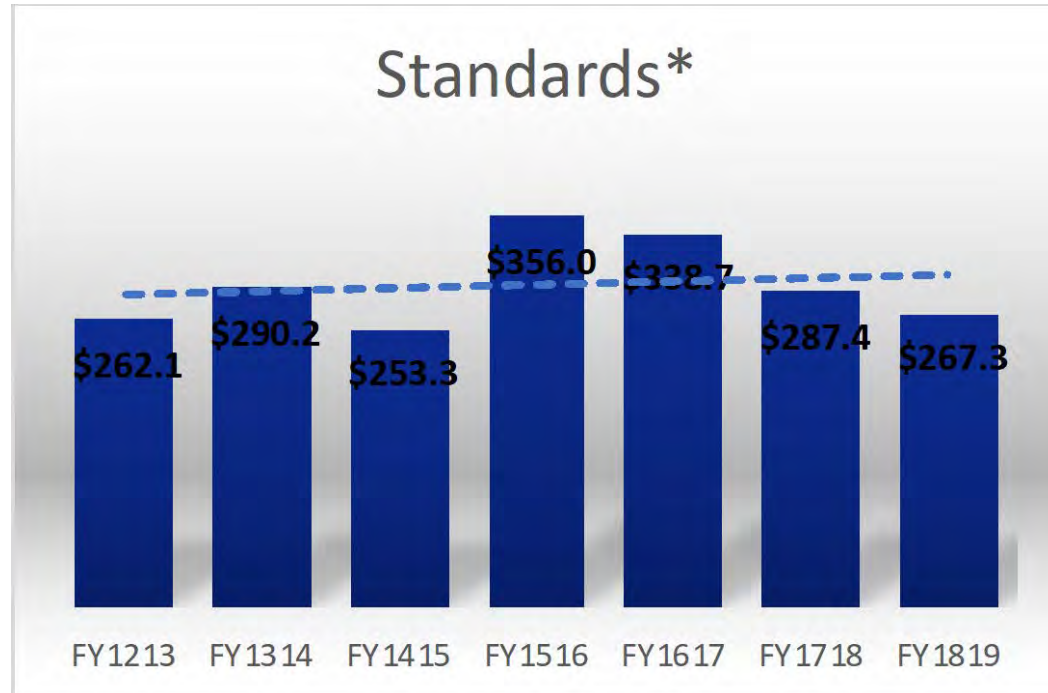
Source of Funds

| | | |
|---------------------|-----------|------|
| Membership Dues | \$7,624.3 | 31% |
| Exposition Income | 4,475.8 | 18% |
| Advertising Income | 3,958.2 | 16% |
| Publication Sales | 3,447.6 | 14% |
| Certification | 218.7 | 1% |
| Education | 1,642.7 | 7% |
| Contributions | 141.8 | 1% |
| Meetings & Seminars | 1,548.2 | 6% |
| Other | 1,569.5 | 6% |
| REVENUES | \$ 24,627 | 100% |

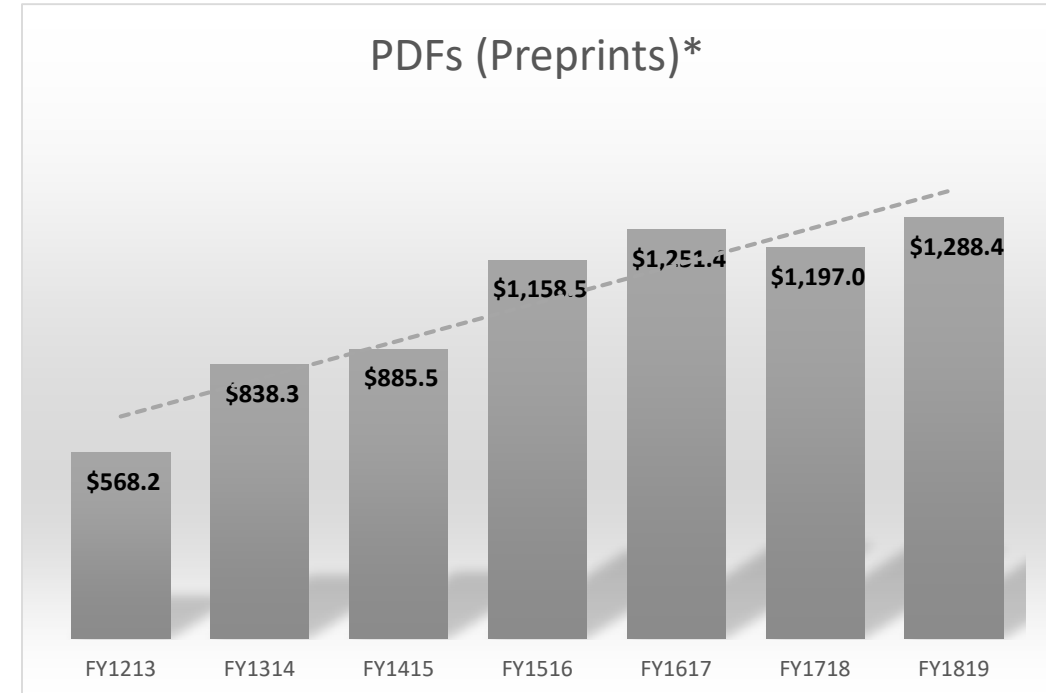
Nothing New



Nothing New

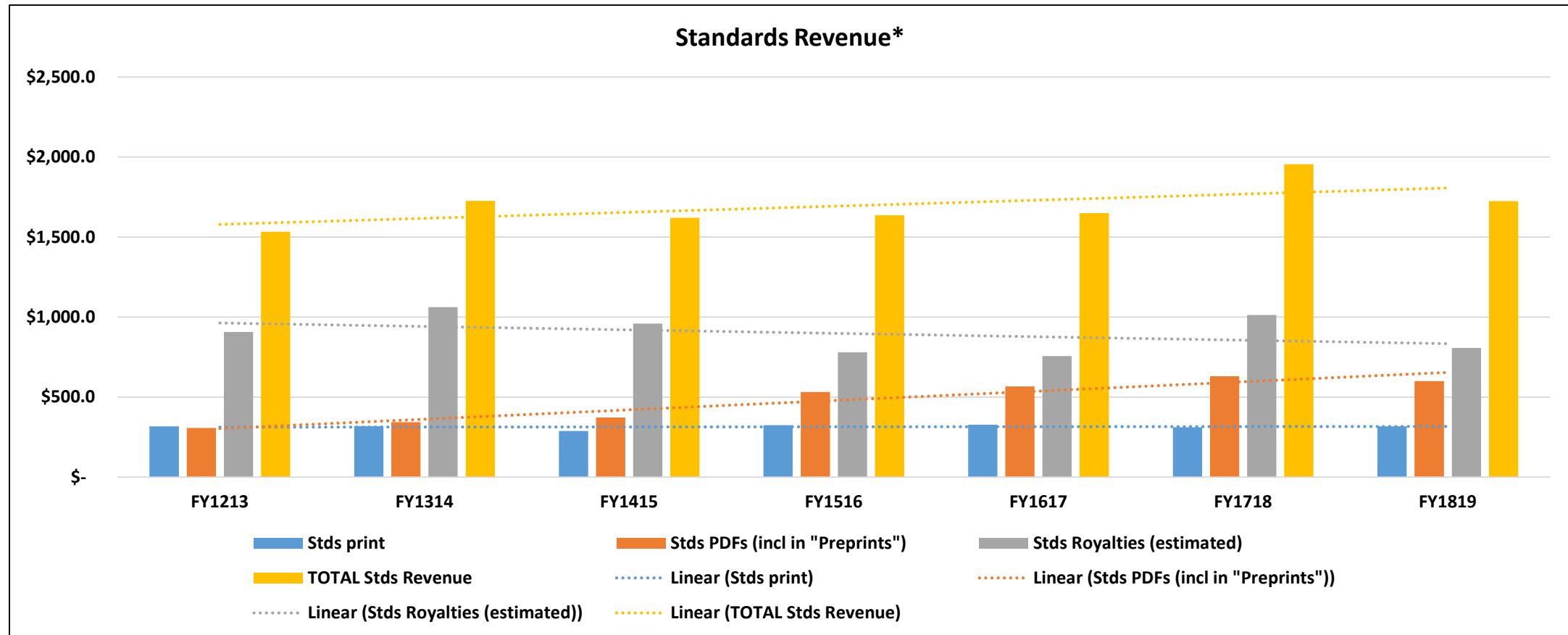


*Print only. PDF's are in Preprints

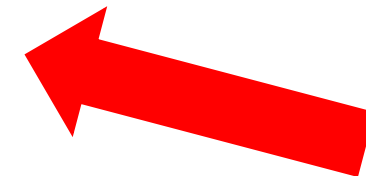


*includes PDF's of standards

Nothing New



*Does not include Overhead or BOD Council allocated costs (\$8.5MM in FY18-19)



Nothing New

- Overhead are costs that support the business but do not generate revenue
- ASHRAE has about \$8M US in overhead
- Overhead is assigned to Councils based upon staff assignment
- PEC has portions of an additional 17 staff assigned to the Council from support areas
 - Mail room
 - Accounting
 - Etc.
- Overhead is then assigned on the total staff, support staff included



OVERHEAD

Nothing New

Pub/Ed Council Surplus/Deficit Report

| | 2017 Thousands USD | 2018 Thousands USD | 2019 Thousands USD | Trend versus 2017 |
|---|-----------------------|-----------------------|-----------------------|----------------------|
| Total Revenue | 9,955.6 | 10,108.9 | 9,691.3 | ↓ |
| Total Expenses Incl OH & BOD | 12,484.2 | 13,361.7 | 13,234.8 | ↑ |
| Total (Deficit) after OH + BOD after | 2,528.6 | 3,252.8 | 3,543.5 | ↑ |

Note: All figures taken from Society Financial Reports.

Nothing New

Society Surplus/Deficit Reports

| Fiscal Year | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | AVE |
|------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| Budget Surplus/(Deficit) | \$ (158) | \$ (335) | \$ 674 | \$ (449) | \$ (283) | \$ (301) | \$ (13) | |
| Actual Surplus/(Deficit) | \$ 320 | \$ 404 | \$ 1,231 | \$ 702 | \$ 411 | \$ (175) | \$ 75 | |
| Positive/Negative Difference | + | + | + | + | + | + | + | |
| Difference (absolute) | \$ 478 | \$ 739 | \$ 558 | \$ 1,151 | \$ 694 | \$ 126 | \$ 88 | |
| % Error | 149% | 183% | 45% | 164% | 169% | 72% | 118% | 129% |

Nothing New

- What picture does this data paint for the Board?



And now for something completely different



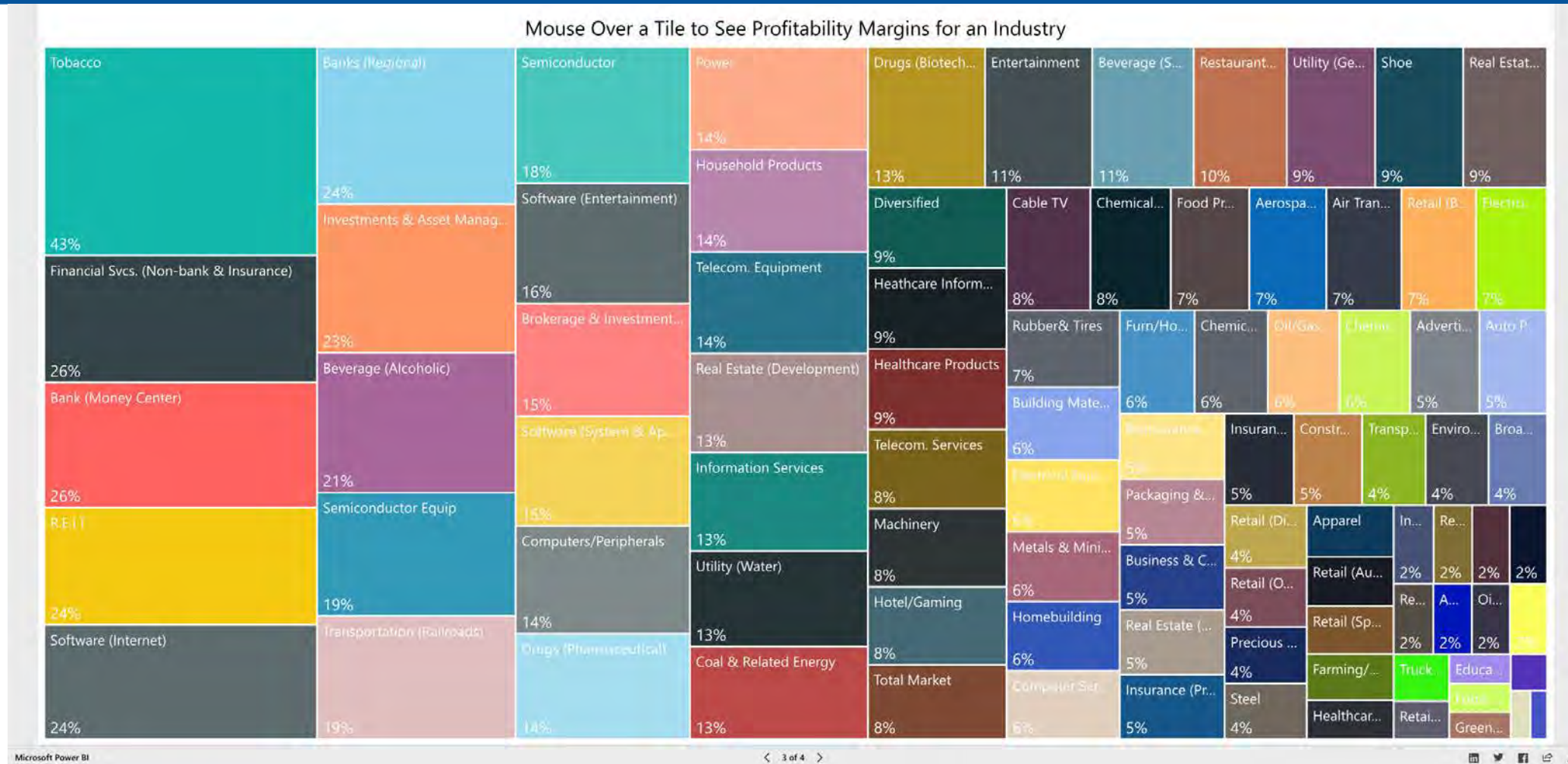
A Monty Python Moment

And now for something completely different

- ASHRAE has a very strong and robust accounting system
 - Accurately records revenue and expenses in a consistent manner in accordance with generally accepted accounting rules
- Significant difference between accounting and finance
 - Finance - Management discipline focusing on margins



The World of Margins



From Financial Rhythm by Phillip Campbell, based on data from Prof. Aswath Damodaran, Stern School of Business, New York University, 2019



How the Picture Changes

- The language of finance

Revenue = Sales for a product or service (\$US)

Variable Margin = Revenue

-Direct costs of product/service that vary with volume

Gross Margin = Revenue

-Direct costs of product/service that vary with volume

- Staff labor directly associated with product/service



How the Picture Changes

| Revenue Source | Gross Margin | | |
|----------------------|--------------|-------|-------|
| | 16-17 | 17-18 | 18-19 |
| Dues | 16% | 20% | 18% |
| Publications | 40% | 30% | 32% |
| Advertising | 12% | 7% | 4% |
| Meetings/Conferences | -21% | -54% | -53% |
| Education | 9% | 14% | 8% |
| Certification | -87% | -52% | -63% |
| AHR Expo | 100% | 100% | 100% |

| Pub/Ed Council | | | | |
|-----------------------|----------------|-------------|-----------|---------------|
| SY 18-19 | Publications** | Advertising | Education | Certification |
| Revenue | \$3,041.8 | \$4,073.6 | \$1,870.2 | \$225.7 |
| Direct Expenses | | | | |
| Staff Labor | 869.5 | 1,567.5 | 464.6 | 162.8 |
| Promotion | 64.8 | 96.1 | 31.7 | 8.9 |
| Materials | 358.5 | 657.3 | 109.6 | - |
| Commissions | - | 742.5 | | |
| Shipping/Postage | 162.9 | 566.5 | 33.0 | 4.9 |
| Meeting/Training | | | | |
| Costs | 21.7 | 3.3 | 715.6 | - |
| Travel | 33.3 | 26.2 | 17.6 | 5.4 |
| Dev/Outside | | | | |
| Services | 510.1 | 124.2 | 267.2 | 178.6 |
| Credit Card | | | | |
| Charges | 44.4 | 1.4 | 53.5 | 6.1 |
| Bad Debt | 7.0 | 79.4 | | |
| Other/Misc. | 0.2 | 64.6 | 28.9 | 0.3 |
| Total Direct Expenses | 2,072.4 | 3,929.0 | 1,721.7 | 367.0 |
| Variable Margin \$ | 1,838.9 | 1,712.1 | 613.1 | 21.5 |
| Variable Margin % | 60% | 42% | 33% | 10% |
| Gross Margin \$ | \$969.4 | \$144.6 | \$148.5 | \$(141.3) |
| Gross Margin % | 32% | 4% | 8% | -63% |

How the Picture Changes

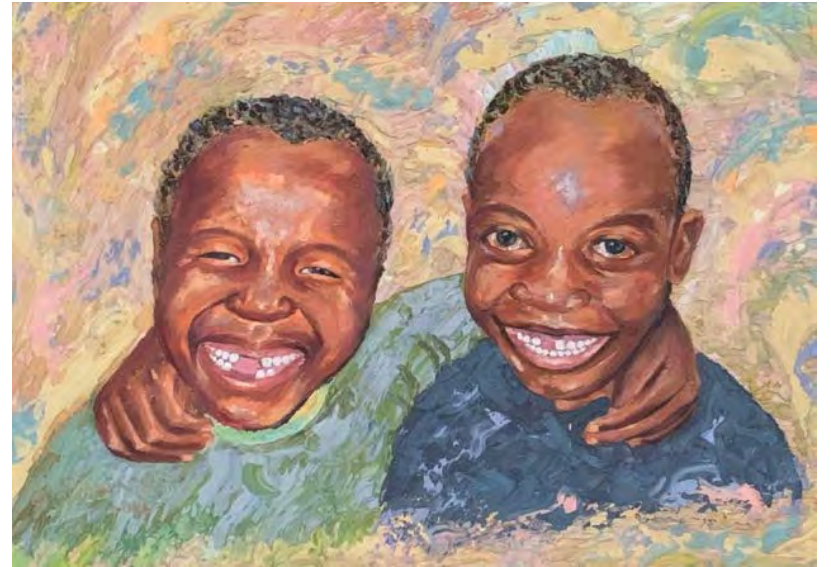
We can see clearly now (apologies to Johnny Nash):

- Publications operates at a strong gross margin
- Advertising operates at a low gross margin
 - This is OK, as advertising as ASHRAE is required to pay tax on “business unrelated to its primary business”.
- Education is operating at a low gross margin
- Certification is operating at a negative gross margin



How the Picture Changes

- Looking at ASHRAE's products through the lens of finance paints a much different picture



How the Picture Changes

- A focus on margins
 - Revenue is only important only in that it allows you to identify and analyze margins
 - Improves clarity and transparency – an ASHRAE core value
 - Better decision-making owing to deeper understanding of product contributions
 - Greater ability to identify and seize strategic opportunities
 - The path forward on product evaluation becomes much simpler



How the Picture Changes

- Future work of the ad hoc is cast in a completely new light
 - For products and services with low margins, make recommendation on how to lower cost or raise price (or both)
 - For products with good margins make recommendations on how to increase sales
 - Are we already high in market share or is there room to grow?
 - Look at other revenue streams (new products and services) based on what we see other organizations offering and emerging needs in the marketplace) and evaluate by margin



How the Picture Changes

Enhanced Goal Setting – Where We Want To Be

| | Publications | Advertising | Education | Certification | Goal | Current Value |
|------------------------------|--------------|-------------|-----------|---------------|----------|---------------|
| Proposed Revenue Goal | \$4,500 | \$4,300 | \$2,600 | \$600 | \$12,000 | \$9,211 |
| Proposed Gross Margin | \$1,440 | \$215 | \$625 | \$120 | \$2,400 | \$1,121 |
| Proposed Gross Margin | 32% | 5% | 24% | 20% | 20% | 12% |

*In \$1,000 US



How the Picture Changes

- Imagine an ASHRAE better focused on financial performance:
 - Expanded and enhanced revenue streams
 - Less reliance on expo income
 - More resilient to large economic swings
 - Faster, more agile in seizing opportunities
 - Better forecasting of financial position
 - Greatly enhanced decision-making



Questions



ASHRAE
Consolidated
12 Months ended June 30, 2019

REVENUES

| | |
|--|-----------|
| 31 Membership Dues Earned Income | \$7,779.9 |
| 32 Publication Sales Income | 3,447.6 |
| 34 Advertising Income - Display | 3,078.7 |
| 34 Advertising Income - Classified | 10.9 |
| 34 Advertising Income - On-line | 868.6 |
| 35.1 Meeting & Seminar Income | 1,548.2 |
| 35.2 Certification Registration | 218.7 |
| 35.3 Education Registration | 1,642.7 |
| 37 Special Project Income | 74.3 |
| 38 Contribution Income | 2,295.3 |
| 41.1 AHR Exposition Income | 5,741.8 |
| 41.2 Contributions and Matching Gifts | 109.5 |
| 41.3 Exposition Income - Other Countries | 234.0 |
| 44 Reserve Transfers | 890.0 |
| 46 Miscellaneous Income | 805.2 |

TOTAL REVENUES **28,745.4**

EXPENSES:

| | |
|--|---------|
| 51 Salary Expense | 9,616.2 |
| 52 Payroll Taxes, Benefits, Personnel Exp | 2,607.8 |
| 61 Publishing and Promotion Expense | 3,238.6 |
| 64 Meetings & Conferences Expense | 2,477.7 |
| 66 Travel Expense | 2,169.0 |
| 68 Awards, Certif, Logo Cost of Goods Sold | 232.6 |
| 71 Research Projects & Grants Expense | 2,226.6 |
| 73 Special Projects Expense | 111.4 |
| 76 Public Relations Expense | 70.5 |
| 78 Occupancy & Insurance | 768.3 |
| 82 Office Expense and Organizational Dues | 1,628.9 |
| 84 Outside Services Expense | 2,242.6 |
| 88 Other Expense | 798.0 |
| 88.1 Prepaid Expense (contra acct) | (46.3) |
| 89 Opportunity Fund | 150.0 |
| 90 Depreciation Expense | 379.1 |

TOTAL EXPENSES **28,671.0**

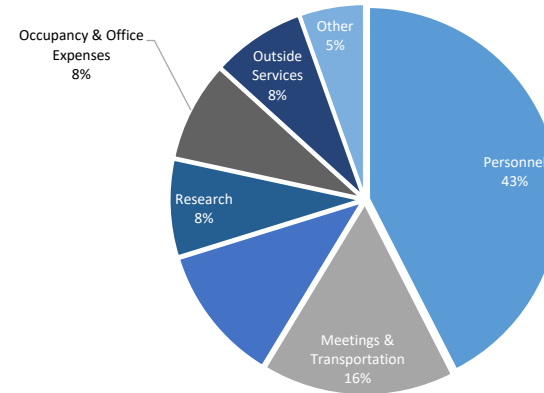
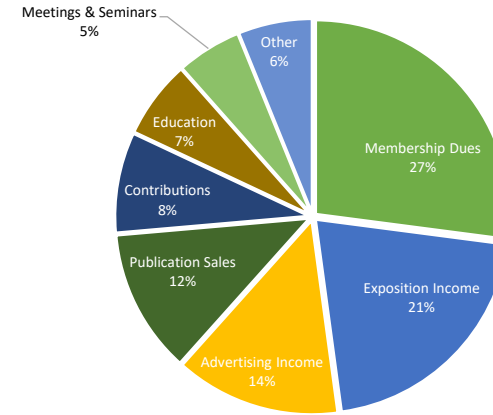
SURPLUS (DEFICIT) before reserve income 74.4

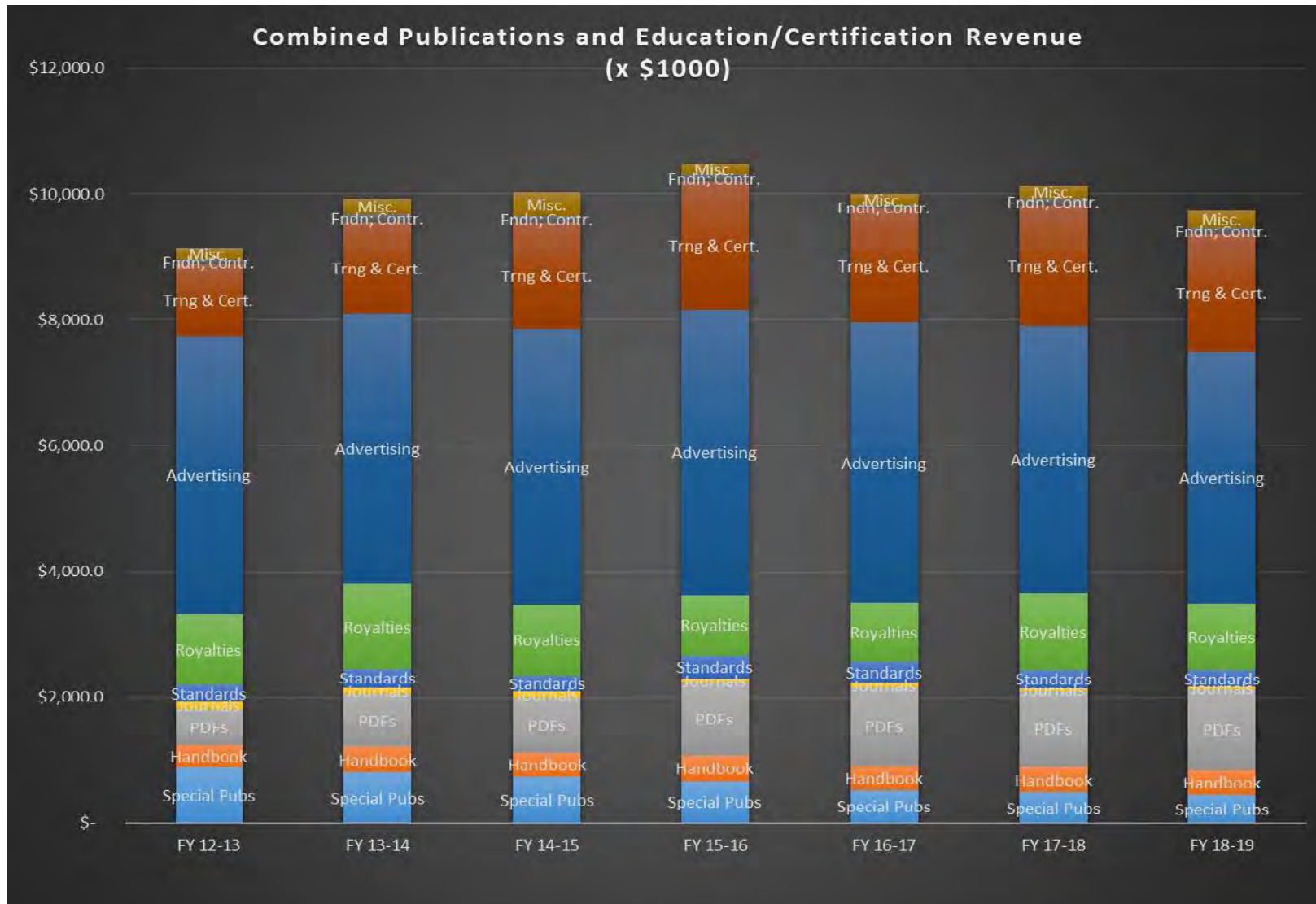
| | | |
|---------------------|-----------|------|
| Source of Funds | | |
| Membership Dues | \$7,779.9 | 27% |
| Exposition Income | 5,975.8 | 21% |
| Advertising Income | 3,958.2 | 14% |
| Publication Sales | 3,447.6 | 12% |
| Contributions | 2,404.8 | 8% |
| Education | 1,861.4 | 6% |
| Meetings & Seminars | 1,548.2 | 5% |
| Other | 1,769.5 | 6% |
| REVENUES | \$ 28,745 | 100% |

| | | |
|--------------------------------|-----------|------|
| Application of Funds | | |
| Personnel | 12,177.7 | 42% |
| Meetings & Transportation | 4,646.7 | 16% |
| Publications, Communications & | 3,309.1 | 12% |
| Research | 2,338.0 | 8% |
| Occupancy & Office Expenses | 2,397.2 | 8% |
| Outside Services | 2,242.6 | 8% |
| Other | 1,559.7 | 5% |
| EXPENSES | \$ 28,671 | 100% |

Attachment A

Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando





Definitions

Revenue

Sales for a product or service in \$US

Variable Margin

Revenue - direct costs to provide product/service that vary with volume e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship = \$45 Variable Margin or 45% Variable Margin

Gross Margin

Revenue - direct costs to provide product/service that vary with volume - staff labor directly associated with product of service e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship - \$25 Staff Labor = \$20 Gross Margin or 20% Gross Margin

Attachment A
Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

| SY 18-19 | Members Council | | Pub/Ed Council | | | | Corporate | |
|-----------------------|--------------------------|----------------------|----------------|-------------|------------|---------------|------------|--|
| | Membership Dues/Handbook | Meetings/Conferences | Publications | Advertising | Education | Certification | Expo | |
| Revenue | \$ 8,151.2 | \$ 1,589.2 | \$ 3,041.8 | \$ 4,073.6 | \$ 1,870.2 | \$ 225.7 | \$ 5,975.8 | |
| Direct Expenses | | | | | | | | |
| Staff Labor | 3,112.4 | 771.1 | 869.5 | 1,567.5 | 464.6 | 162.8 | | |
| Promotion | 435.6 | 34.7 | 64.8 | 96.1 | 31.7 | 8.9 | | |
| Materials | 769.2 | - | 358.5 | 657.3 | 109.6 | - | | |
| Commissions | - | 8.6 | - | 742.5 | | | | |
| Shipping/Postage | 376.9 | 0.6 | 162.9 | 566.5 | 33.0 | 4.9 | | |
| Meeting/Training Cost | 281.7 | 1,310.1 | 21.7 | 3.3 | 715.6 | - | | |
| Travel | 846.1 | 69.8 | 33.3 | 26.2 | 17.6 | 5.4 | | |
| Dev/Outside Services | 501.4 | 113.0 | 510.1 | 124.2 | 267.2 | 178.6 | | |
| Credit Card Charges | 221.0 | 44.9 | 44.4 | 1.4 | 53.5 | 6.1 | | |
| Bad Debt | - | - | 7.0 | 79.4 | | | | |
| Other/Misc. | 136.7 | 82.5 | 0.2 | 64.6 | 28.9 | 0.3 | | |
| Total Direct Expenses | 6,881.0 | 2,455.3 | 2,072.4 | 3,629.0 | 1,721.7 | 367.0 | - | |
| Variable Margin \$ | 4,582.6 | (75.0) | 1,838.9 | 1,712.1 | 613.1 | 21.5 | 5,975.8 | |
| Variable Margin % | 56% | -5% | 60% | 42% | 33% | 10% | 100% | |
| Gross Margin \$ | 1,470.2 | \$(846.1) | \$ 969.4 | \$ 144.6 | \$ 148.5 | \$(141.3) | \$ 5,975.8 | |
| Gross Margin % | 18% | -53% | 32% | 4% | 8% | -63% | 100% | |

NOTES

"Staff Labor" includes salary + bennies

"Staff Labor" includes salary + bennies

"Staff Labor" includes salary + bennies

"Staff Labor" includes salary + bennies

"Staff Labor" includes salary + bennies

"Staff Labor" includes salary + bennies

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

BOD/Respective Committees and Overhead costs not included in Margin Analysis

BOD/Respective Committees and Overhead costs not included in Margin Analysis

BOD/Respective Committees and Overhead costs not included in Margin Analysis

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BOD/Respective Committees and Overhead costs not included in Margin Analysis

BOD/Respective Committees and Overhead costs not included in Margin Analysis

There is \$8M in corp overhead. Cost is spread across all councils Corp overhead includes exec staff, BOD, marketing IT, Business Dev etc

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Corp Overhead is allocated based on salaries. For PEC the allocation drives it into a loss position

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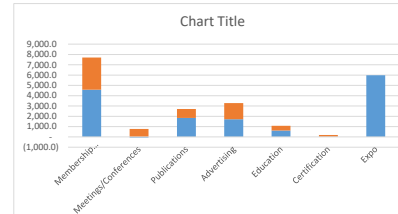
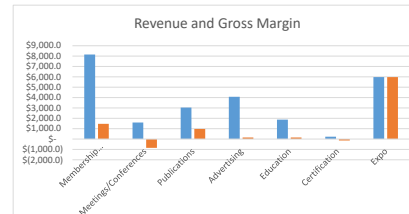
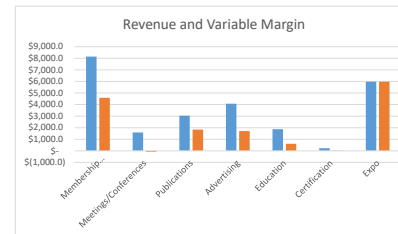
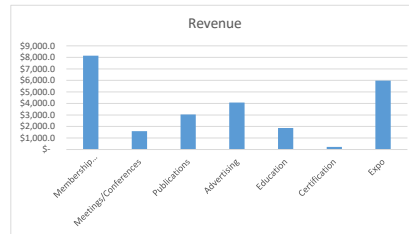
Membership labor is high because it includes MC staff, TC staff PEC staff associated with Handbook Handbook printing and frt cost included in MC as it is a member benefit

Publication Revenue include ~\$1M in royalties

The revenue for Advertising comes from advertising sales in Journal, HPB Cost of journal, Research Journal and HPB is in advertising (PEC) There is no revenue from the Journal issues given to members because it is considered a member benefit

Expo has no real direct costs (it's pure margin)

\$466k in Handbook revenue in MC (copies sold to non members)



Definitions
Revenue
Variable Margin
Gross Margin

Sales for a product or service in \$US
Revenue - direct costs to provide product/service that vary with volume e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship = \$45 Variable Margin or 45% Variable Margin
Revenue - direct costs to provide product/service that vary with volume - staff labor directly associated with product of service e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship - \$25 Staff Labor = \$20 Gross Margin or 20% Gross Margin

Attachment A
Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

PEC Revenue and Margin

| Current Situation | | Publications | Advertising | Education | Certification | TOTAL |
|-------------------------------|----|--------------|-------------|-----------|---------------|----------|
| Current Revenue | \$ | 3,042 | \$ 4,074 | \$ 1,870 | \$ 226 | \$ 9,211 |
| Current Gross margin (\$1000) | \$ | 969 | \$ 145 | \$ 149 | \$ (141) | \$ 1,121 |
| Current Gross Margin % | | 32% | 4% | 8% | -63% | 12% |

| Proposed Goals | | Publications | Advertising | Education | Certification | TOTAL |
|------------------------------------|----|--------------|-------------|-----------|---------------|-----------|
| Proposed Revenue Goal | \$ | 4,000 | \$ 4,100 | \$ 2,500 | \$ 500 | \$ 11,100 |
| Proposed Gross Margin (\$1000) | \$ | 1,280 | \$ 205 | \$ 800 | \$ 100 | \$ 2,385 |
| Proposed Gross Margin (%) | | 32% | 5% | 32% | 20% | 21% |
| Proposed Revenue Goal - AY | \$ | 3,500 | \$ 4,200 | \$ 2,600 | \$ 500 | \$ 10,800 |
| Proposed Gross Margin (\$1000) -AY | \$ | 1,150 | \$ 252 | \$ 858 | \$ 100 | \$ 2,360 |
| Proposed Gross Margin (%) -AY | | 33% | 6% | 33% | 20% | 22% |

Hugh

Alice

| | | | | | |
|------------------|--|--|---|--|---|
| Hugh's Thoughts; | Very good business model. Margins are good. Focus on growing revenue | Numbers paint bad picture but remember the Journal is given away as a member benefit. Change away from print makes advertising revenue more difficult. Work to maintain busies and have advertising cover cost of printing journal | Lots of upside on Revenue. Margin is disappointing. Need to understand and resolve our high cost. | Other organizations do not make much money with Certification but make it up with training. Certification cost is too high. Reconsider our business model and see if we can get cost out (i.e. do we really need to have "ANSI ready" tests? | PEC Generates \$1121k in margin dollars to operate ASHRAE. ASHRAE Corp allocations are based on Staff salary so PEC gets a large amount of corp cost which drives PEC to a loss position. This is just an allocation issue - what is important is margin Dollars which can fund programs. |
|------------------|--|--|---|--|---|

| | | | | |
|-------------------|---|---|---|---|
| Alice's Thoughts: | I'm less bullish than Hugh on publications because of potential revenue loss due to statutory changes (e.g., loss of copyright protection) and increasing access to no-cost publications; I do think revenues could grow by better targeting publications and NOT investing in publications unlikely to sell. | If advertising includes sponsorships, I believe we can do even better here. While there is downward pressure on print sales, sponsorship opportunities and online advertising present growth potential. | I here is tremendous potential with growing our education and training revenues, including through selling these courses to government entities, and partnering with other organizations to leverage our resources, and developing better (and more modern) online courses as there is a demand especially by young people for 365-24-7 access. We could also better leverage our certification program potentially through requiring an ASHRAE course or courses (e.g., this is done by the Association of Energy Engineers) | Possible opportunity to tie regulations to certification requirements. For example, as cities and states work to meet various carbon goals, they may choose to require facility managers to have training and/or certification, or building auditors to be certified. Another opportunity exists to work with DOE to better leverage their "Better Buildings Program" to generate more interest in ASHRAE certifications. |
|-------------------|---|---|---|---|

| | | | | |
|-------------------|---|---|---|--|
| Steve's Thoughts: | Agree good business model but not that easy. Will involve working with partners to execute this. Suggest a more modest goal than what Hugh suggested. The Steve goal is in two fiscal years. After that growth might be more aggressive. Objective is how to provide digital content in usable form to the individual member and not just corporate license holder. | Agree with Hugh's target. but could be higher. Emphasis shifts from selling space to giving branding opportunities and thought leadership exposure. This is tied to integrated marketing of online and print exposure. Both have to work hand in glove. If more electronic opportunities are offered (such as sponsored blogs) revenue can grow more quickly. Also development of regional market opportunities can further offer opportunities. We are weak in doing this now. | Too aggressive because of the member/volunteer nature of ASHRAE. What Hugh suggested is reasonable IF there was not concern for chapters in developing countries to offer training at ASHRAE prices and more decentralization of educational offerings. Also, we compete with ourselves with DL program and webinar program form CTTC. If all educational activities were centralized, Hugh's suggestion would work; but if not, I would go with my suggestion. | I think many organizations make money from certification and for sure it is attached to training. That is the number 1 opportunity for ASHRAE in my view. This is not just a fiscal comment but a comment that relates to the value proposition globally and contribution to the industry. |
|-------------------|---|---|---|--|

Society Level Revenue and Margin

| | Current Model | | | | | Proposed Model | | | | |
|------------|----------------|-------------|-------------------|------------------|--|----------------|-------------|-------------------|------------------|--|
| | Revenue (\$US) | Revenue (%) | Gross Margin (\$) | Gross Margin (%) | | Revenue (\$US) | Revenue (%) | Gross Margin (\$) | Gross Margin (%) | |
| Membership | \$ 9,740.40 | | 39.1% \$ 624.1 | 8.1% | | \$ 9,740.40 | | 36.3% \$ 624.1 | 6.9% | |
| Expo | \$ 5,975.8 | | 24.0% \$ 5,975.8 | 77.4% | | \$ 5,975.8 | | 22.3% \$ 5,975.8 | 66.5% | |
| PEC | \$ 9,211.30 | | 37.0% \$ 1,121.20 | 14.5% | | \$ 11,100.00 | | 41.4% \$ 2,385.00 | 26.5% | |
| Total | \$ 24,927.50 | | 100.0% \$ 7,721.1 | 100.0% | | \$ 26,816.20 | | 100.0% \$ 8,984.9 | 100.0% | |

ASHRAE
CONSOLIDATED (General and Research)
12 Months Ended June 30

Attachment A
Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

| | Actual | Actual | Actual | Actual | Actual | Budget | DRAFT Budget | DRAFT Budget | DRAFT Budget |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | FY 2015 | FY 2016 | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 |
| REVENUES | | | | | | | | | |
| 31 Membership Dues Earned Income | \$7,430.5 | \$7,634.5 | \$7,663.7 | \$7,772.8 | \$7,779.9 | \$8,151.3 | \$8,419.4 | \$8,650.9 | \$8,867.2 |
| 32 Publication Sales Income | 3,483.9 | 3,626.1 | 3,504.1 | 3,664.0 | 3,447.6 | 3,783.7 | 3,864.3 | 3,975.2 | 3,977.2 |
| 34 Advertising Income - Display | 3,710.8 | 3,779.4 | 3,577.7 | 3,294.3 | 3,078.7 | 3,103.1 | 3,008.8 | 2,956.8 | 2,956.8 |
| 34 Advertising Income - Classified | 32.0 | 19.3 | 18.0 | 14.0 | 10.9 | 10.0 | 12.0 | 15.0 | 15.0 |
| 34 Advertising Income - On-line | 595.6 | 715.8 | 821.2 | 899.2 | 868.6 | 1,070.0 | 1,115.0 | 1,160.0 | 1,160.0 |
| 35.1 Meetings/Conferences Income | 1,578.5 | 1,529.9 | 2,151.9 | 1,737.6 | 1,548.2 | 2,426.1 | 2,425.5 | 2,191.7 | 1,981.1 |
| 35.2 Certification Registration | 183.3 | 187.6 | 196.8 | 213.2 | 218.7 | 280.0 | 290.0 | 300.0 | 300.0 |
| 35.3 Education Registration | 1,504.5 | 1,844.8 | 1,611.1 | 1,700.6 | 1,642.7 | 1,960.0 | 2,078.3 | 2,200.5 | 2,200.5 |
| 37 Special Project Income | 316.6 | 3.2 | 14.3 | 62.9 | 74.3 | 98.0 | | | |
| 38 Contribution Income | 2,116.6 | 2,215.6 | 2,223.6 | 2,312.7 | 2,295.3 | 2,577.2 | 2,629.0 | 2,761.9 | 2,761.9 |
| 41.1 AHR Exposition Income | 5,146.6 | 5,168.0 | 5,623.7 | 6,085.7 | 5,741.8 | 6,300.0 | 6,450.0 | 6,500.0 | 6,500.0 |
| 41.2 Contributions and Matching Gifts | 115.0 | 57.0 | 100.0 | 74.5 | 109.5 | 171.3 | 121.5 | 122.1 | 122.1 |
| 41.3 Exposition Income - Other Countries | 145.9 | 34.0 | 162.3 | | 234.0 | | 175.0 | 100.0 | 250.0 |
| 44 Reserve Transfers | 885.7 | 655.3 | 1,089.7 | 1,199.3 | 890.0 | 1,278.7 | 760.0 | 770.0 | 770.0 |
| 46 Miscellaneous Income | 534.4 | 322.7 | 330.7 | 364.7 | 805.2 | 554.7 | 405.4 | 419.3 | 399.3 |
| TOTAL REVENUES | 27,779.9 | 27,793.2 | 29,088.8 | 29,395.5 | 28,745.4 | 31,764.1 | 31,754.2 | 32,123.4 | 32,261.1 |
| EXPENSES: | | | | | | | | | |
| 51 Salaries | 7,910.9 | 8,780.7 | 9,182.9 | 9,730.4 | 9,720.9 | 9,813.6 | 10,051.2 | 10,363.8 | 10,669.6 |
| 52 Payroll Taxes, Benefits, Personnel | 2,536.2 | 2,738.8 | 2,650.4 | 2,875.3 | 2,636.9 | 2,772.7 | 3,059.4 | 3,124.3 | 3,172.8 |
| 61 Publishing and Promotion | 3,776.9 | 3,827.9 | 3,606.9 | 3,411.8 | 3,238.6 | 3,660.5 | 3,585.9 | 3,658.4 | 3,664.4 |
| 64 Meetings/Conferences/Trainings | 2,199.2 | 2,362.8 | 2,657.9 | 2,871.1 | 2,477.7 | 3,156.3 | 3,143.6 | 2,995.8 | 2,791.4 |
| 66 Travel | 2,076.6 | 1,863.8 | 2,263.0 | 2,228.8 | 2,169.0 | 2,413.0 | 2,464.0 | 2,584.7 | 2,580.2 |
| 68 Awards, Certif, Logo Cost of Goods Sold | 164.6 | 158.5 | 212.2 | 175.2 | 232.6 | 173.7 | 177.3 | 186.2 | 186.2 |
| 71 Research Projects & Grants | 2,469.6 | 2,321.1 | 2,725.3 | 2,941.5 | 2,226.6 | 3,002.9 | 2,878.3 | 2,938.7 | 2,938.7 |
| 73 Special Projects | 72.5 | 101.3 | 157.4 | 107.7 | 111.4 | 198.0 | 240.0 | 70.0 | 70.0 |
| 76 Public Relations | 51.0 | 79.4 | 66.7 | 58.1 | 70.5 | 74.6 | 75.9 | 79.1 | 79.1 |
| 78 Occupancy & Insurance | 559.2 | 588.6 | 553.9 | 639.3 | 768.3 | 932.6 | 757.1 | 782.8 | 782.8 |
| 82 Office Expense and Organizational Dues | 1,840.2 | 1,862.7 | 1,778.9 | 1,633.0 | 1,631.3 | 1,816.9 | 1,892.1 | 1,954.9 | 1,954.9 |
| 84 Outside Services | 1,659.7 | 1,713.1 | 1,967.0 | 1,906.3 | 2,243.0 | 2,385.1 | 2,115.8 | 2,240.4 | 2,227.4 |
| 88 Other Expenses | 530.8 | 673.6 | 720.1 | 786.7 | 798.0 | 763.5 | 833.3 | 806.8 | 801.7 |
| 88.1 Prepaid Expenses (contra acct) | 33.8 | (560.5) | (535.1) | (491.5) | (182.9) | | | | |
| 89 Opportunity Fund | 35.5 | | 140.0 | 140.0 | 150.0 | 50.0 | 150.0 | 150.0 | 150.0 |
| 90 Depreciation | 631.9 | 579.3 | 529.5 | 556.9 | 379.1 | 360.0 | 785.0 | 921.9 | 921.9 |
| 91 Allocation of Overhead & BOD | | 0.0 | 0.3 | | | (0.1) | 0.0 | | |
| TOTAL EXPENSES | 26,548.6 | 27,091.1 | 28,677.3 | 29,570.6 | 28,671.0 | 31,573.3 | 32,208.9 | 32,857.8 | 32,991.1 |
| SURPLUS (DEFICIT) before reserve income | 1,231.3 | 702.1 | 411.5 | (175.1) | 74.4 | 190.8 | (454.7) | (734.4) | (730.0) |
| 91.2 Gain on Sale of HQ | | | | | 6,174.5 | | | | |
| 91.5 Headquarters Building Contributions | 153.9 | | | | 361.0 | | | | |
| 92 Non-recurring Expenses | 639.5 | 477.9 | 69.5 | 163.4 | 114.5 | 60.0 | | | |
| Reserve Investment Income: | | | | | | | | | |
| 95 Investmt Income - Reserves (net of exp) | 222.5 | (186.1) | 2,219.6 | 1,402.9 | 742.7 | 895.6 | 913.5 | 959.2 | 959.2 |
| 96 Transfer Reserves Portion Used Currently | (885.7) | (655.3) | (1,089.7) | (1,244.3) | (1,122.2) | (1,260.2) | (760.0) | (770.0) | (770.0) |
| Remaining Reserve Investment Income | (663.2) | (841.4) | 1,129.9 | 158.6 | (379.5) | (364.6) | 153.5 | 189.2 | 189.2 |
| OVERALL SURPLUS (DEFICIT) after reserve income | 82.5 | (617.2) | 1,471.9 | (179.9) | 6,115.9 | (233.8) | (301.2) | (545.2) | (540.8) |

Attachment A

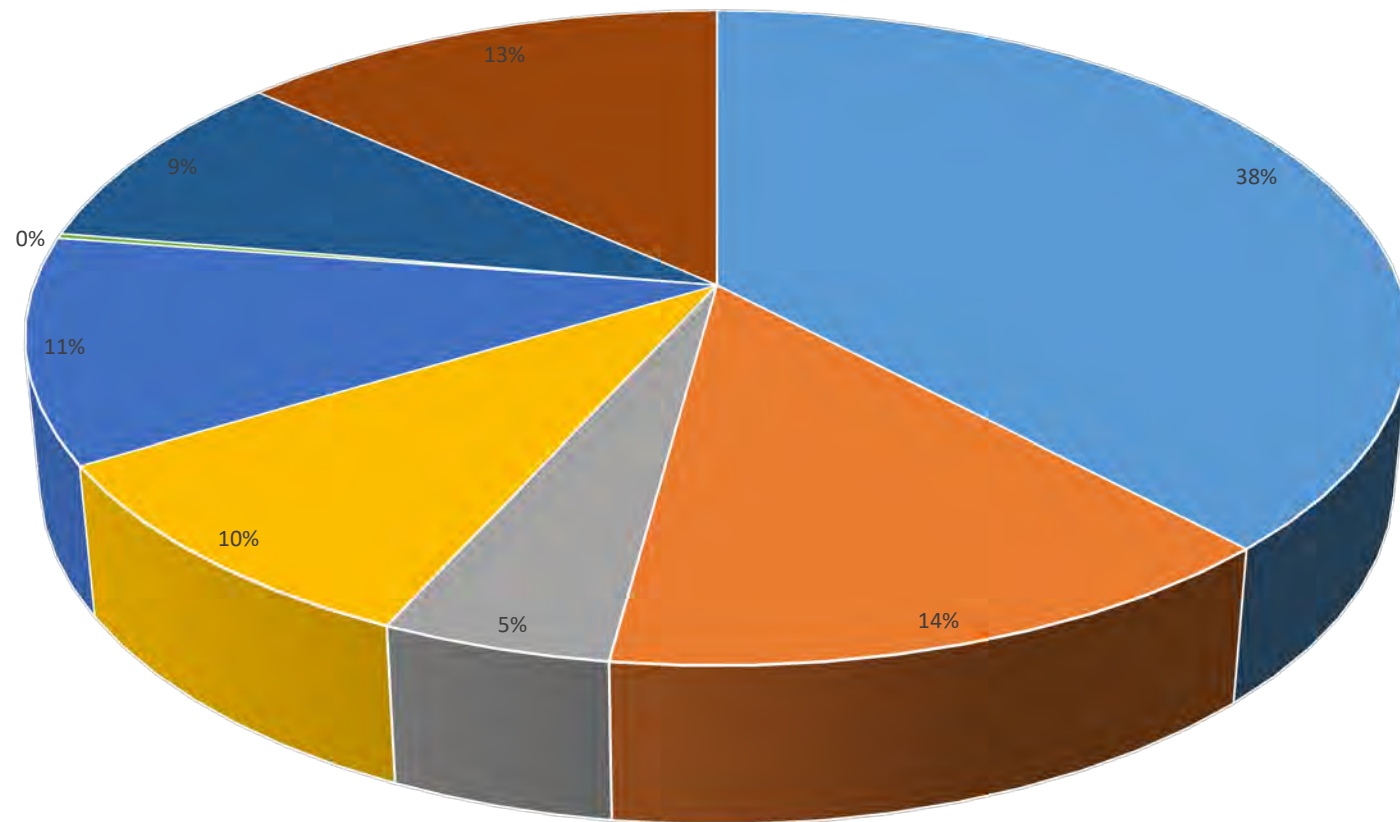
Strategic Business Development Ad Hoc Report to PEC

Margin Analysis - Compiled list for Orlando

| | | |
|---------------------------|-------|-------|
| 1 Consulting Engineer | 18445 | 32.9% |
| Student | 6226 | 11.1% |
| Manufacturer | 5057 | 9.0% |
| 1 Contractor | 4995 | 8.9% |
| 1 Manu. Rep | 3774 | 6.7% |
| Other | 3204 | 5.7% |
| Gov't | 3159 | 5.6% |
| 1 Design Build | 2923 | 5.2% |
| 1 Architect | 2874 | 5.1% |
| 1 Sales Engineer | 915 | 1.6% |
| 1 Commerical Facility | 759 | 1.4% |
| 1 Industrial Facility | 746 | 1.3% |
| 1 Property Manager | 723 | 1.3% |
| 1 Distributor | 663 | 1.2% |
| Utility | 575 | 1.0% |
| Association | 530 | 0.9% |
| 1 Educational Institution | 380 | 0.7% |
| 1 Research | 134 | 0.2% |
| Library | 11 | 0.0% |
| | 56093 | 100% |

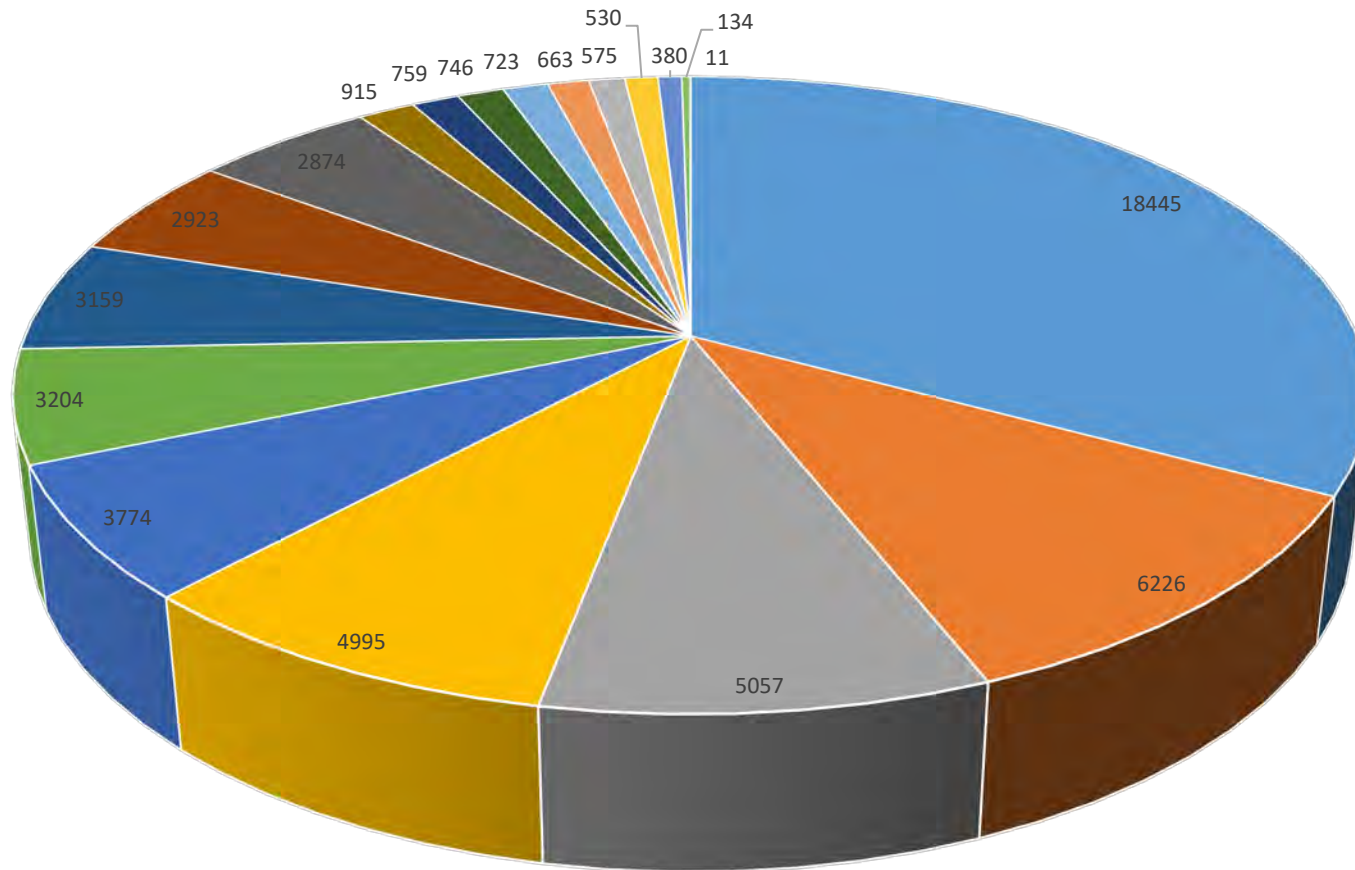
| | | |
|----------------------|-------|-----|
| Design | 21319 | 38% |
| Construction | 7918 | 14% |
| Operations and Maint | 2608 | 5% |
| Sales | 5352 | 10% |
| Student | 6226 | 11% |
| Research | 134 | 0% |
| Manufacturer | 5057 | 9% |
| Misc | 7479 | 13% |

Membership Percent



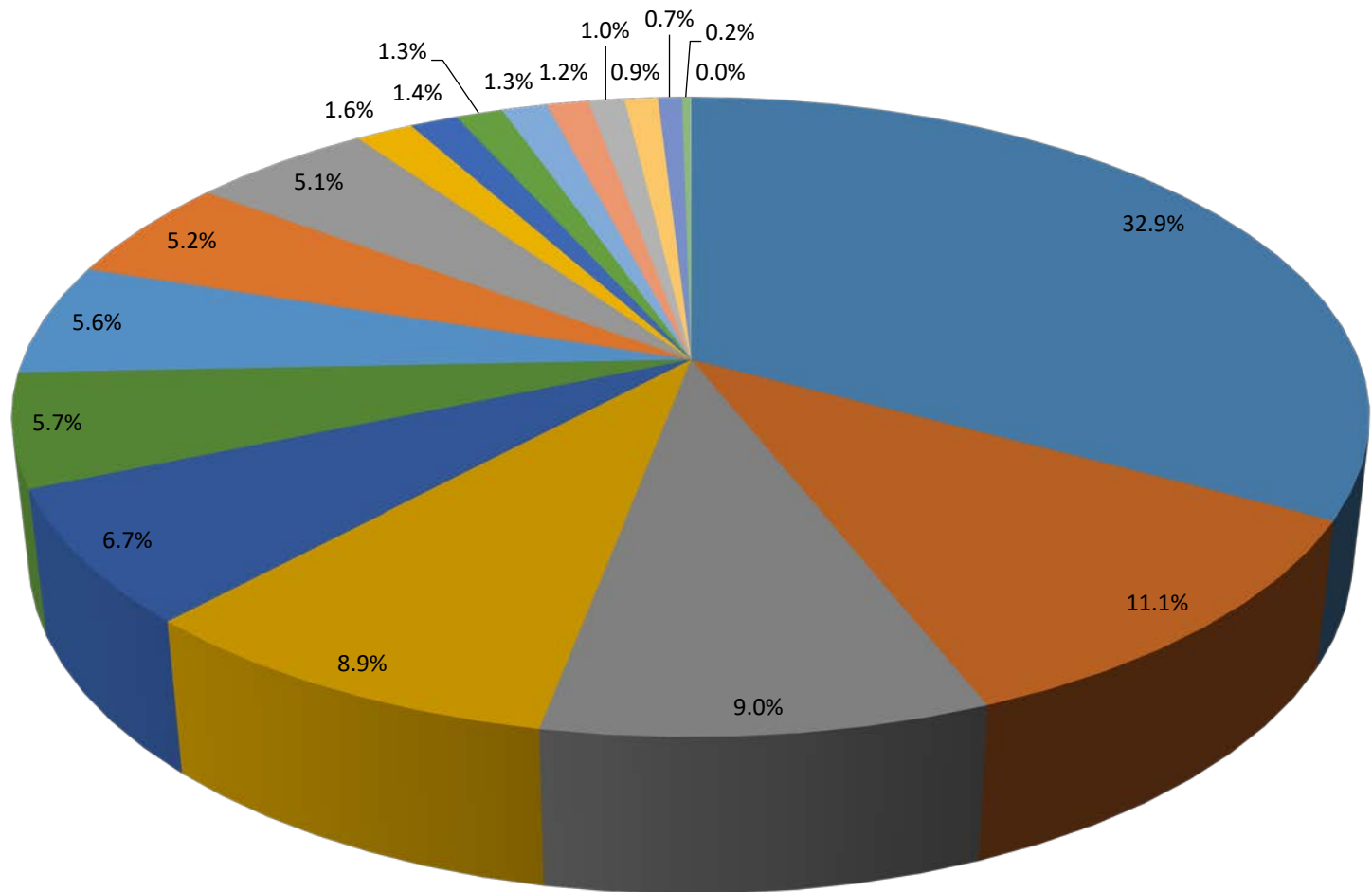
■ Design ■ Construction ■ Operations and Maint ■ Sales ■ Student ■ Research ■ Manufacturer ■ Misc

Membership headcount



- | | | | | |
|---------------------|-------------------------|------------------|-------------|----------------|
| Consulting Engineer | Student | Manufacturer | Contractor | Manu. Rep |
| Other | Gov't | Design Build | Architect | Sales Engineer |
| Commerical Facility | Industrial Facility | Property Manager | Distributor | Utility |
| Association | Educational Institution | Research | Library | |

Membership Percent



- | | | | | |
|-----------------------|---------------------------|--------------------|---------------|------------------|
| ■ Consulting Engineer | ■ Student | ■ Manufacturer | ■ Contractor | ■ Manu. Rep |
| ■ Other | ■ Gov't | ■ Design Build | ■ Architect | ■ Sales Engineer |
| ■ Commercial Facility | ■ Industrial Facility | ■ Property Manager | ■ Distributor | ■ Utility |
| ■ Association | ■ Educational Institution | ■ Research | ■ Library | |

CONFIDENTIAL

Global Training Center Report for the period 1 July 2019 – 31 December 2019

Prepared for Global Training Center Volunteer Oversight Subcommittee
Publishing and Education Council
January 2020

Contents

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CONFIDENTIAL

Global Training Center Report for the period 1 July 2019 – 31 December 2019

January 2020

1. Performance Summary for the period July – December 2019

July – December 2019: The GTC presented 10 courses and trained 206 people, achieving a fiscal net performance of **\$35,515.10**

This was achieved by further developing sales channels through the Global Training Center, hosts (ASHRAE chapters, local societies, conference organizers), commercial companies and host combinations.

Instructor performances were generally well received by attendees. It should also be noted that instructor flexibility, responsiveness and ability to adjust their schedules is crucial. Reinforce the sales dynamic making distinction between business commitment rather than internal chapter activities. Samir Traboulsi and Hassan Younes have been extremely accommodating in that regard.

The base instructor honorarium during the period was **\$850** per day.

The base registration fee per registrant during the period was (Fees charged when courses are organized in Dubai; from which all other discounted fees, etc. are derived from).

| | |
|--------------|----------------------------------|
| 1-day course | \$311 (\$405 Non-members) |
| 2-day course | \$524 (\$641 Non-members) |
| 3-day course | \$757 (\$948 Non-members) |

Average revenue per registrant ranged from **\$156** to **\$763**.

Average cost per registrant ranged from **\$46** to **\$566.73**.

Variations in average revenue and cost per registrant as a result of different registration fees is due to the following factors:

1. Member/Non-member pricing
2. Attendees from developing economies
3. Chapter/ developing economy chapter hosts
4. Group discounts
5. Multiple course registration

The following represents the cost breakdown for all courses during the period:

- Honorariums \$31,450.00
- Training venue \$6,817.68
- Printing \$1,906.96
- Airfare \$6,232.97
- Hotel \$5,360.69
- Visa \$2,305.00

2. Business Model

Basic premise of our strategy is to offer training specifically for the Middle East, Africa and parts of Asia markets that is customized, suitably priced, sold and valued.

The following shows what is currently being done and what will be changed based on what has been learned from experience.

1. During the past year, more training distributors (chapters/hosts) have been identified and used taking our training to 9 different cities in 7 countries.

Plan is to pursue more distributors (chapters/hosts) whom are more knowledgeable about their market trends and needs, to make ASHRAE courses accessible in more locations. Training organized by different hosts are offered reduced fees since a bulk of our costs are eliminated.

- A lot of potential in the Saudi market. Worth considering other hosts in addition to the Saudi Council of Engineers.
 - Engage more chapters to organize local training by continuously reminding them of the value of offering ASHRAE content in their countries. Efforts require chapter commitments which is not always present.
2. Identify more GTC instructors in different countries.
 - Reduces travel time and costs (flight, hotel, visa etc.)
 - Ensures we are more responsive to potential opportunities.
 3. Attachment A (page 11) shows the documents used to screen potential instructors. To be used as new instructors are added or re-confirmed.
 4. Organize courses based on market trends
 - Planned topics in 2020: Data Centres, Refrigerant Updates, District Cooling.
 5. Eliminate cost associated with paper-based course books and certificates during training organized in Dubai starting 2020.
 6. Ensure evaluation forms are completed by all training attendees by utilising online evaluations. Attendees will be required to complete the evaluation forms to receive their soft copy certificates. Attachment B (page 13) shows a sample of the evaluation forms used.
 7. Working with different hosts has presented some logistical challenges hence the following:
 - More control over content and secured certificates sent to chapters/hosts. Certificates will either need to be filled out by the Dubai office, secured then sent to the organizer. Or set a limit to how many times a certificate template can be filled.
 - General guidelines pertaining to facilities used by hosts/chapters for ASHRAE courses are needed.
Facilities Guidelines:
 - Attendees should be seated comfortably and not too close to each other.
 - Training room should have good indoor air quality with the ability to control the air temperature and air flow in the room.
 - Training room should be well lit.

- Data projector should be centred at the front, complete with suitable sound system (lavaliere microphone,
- Training room should be well insulated from any disruptions from neighbouring rooms.
- Restrooms, break, and lunch areas should be easily accessible by all attendees.
- Chapter organizers are encouraged to bring in training sponsors which is crucial to help further reduce fees for attendees and cover chapter related costs. To ensure compliance with ASHRAE commercial policies, the following is included in all chapter agreements.

Promotion & Sponsorship Conditions

- All course(s) promotions should include the ASHRAE chapter name and logo. (If a distributor is cooperating with an ASHRAE chapter to organize the course(s)).
 - Training room must be free from all commercial branding (i.e. corporate sponsors). All sponsor related marketing must be placed outside of the training room.
 - If courses are organized alongside a conference, the below conditions must be adhered to:
 - No logos, banners or any promotional materials relevant to sponsor(s) can be placed inside the ASHRAE training room.
 - Sponsor(s) promotional displays and materials (if any) can be placed outside of the ASHRAE training room.
 - Advertising sponsor(s) on any of the conference organizers websites must be in a separate section than the ASHRAE course(s).
 - Advertising sponsor(s) on chapter websites must be in a separate section of the web site and must comply with all requirements of the ASHRAE Policy for Chapter Websites.
8. To meet Region-At-Large's diverse needs, having a pricing structure to meet conditions of Minimum Advertised Price Policy (MAP) and Resale Price Maintenance (RPM) are being set to reduce price disparities offered by distributors (hosts/chapters) in different countries, encourage distributors to invest in promotion and customer-friendly experiences and to encourage global competition among potential distributors.

Pricing Structure:

Non-Developing Economies:

- Individual fees charged when courses are organized by the Dubai office (25% less than US fees)

- Chapter fees charged when any non-developing economy chapter organizes an ASHRAE course (50% less than base member fee)
- In-House fees (50% less than base non-member fee)

Developing Economies:

Determined based on the countries listed under “Low-income economies” and “Lower-Middle-Income economies” published by the World Bank.

- Individual DE fees charged when individuals from DE would like to attend courses organized in Dubai (50% less than US fees)
- Chapter fees charged when any developing economy chapter organizes an ASHRAE course (50% less than DE member fee)
- In-House fees (50% less than base non-member fee)

Distributors:

- Prices for different distributors in the region (hosts and/or chapters) are charged a flat fee based on a minimum number of attendees. Additional attendees are charged extra.

Pricing Conditions for Distributors:

The distributor whether host or chapter can determine the course fees charged per registrant provided the below conditions are met:

- The distributor cannot advertise the per registrant price of course(s) below what ASHRAE is charging the distributor per person.
- The distributor cannot charge each registrant below what ASHRAE is charging the distributor per person.
- If the distributor is a developing economy chapter, course(s) promotions should clearly include the term “developing economy price”.
- If a distributor is a chapter wanting to bring in a sponsor to the course(s) to help reduce the fee per person even further, course(s) promotions should clearly state that the fees have been reduced due to sponsor.

3. Metrics for the period (Training Summary July – December 2019)

| | Date | Training | Instructor(s) | Location | Final Reg. No. | Total Revenue | Total Cost | Net Profit | Comments |
|----|----------------|--|--|---------------------|----------------|---------------|-------------|--------------|------------------------------|
| 1 | 4-5 Sept 2019 | HVAC Design: Level I - Essentials (MENA) | Omar Abdelaziz & Hassan Younes | Cairo | 18 | \$ 6,300.00 | \$ 5,710.50 | \$ 589.50 | DE Chapter fees are charged |
| 2 | 13-15 Oct 2019 | HVAC Design: Level I - Essentials (MENA) | Samir Traboulsi & Hassan Younes | Riyadh, KSA | 19 | \$ 8,415.00 | \$ 6,458.95 | \$ 1,956.05 | Host: SCE* |
| 3 | 16-17 Oct 2019 | HVAC Design: Level II – Applications (MENA) | Samir Traboulsi & Hassan Younes | Riyadh, KSA | 17 | \$ 5,700.00 | \$ 4,114.39 | \$ 1,585.61 | Host: SCE* |
| 4 | 27-29 Oct 2019 | HVAC Design: Level I - Essentials (MENA) | Samir Traboulsi & Hassan Younes | Dubai, UAE | 29 | \$ 21,643.84 | \$11,353.32 | \$ 10,290.52 | GTC |
| 5 | 30-31 Oct 2019 | HVAC Design: Level II – Applications (MENA) | Samir Traboulsi | Dubai, UAE | 27 | \$ 11,039.56 | \$ 5,132.32 | \$ 5,907.24 | GTC |
| 6 | 3-5 Nov 2019 | HVAC Design: Level I - Essentials (MENA) | Alkis Triantafyllopoulos & Hesham Safwat | Jeddah, KSA | 12 | \$ 8,910.00 | \$ 6,800.77 | \$ 2,109.23 | Host: SCE* |
| 7 | 6-7 Nov 2019 | HVAC Design: Level II – Applications (MENA) | Alkis Triantafyllopoulos | Jeddah, KSA | 13 | \$ 5,400.00 | \$ 3,037.68 | \$ 2,362.32 | Host: SCE* |
| 8 | 16-18 Nov 2019 | HVAC Design: Level I - Essentials (MENA) | Samir Traboulsi & Hassan Younes | Kuwait City, Kuwait | 26 | \$ 9,828.00 | \$ 5,737.83 | \$ 4,090.17 | Host: KSE** & Kuwait Chapter |
| 9 | 18 Nov 2019 | Designing for IAQ: Complying with Standard 62.1 (MENA) | Samir Traboulsi & Hassan Younes | Kuwait City, Kuwait | 10 | \$ 3,900.00 | \$ 2,138.64 | \$ 1,761.36 | Host: KSE** & Kuwait Chapter |
| 10 | 21 Nov 2019 | Variable Refrigerant Flow Systems (MENA) | Hesham Safwat | Kuwait City, Kuwait | 35 | \$ 5,460.00 | \$ 1,596.90 | \$ 3,863.10 | Host: KSE** & Kuwait Chapter |

| | | | | |
|--------------|------------|---------------------|---------------------|---------------------|
| TOTAL | 206 | \$ 86,596.40 | \$ 52,081.30 | \$ 34,515.10 |
|--------------|------------|---------------------|---------------------|---------------------|

*Saudi Council of Engineers

** Kuwait Society of Engineers

5. Attachments

Attachment A: Instructor Application Form

ASHRAE Africa, Middle East & Southwest Asia Training Initiative Application to Be an ASHRAE Instructor

1. Biographical and Contact Information

- Name (as you wish it to appear in promotional materials):
- Credentials (that you wish listed in order of Doctorate Degree, Engineering License, ASHRAE Certifications, Accreditations, Other Certifications)
- Email address:
- Phone number:
- Grade of ASHRAE Membership:
- Year Joined ASHRAE
- Past and Current ASHRAE Technical Committee Memberships (This is not a requirement but membership is encouraged. Corresponding memberships are offered.):
- In what country do you work:
- In what other countries have you worked:
- Where did you attend university/college:
- What types of work positions have you held:
- Current employer:
- What types of employers have you worked for:

2. Professional Background Information

- In what fields do you feel qualified to instruct? (for example, psychrometrics, indoor environmental quality, system design, building performance, modeling, building automation, equipment selection, air distribution, refrigerant selection, refrigerant management, commissioning, engineering sales, project management, energy management).
- In what applications do you have experience? (for example, large buildings, hospitals, laboratories, manufacturing facilities, data centers, food handling and transportation, commercial refrigeration, district energy systems)
- Who You Are Paragraph (Using the sample below write a paragraph that describes your experience, phrased to emphasize your qualifications to be an ASHRAE Instructor. Don't worry about grammar or style; focus on why someone would want to register for a course that you instruct.)

Sample: Nathalie Smith has more than XX years experience in the HVAC&R industry. She holds an engineering degree from XXXX University and has received awards for her engineering accomplishments from XXXXX and XXXXXX. She specializes in XXXXXXX applications and is a recognized authority in the fields of XXXXXX. Ms Smith has XXXXX years of experience as an instructor teaching courses on XXXXXXX and XXXXXXX. She is

currently employed as XXXXXXX by a supplier of building automation solutions and resides in Belgium. Ms Smith believes the greatest challenge facing engineers in the field of building and environmental technologies is applying cloud-based management of building services equipment and using performance data to improve building design.

Your Paragraph:

3. Photograph

Return with a Photograph as a JPEG (Photo should be head and shoulders, either a portrait or in a professional setting. You should appear happy, encouraging someone to want to take your course).

Anything else a registrant should know about your background and experience?

CONFIDENTIAL

Attachment B: Sample Training Evaluation Form

Course Name
Training Location
Training Date

Strongly Agree

Undecided

Strongly Disagree

Instructor 1: xxx

- | | | | | | |
|---|---|---|---|---|---|
| 1. Instructor was knowledgeable in the subject. | 5 | 4 | 3 | 2 | 1 |
| 2. Instructor presented the concepts and principles clearly and understandably. | 5 | 4 | 3 | 2 | 1 |
| 3. Instructor related the material to practical applications. | 5 | 4 | 3 | 2 | 1 |

Instructor 2: xxx

- | | | | | | |
|---|---|---|---|---|---|
| 1. Instructor was knowledgeable in the subject. | 5 | 4 | 3 | 2 | 1 |
| 2. Instructor presented the concepts and principles clearly and understandably. | 5 | 4 | 3 | 2 | 1 |
| 3. Instructor related the material to practical applications. | 5 | 4 | 3 | 2 | 1 |

COURSE CONTENT

- | | | | | | |
|--|---|---|---|---|---|
| 1. Objectives of the training were clearly stated. | 5 | 4 | 3 | 2 | 1 |
| 2. Content quality and format make the course notes valuable for future reference. | 5 | 4 | 3 | 2 | 1 |
| 3. Quality and clarity of the audio visuals enhanced my ability to understand the course concepts. | 5 | 4 | 3 | 2 | 1 |
| 4. Organization and order of the presentation supported effective mastery of the training topic. | 5 | 4 | 3 | 2 | 1 |
| 5. Material presented will be of practical use in my work. | 5 | 4 | 3 | 2 | 1 |
| 6. Training level met my needs and expectations. | 5 | 4 | 3 | 2 | 1 |

GENERAL

1. Are you an individual ASHRAE member? ____ YES ____ NO

2. Which of the following best characterizes your primary job function?
- ☐ Consulting Engineer ☐ Facilities Engr/Mgr ☐ Sales Engineer ☐ Regulator
- ☐ Educator/Research ☐ Utility Representative ☐ Design Engineer ☐ Student
- ☐ Code Official ☐ Contractor/Installer ☐ Architect ☐ Other _____
3. What is the principal activity of your firm?
- ☐ Consulting (Engineering or Architectural) ☐ Manufacturing
- ☐ Contracting/Design-Build ☐ Manufacturing Representative
- ☐ Building Owner & Facility Management ☐ Other _____
4. Which describes your highest level of education?
- ☐ High School ☐ Associates Degree/Certificate Program ☐ Bachelor's Degree
- ☐ Masters Degree ☐ Doctoral Degree
5. Why did you attend? (Check one) ☐ Personal choice ☐ Employer recommendation
6. Would you prefer for Middle East/Northern Africa courses to start on Saturday or on Sunday? ☐ Saturday ☐ Sunday
7. How did you become aware of this training?
- ☐ Associate at work ☐ ASHRAE/Newsletter/Publication ☐ ASHRAE web site
- ☐ ASHRAE Chapter ☐ ASHRAE brochure mailing to members ☐ ASHRAE Social Media
- ☐ ASHRAE email ☐ Other _____
8. What was your primary reason to register for this training?
- ☐ New to HVAC&R industry ☐ Recent college graduate (1 year or less) ☐ Knowledge/CEUs/Credits
- ☐ New job or new job requirements ☐ Other _____
9. Was the course content suitable for the Middle East/Northern Africa region? ☐ YES ☐ NO
- Why or why not?
10. What changes would you make to this training?
11. What topics would you recommend for other ASHRAE courses or seminars?

GENERAL COMMENTS:

ASHRAE
Consolidated
12 Months ended June 30, 2019

REVENUES

| | |
|--|-----------|
| 31 Membership Dues Earned Income | \$7,779.9 |
| 32 Publication Sales Income | 3,447.6 |
| 34 Advertising Income - Display | 3,078.7 |
| 34 Advertising Income - Classified | 10.9 |
| 34 Advertising Income - On-line | 868.6 |
| 35.1 Meeting & Seminar Income | 1,548.2 |
| 35.2 Certification Registration | 218.7 |
| 35.3 Education Registration | 1,642.7 |
| 37 Special Project Income | 74.3 |
| 38 Contribution Income | 2,295.3 |
| 41.1 AHR Exposition Income | 5,741.8 |
| 41.2 Contributions and Matching Gifts | 109.5 |
| 41.3 Exposition Income - Other Countries | 234.0 |
| 44 Reserve Transfers | 890.0 |
| 46 Miscellaneous Income | 805.2 |

TOTAL REVENUES **28,745.4**

EXPENSES:

| | |
|--|---------|
| 51 Salary Expense | 9,616.2 |
| 52 Payroll Taxes, Benefits, Personnel Exp | 2,607.8 |
| 61 Publishing and Promotion Expense | 3,238.6 |
| 64 Meetings & Conferences Expense | 2,477.7 |
| 66 Travel Expense | 2,169.0 |
| 68 Awards, Certif, Logo Cost of Goods Sold | 232.6 |
| 71 Research Projects & Grants Expense | 2,226.6 |
| 73 Special Projects Expense | 111.4 |
| 76 Public Relations Expense | 70.5 |
| 78 Occupancy & Insurance | 768.3 |
| 82 Office Expense and Organizational Dues | 1,628.9 |
| 84 Outside Services Expense | 2,242.6 |
| 88 Other Expense | 798.0 |
| 88.1 Prepaid Expense (contra acct) | (46.3) |
| 89 Opportunity Fund | 150.0 |
| 90 Depreciation Expense | 379.1 |

TOTAL EXPENSES **28,671.0**

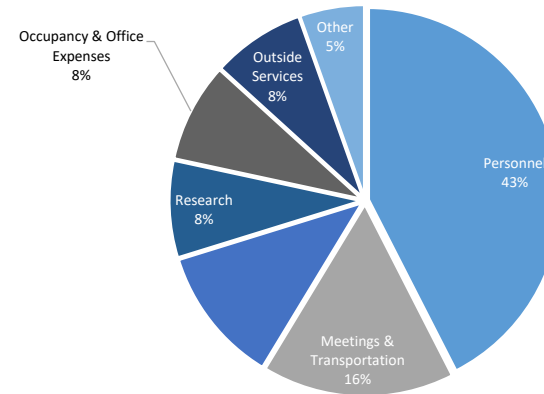
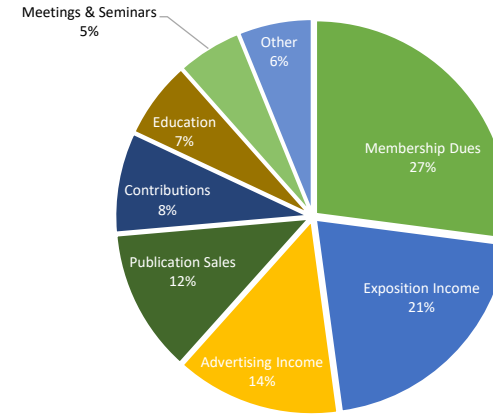
SURPLUS (DEFICIT) before reserve income 74.4

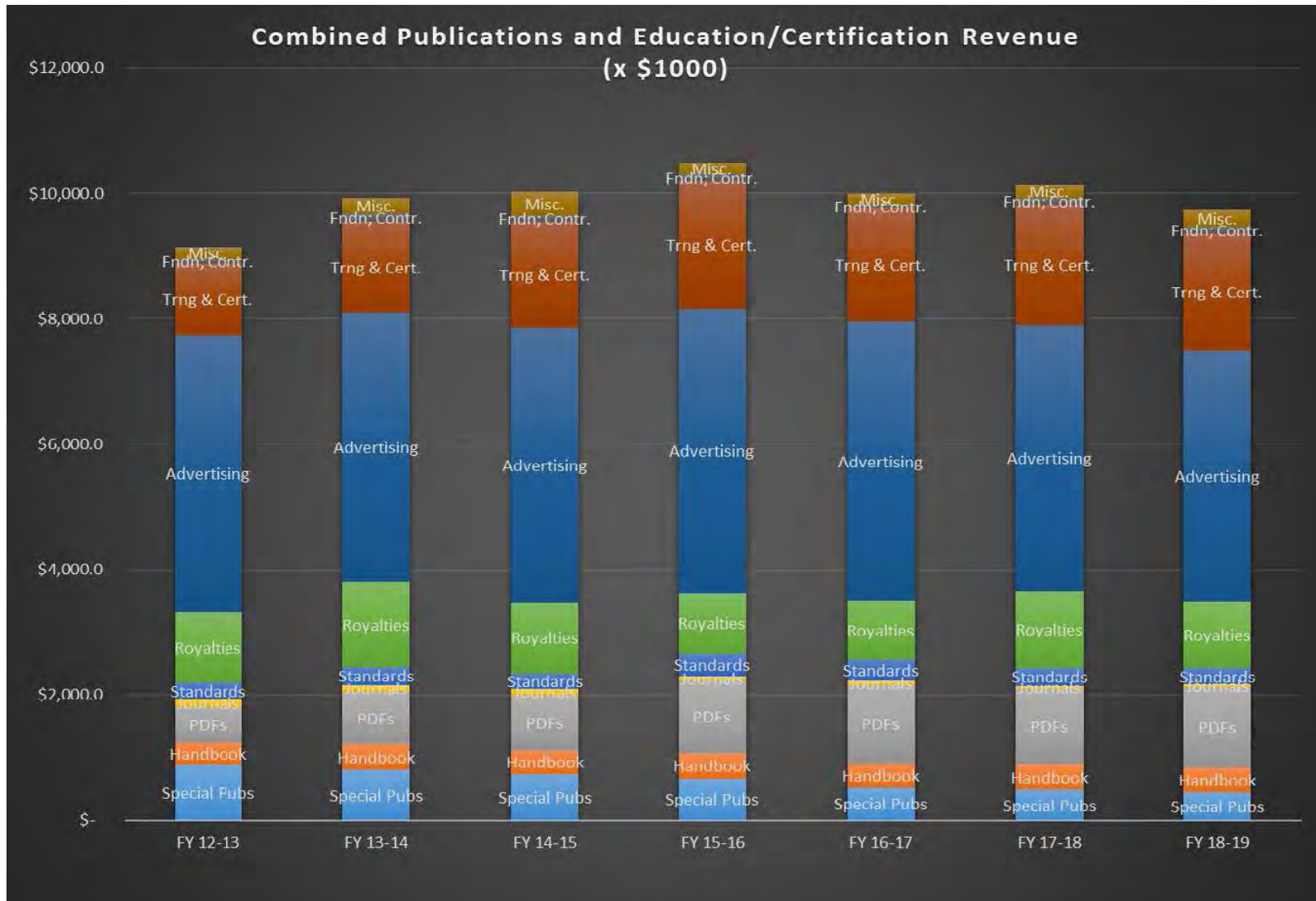
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|---------------------|-----------|------|
| Source of Funds | | |
| Membership Dues | \$7,779.9 | 27% |
| Exposition Income | 5,975.8 | 21% |
| Advertising Income | 3,958.2 | 14% |
| Publication Sales | 3,447.6 | 12% |
| Contributions | 2,404.8 | 8% |
| Education | 1,861.4 | 6% |
| Meetings & Seminars | 1,548.2 | 5% |
| Other | 1,769.5 | 6% |
| REVENUES | \$ 28,745 | 100% |

| | | |
|--------------------------------|-----------|------|
| Application of Funds | | |
| Personnel | 12,177.7 | 42% |
| Meetings & Transportation | 4,646.7 | 16% |
| Publications, Communications & | 3,309.1 | 12% |
| Research | 2,338.0 | 8% |
| Occupancy & Office Expenses | 2,397.2 | 8% |
| Outside Services | 2,242.6 | 8% |
| Other | 1,559.7 | 5% |
| EXPENSES | \$ 28,671 | 100% |

Attachment A

Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando





Definitions

Revenue

Sales for a product or service in \$US

Variable Margin

Revenue - direct costs to provide product/service that vary with volume e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship = \$45 Variable Margin or 45% Variable Margin

Gross Margin

Revenue - direct costs to provide product/service that vary with volume - staff labor directly associated with product of service e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship - \$25 Staff Labor = \$20 Gross Margin or 20% Gross Margin

Attachment A
Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

| SY 18-19 | Members Council | | Pub/Ed Council | | Corporate | |
|-----------------------|--------------------------|----------------------|----------------|-------------|------------|---------------|
| | Membership Dues/Handbook | Meetings/Conferences | Publications | Advertising | Education | Certification |
| Revenue | \$ 8,151.2 | \$ 1,589.2 | \$ 3,041.8 | \$ 4,073.6 | \$ 1,870.2 | \$ 225.7 |
| Direct Expenses | | | | | | |
| Staff Labor | 3,112.4 | 771.1 | 869.5 | 1,567.5 | 464.6 | 162.8 |
| Promotion | 435.6 | 34.7 | 64.8 | 96.1 | 31.7 | 8.9 |
| Materials | 769.2 | - | 358.5 | 657.3 | 109.6 | - |
| Commissions | - | 8.6 | - | 742.5 | - | - |
| Shipping/Postage | 376.9 | 0.6 | 162.9 | 566.5 | 33.0 | 4.9 |
| Meeting/Training Cost | 281.7 | 1,310.1 | 21.7 | 3.3 | 715.6 | - |
| Travel | 846.1 | 69.8 | 33.3 | 26.2 | 17.6 | 5.4 |
| Dev/Outside Services | 501.4 | 113.0 | 510.1 | 124.2 | 267.2 | 178.6 |
| Credit Card Charges | 221.0 | 44.9 | 44.4 | 1.4 | 53.5 | 6.1 |
| Bad Debt | - | - | 7.0 | 79.4 | - | - |
| Other/Misc. | 136.7 | 82.5 | 0.2 | 64.6 | 28.9 | 0.3 |
| Total Direct Expenses | 6,881.0 | 2,455.3 | 2,072.4 | 3,629.0 | 1,721.7 | 367.0 |
| Variable Margin \$ | 4,582.6 | (75.0) | 1,838.9 | 1,712.1 | 613.1 | 21.5 |
| Variable Margin % | 56% | -5% | 60% | 42% | 33% | 10% |
| Gross Margin \$ | 1,470.2 | (846.1) | 969.4 | 144.6 | 148.5 | (141.3) |
| Gross Margin % | 18% | -53% | 32% | 4% | 8% | -63% |

NOTES

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

There is \$8M in corp overhead. Cost is spread across all councils Corp overhead includes exec staff, BOD, marketing IT, Business Dev etc

Corp Overhead is allocated based on salaries. For PEC the allocation drives it into a loss position

Membership labor is high because it includes MC staff, TC staff PEC staff associated with Handbook Handbook printing and frt cost included in MC as it is a member benefit

\$466k in Handbook revenue in MC (\$466k copies sold to non members)

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

There is \$8M in corp overhead. Cost is spread across all councils Corp overhead includes exec staff, BOD, marketing IT, Business Dev etc

Corp Overhead is allocated based on salaries. For PEC the allocation drives it into a loss position

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

There is \$8M in corp overhead. Cost is spread across all councils Corp overhead includes exec staff, BOD, marketing IT, Business Dev etc

Corp Overhead is allocated based on salaries. For PEC the allocation drives it into a loss position

Publication Revenue include ~\$1M in royalties

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

There is \$8M in corp overhead. Cost is spread across all councils Corp overhead includes exec staff, BOD, marketing IT, Business Dev etc

Corp Overhead is allocated based on salaries. For PEC the allocation drives it into a loss position

The revenue for Advertising comes from advertising sales in Journal, HPB Cost of journal, Research Journal and HPB is in advertising (PEC) There is no revenue from the Journal issues given to members because it is considered a member benefit

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

There is \$8M in corp overhead. Cost is spread across all councils Corp overhead includes exec staff, BOD, marketing IT, Business Dev etc

Corp Overhead is allocated based on salaries. For PEC the allocation drives it into a loss position

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

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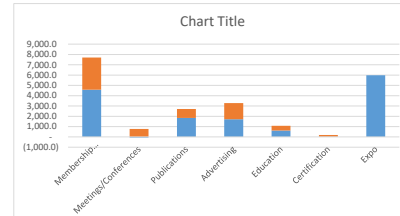
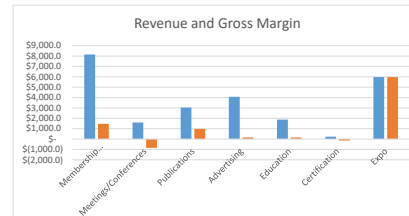
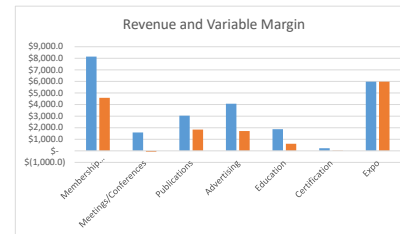
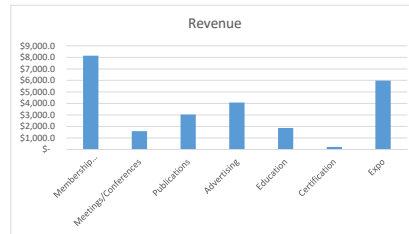
"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

There is \$8M in corp overhead. Cost is spread across all councils Corp overhead includes exec staff, BOD, marketing IT, Business Dev etc

Corp Overhead is allocated based on salaries. For PEC the allocation drives it into a loss position

Expo has no real direct costs (6 s pure margin)



PEC Revenue and Margin

Revenue - direct costs to provide product/service that vary with volume - staff labor directly associated with product of service e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship - \$25 Staff Labor = \$20 Gross Margin or 20% Gross Margin

Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

| Current Situation | | Publications | Advertising | Education | Certification | TOTAL |
|-------------------|-------------------------------|--------------|-------------|-----------|---------------|----------|
| | Current Revenue | \$ 3,042 | \$ 4,074 | \$ 1,870 | \$ 226 | \$ 9,211 |
| | Current Gross margin (\$1000) | \$ 969 | \$ 145 | \$ 149 | (\$141) | \$ 1,121 |
| | Current Gross Margin % | 32% | 4% | 8% | -63% | 12% |

| Proposed Goals | | Publications | | Advertising | | Education | | Certification | | TOTAL | |
|----------------|------------------------------------|--------------|-------|-------------|-------|-----------|-------|---------------|-----|-------|--------|
| | Proposed Revenue Goal | \$ | 4,000 | \$ | 4,100 | \$ | 2,500 | \$ | 500 | \$ | 11,100 |
| | Proposed Gross Margin (\$1000) | | 1,280 | | 205 | | 800 | | 100 | | 2,385 |
| | Proposed Gross Margin (%) | | 32% | | 5% | | 32% | | 20% | | 21% |
| | Proposed Revenue Goal - AY | \$ | 3,500 | \$ | 4,200 | \$ | 2,600 | \$ | 500 | \$ | 10,800 |
| | Proposed Gross Margin (\$1000) -AY | \$ | 1,150 | \$ | 252 | | 858 | | 100 | \$ | 2,360 |
| | Proposed Gross Margin (%) -AY | | 33% | | 6% | | 33% | | 20% | | 22% |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Hugh

Alice

| | | | |
|-------------------------|--|---|--|
| <p>Hugh's Thoughts;</p> | <p>Numbers paint bad picture but remember the Journal is given away as a member benefit. Change away from print makes advertising revenue more difficult. Work to maintain buses and have advertising cover cost of printing journal</p> | <p>Other organizations do not make much money with Certification but make it up with training. Certification cost is too high. Reconsider our business model and see if we can get cost out (i.e. do we really need to have "ANSI ready" tests?</p> | <p>PEC Generates \$1121k in margin dollars to operate ASHRAE. ASHRAE Corp allocations are based on Staff salary so PEC gets a large amount of corp cost which drives PEC to a loss position. This is just an allocation issue - what is important is margin Dollars which can fund programs.</p> |
|-------------------------|--|---|--|

| | | | | |
|---------------------------------|--|--|---|--|
| <p><i>Alice's Thoughts:</i></p> | <p>I'm less bullish than Hugh on publications because of potential revenue loss due to statutory changes (e.g., loss of copyright protection) and increasing access to no-cost publications; I do think revenues could grow by better targeting publications and NOT investing in publications unlikely to sell.</p> | <p>If advertising includes sponsorships, I believe we can do even better here. While there is downward pressure on print sales, sponsorship opportunities and online advertising present growth potential.</p> | <p>There is tremendous potential with growing our education and training revenues, including through selling these courses to government entities, and partnering with other organizations to leverage our resources, and developing better (and more modern) online courses as there is a demand especially by young people for 365-24-7 access. We could also better leverage our certification program potentially through requiring an ASHRAE course or courses (e.g., this is done by the Association of Energy Engineers)</p> | <p>Possible opportunity to tie regulations to certification requirements. For example, as cities and states work to meet various carbon goals, they may choose to require facility managers to have training and/or certification, or building auditors to be certified. Another opportunity exists to work with DOE to better leverage their "Better Buildings Program" to generate more interest in ASHRAE certifications.</p> |
|---------------------------------|--|--|---|--|

| | | | | |
|-------------------|--|---|---|---|
| Steve's Thoughts: | <p>Agree good business model but not that easy. Will involve working with partners to execute this. Suggest a more modest goal than what Hugh suggested. The Steve goal is in two fiscal years. After that growth might be more aggressive. Objective is how to provide digital content in usable form to the individual member and not just corporate license holder.</p> | <p>Agree with hugh's target. but could be higher. Emphasis shifts from selling space to giving branding opportunities and thought leadership exposure. This is tied to integrated marketing of online and print exposure. Both have to work hand in glove. If more elearnid opportunities are offered (such as sponsored blogs) revenue can grow more quickly. Also development of regional market opportunities can futher offer opportunities. We are weak in doing this now.</p> | <p>Too aggressive because of the member/volunteer nature of ASHRAE. What Hugh suggested is reasonable IF there was not concern for chapters in developing countries to offer taining at ASHRAE prices and more decentralization of educational offerings. Also, we compete with ourselves with DL program and webinar program form CTTC. If all educational activities were centralized, Hugh's suggestion would work; but it not. I would go with my suggestion.</p> | <p>I think many organizations make money from certification and for sure it is attached to training. That is the number 1 opportunity for ASHRAE in my view. This is not just a fiscal comment but a comment that relates to the value proposition globally and contribution to the industry.</p> |
|-------------------|--|---|---|---|

Society Level Revenue and Margin

| | Current Model | | | | | | Proposed Model | | | | | |
|------------|----------------|-------------|-------------------|----|------------------|--------|----------------|-------------|-------------------|----|------------------|--------|
| | Revenue (\$US) | Revenue (%) | Gross Margin (\$) | | Gross Margin (%) | | Revenue (\$US) | Revenue (%) | Gross Margin (\$) | | Gross Margin (%) | |
| Membership | \$ | 9,740.40 | 39.1% | \$ | 624.1 | 8.1% | \$ | 9,740.40 | 36.3% | \$ | 624.1 | 6.9% |
| Expo | \$ | 5,975.8 | 24.0% | \$ | 5,975.8 | 77.4% | \$ | 5,975.8 | 22.3% | \$ | 5,975.8 | 66.5% |
| PEC | \$ | 9,211.30 | 37.0% | \$ | 1,121.20 | 14.5% | \$ | 11,100.00 | 41.4% | \$ | 2,385.00 | 26.5% |
| Total | \$ | 24,927.50 | 100.0% | \$ | 7,721.1 | 100.0% | \$ | 26,816.20 | 100.0% | \$ | 8,984.9 | 100.0% |

ASHRAE
CONSOLIDATED (General and Research)
12 Months Ended June 30

Attachment A
Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

| | Actual | Actual | Actual | Actual | Actual | Budget | DRAFT Budget | DRAFT Budget | DRAFT Budget |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | FY 2015 | FY 2016 | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 |
| REVENUES | | | | | | | | | |
| 31 Membership Dues Earned Income | \$7,430.5 | \$7,634.5 | \$7,663.7 | \$7,772.8 | \$7,779.9 | \$8,151.3 | \$8,419.4 | \$8,650.9 | \$8,867.2 |
| 32 Publication Sales Income | 3,483.9 | 3,626.1 | 3,504.1 | 3,664.0 | 3,447.6 | 3,783.7 | 3,864.3 | 3,975.2 | 3,977.2 |
| 34 Advertising Income - Display | 3,710.8 | 3,779.4 | 3,577.7 | 3,294.3 | 3,078.7 | 3,103.1 | 3,008.8 | 2,956.8 | 2,956.8 |
| 34 Advertising Income - Classified | 32.0 | 19.3 | 18.0 | 14.0 | 10.9 | 10.0 | 12.0 | 15.0 | 15.0 |
| 34 Advertising Income - On-line | 595.6 | 715.8 | 821.2 | 899.2 | 868.6 | 1,070.0 | 1,115.0 | 1,160.0 | 1,160.0 |
| 35.1 Meetings/Conferences Income | 1,578.5 | 1,529.9 | 2,151.9 | 1,737.6 | 1,548.2 | 2,426.1 | 2,425.5 | 2,191.7 | 1,981.1 |
| 35.2 Certification Registration | 183.3 | 187.6 | 196.8 | 213.2 | 218.7 | 280.0 | 290.0 | 300.0 | 300.0 |
| 35.3 Education Registration | 1,504.5 | 1,844.8 | 1,611.1 | 1,700.6 | 1,642.7 | 1,960.0 | 2,078.3 | 2,200.5 | 2,200.5 |
| 37 Special Project Income | 316.6 | 3.2 | 14.3 | 62.9 | 74.3 | 98.0 | | | |
| 38 Contribution Income | 2,116.6 | 2,215.6 | 2,223.6 | 2,312.7 | 2,295.3 | 2,577.2 | 2,629.0 | 2,761.9 | 2,761.9 |
| 41.1 AHR Exposition Income | 5,146.6 | 5,168.0 | 5,623.7 | 6,085.7 | 5,741.8 | 6,300.0 | 6,450.0 | 6,500.0 | 6,500.0 |
| 41.2 Contributions and Matching Gifts | 115.0 | 57.0 | 100.0 | 74.5 | 109.5 | 171.3 | 121.5 | 122.1 | 122.1 |
| 41.3 Exposition Income - Other Countries | 145.9 | 34.0 | 162.3 | | 234.0 | | 175.0 | 100.0 | 250.0 |
| 44 Reserve Transfers | 885.7 | 655.3 | 1,089.7 | 1,199.3 | 890.0 | 1,278.7 | 760.0 | 770.0 | 770.0 |
| 46 Miscellaneous Income | 534.4 | 322.7 | 330.7 | 364.7 | 805.2 | 554.7 | 405.4 | 419.3 | 399.3 |
| TOTAL REVENUES | 27,779.9 | 27,793.2 | 29,088.8 | 29,395.5 | 28,745.4 | 31,764.1 | 31,754.2 | 32,123.4 | 32,261.1 |
| EXPENSES: | | | | | | | | | |
| 51 Salaries | 7,910.9 | 8,780.7 | 9,182.9 | 9,730.4 | 9,720.9 | 9,813.6 | 10,051.2 | 10,363.8 | 10,669.6 |
| 52 Payroll Taxes, Benefits, Personnel | 2,536.2 | 2,738.8 | 2,650.4 | 2,875.3 | 2,636.9 | 2,772.7 | 3,059.4 | 3,124.3 | 3,172.8 |
| 61 Publishing and Promotion | 3,776.9 | 3,827.9 | 3,606.9 | 3,411.8 | 3,238.6 | 3,660.5 | 3,585.9 | 3,658.4 | 3,664.4 |
| 64 Meetings/Conferences/Trainings | 2,199.2 | 2,362.8 | 2,657.9 | 2,871.1 | 2,477.7 | 3,156.3 | 3,143.6 | 2,995.8 | 2,791.4 |
| 66 Travel | 2,076.6 | 1,863.8 | 2,263.0 | 2,228.8 | 2,169.0 | 2,413.0 | 2,464.0 | 2,584.7 | 2,580.2 |
| 68 Awards, Certif, Logo Cost of Goods Sold | 164.6 | 158.5 | 212.2 | 175.2 | 232.6 | 173.7 | 177.3 | 186.2 | 186.2 |
| 71 Research Projects & Grants | 2,469.6 | 2,321.1 | 2,725.3 | 2,941.5 | 2,226.6 | 3,002.9 | 2,878.3 | 2,938.7 | 2,938.7 |
| 73 Special Projects | 72.5 | 101.3 | 157.4 | 107.7 | 111.4 | 198.0 | 240.0 | 70.0 | 70.0 |
| 76 Public Relations | 51.0 | 79.4 | 66.7 | 58.1 | 70.5 | 74.6 | 75.9 | 79.1 | 79.1 |
| 78 Occupancy & Insurance | 559.2 | 588.6 | 553.9 | 639.3 | 768.3 | 932.6 | 757.1 | 782.8 | 782.8 |
| 82 Office Expense and Organizational Dues | 1,840.2 | 1,862.7 | 1,778.9 | 1,633.0 | 1,631.3 | 1,816.9 | 1,892.1 | 1,954.9 | 1,954.9 |
| 84 Outside Services | 1,659.7 | 1,713.1 | 1,967.0 | 1,906.3 | 2,243.0 | 2,385.1 | 2,115.8 | 2,240.4 | 2,227.4 |
| 88 Other Expenses | 530.8 | 673.6 | 720.1 | 786.7 | 798.0 | 763.5 | 833.3 | 806.8 | 801.7 |
| 88.1 Prepaid Expenses (contra acct) | 33.8 | (560.5) | (535.1) | (491.5) | (182.9) | | | | |
| 89 Opportunity Fund | 35.5 | | 140.0 | 140.0 | 150.0 | 50.0 | 150.0 | 150.0 | 150.0 |
| 90 Depreciation | 631.9 | 579.3 | 529.5 | 556.9 | 379.1 | 360.0 | 785.0 | 921.9 | 921.9 |
| 91 Allocation of Overhead & BOD | | 0.0 | 0.3 | | | (0.1) | 0.0 | | |
| TOTAL EXPENSES | 26,548.6 | 27,091.1 | 28,677.3 | 29,570.6 | 28,671.0 | 31,573.3 | 32,208.9 | 32,857.8 | 32,991.1 |
| SURPLUS (DEFICIT) before reserve income | 1,231.3 | 702.1 | 411.5 | (175.1) | 74.4 | 190.8 | (454.7) | (734.4) | (730.0) |
| 91.2 Gain on Sale of HQ | | | | | 6,174.5 | | | | |
| 91.5 Headquarters Building Contributions | 153.9 | | | | 361.0 | | | | |
| 92 Non-recurring Expenses | 639.5 | 477.9 | 69.5 | 163.4 | 114.5 | 60.0 | | | |
| Reserve Investment Income: | | | | | | | | | |
| 95 Investmt Income - Reserves (net of exp) | 222.5 | (186.1) | 2,219.6 | 1,402.9 | 742.7 | 895.6 | 913.5 | 959.2 | 959.2 |
| 96 Transfer Reserves Portion Used Currently | (885.7) | (655.3) | (1,089.7) | (1,244.3) | (1,122.2) | (1,260.2) | (760.0) | (770.0) | (770.0) |
| Remaining Reserve Investment Income | (663.2) | (841.4) | 1,129.9 | 158.6 | (379.5) | (364.6) | 153.5 | 189.2 | 189.2 |
| OVERALL SURPLUS (DEFICIT) after reserve income | 82.5 | (617.2) | 1,471.9 | (179.9) | 6,115.9 | (233.8) | (301.2) | (545.2) | (540.8) |

Attachment A

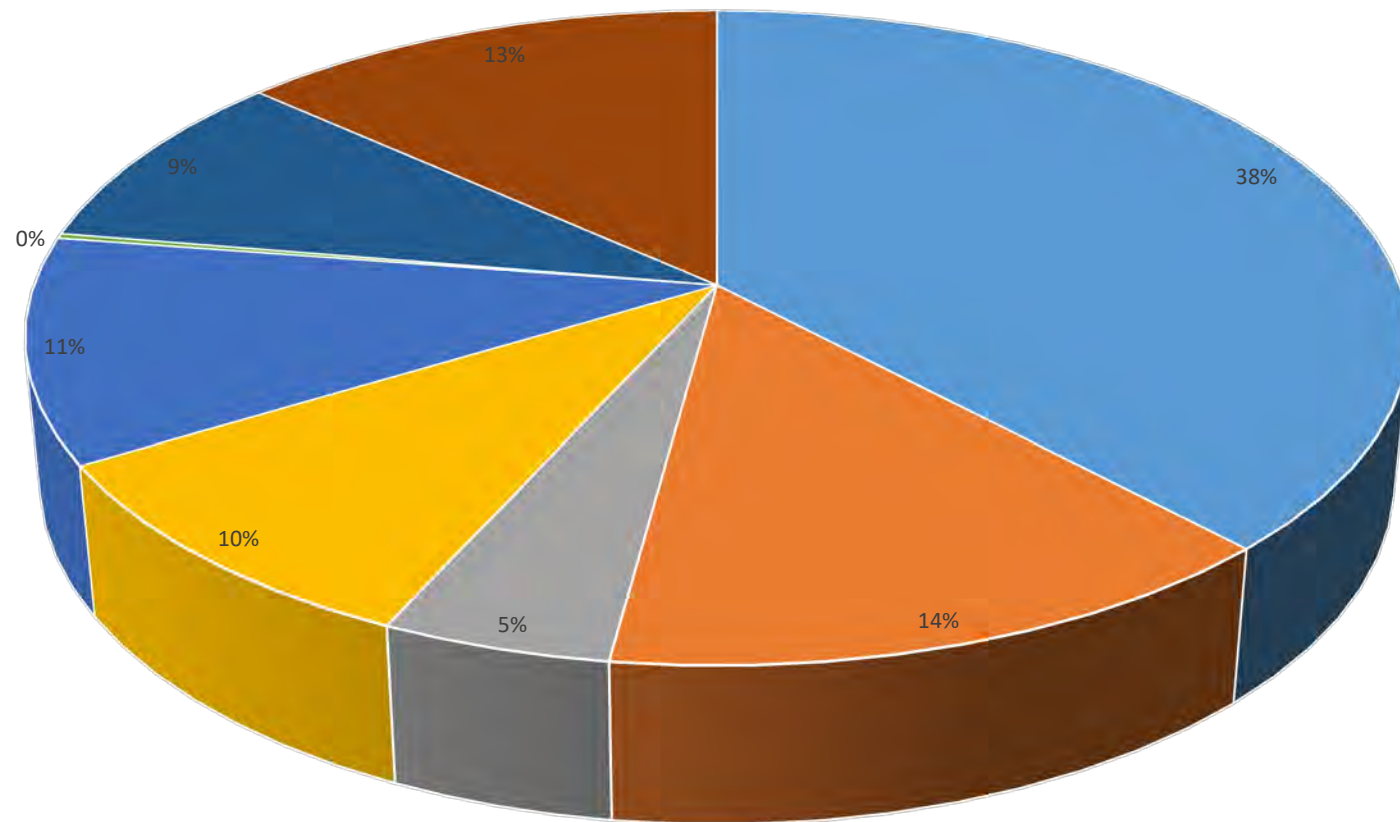
Strategic Business Development Ad Hoc Report to PEC

Margin Analysis - Compiled list for Orlando

| | | |
|---------------------------|-------|-------|
| 1 Consulting Engineer | 18445 | 32.9% |
| Student | 6226 | 11.1% |
| Manufacturer | 5057 | 9.0% |
| 1 Contractor | 4995 | 8.9% |
| 1 Manu. Rep | 3774 | 6.7% |
| Other | 3204 | 5.7% |
| Gov't | 3159 | 5.6% |
| 1 Design Build | 2923 | 5.2% |
| 1 Architect | 2874 | 5.1% |
| 1 Sales Engineer | 915 | 1.6% |
| 1 Commerical Facility | 759 | 1.4% |
| 1 Industrial Facility | 746 | 1.3% |
| 1 Property Manager | 723 | 1.3% |
| 1 Distributor | 663 | 1.2% |
| Utility | 575 | 1.0% |
| Association | 530 | 0.9% |
| 1 Educational Institution | 380 | 0.7% |
| 1 Research | 134 | 0.2% |
| Library | 11 | 0.0% |
| | 56093 | 100% |

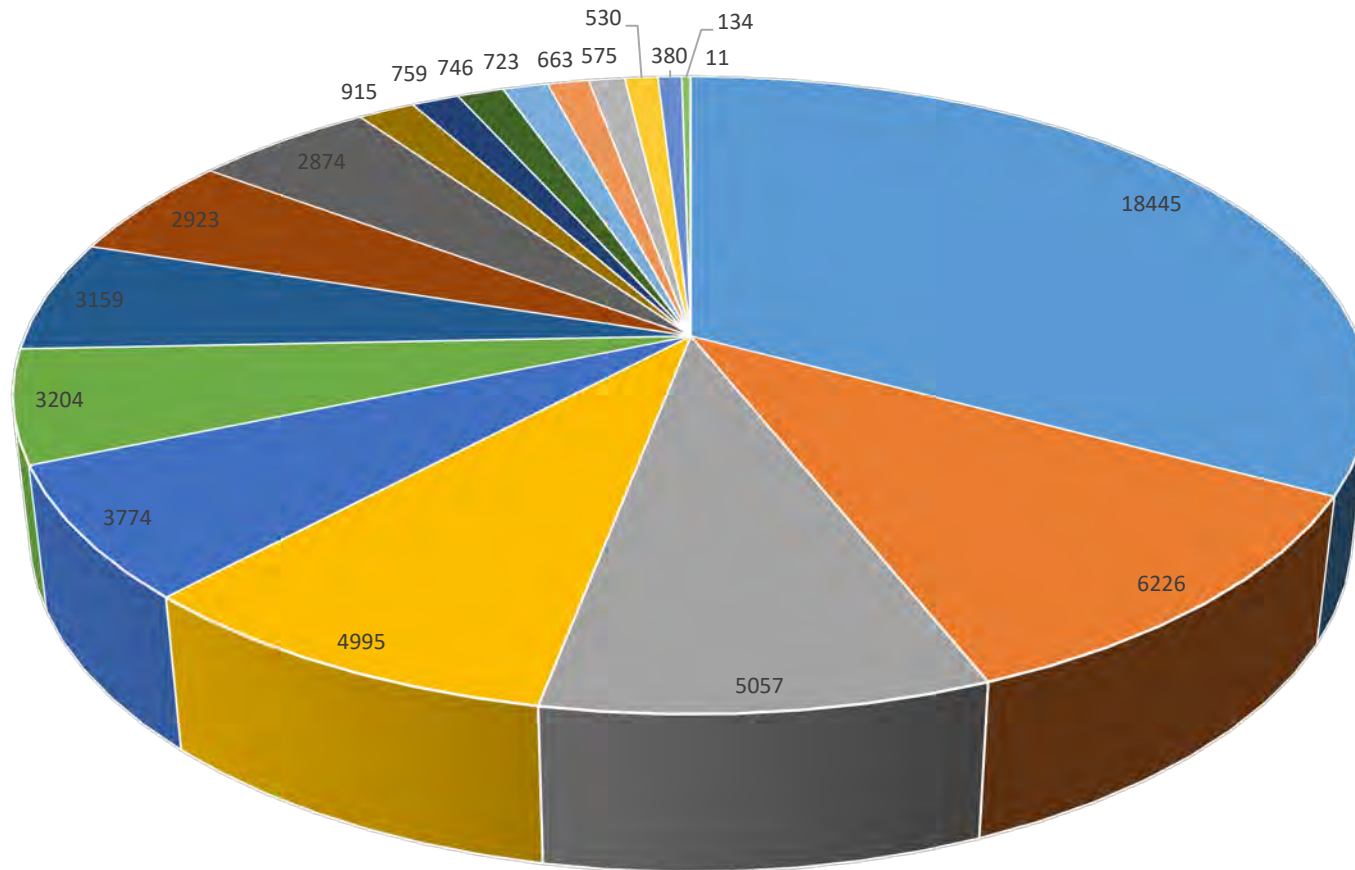
| | | |
|----------------------|-------|-----|
| Design | 21319 | 38% |
| Construction | 7918 | 14% |
| Operations and Maint | 2608 | 5% |
| Sales | 5352 | 10% |
| Student | 6226 | 11% |
| Research | 134 | 0% |
| Manufacturer | 5057 | 9% |
| Misc | 7479 | 13% |

Membership Percent



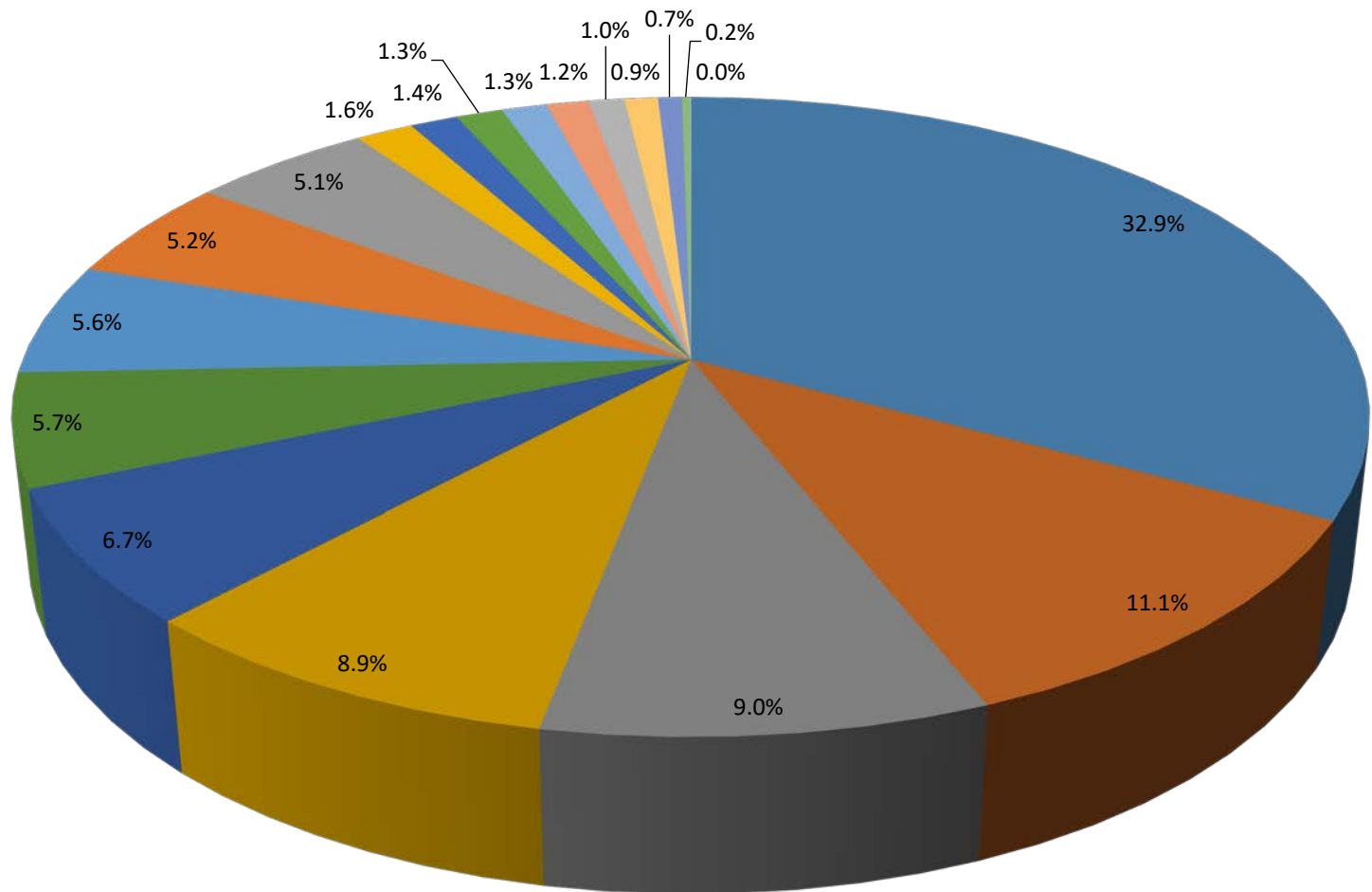
■ Design ■ Construction ■ Operations and Maint ■ Sales ■ Student ■ Research ■ Manufacturer ■ Misc

Membership headcount



- | | | | | |
|---------------------|-------------------------|------------------|-------------|----------------|
| Consulting Engineer | Student | Manufacturer | Contractor | Manu. Rep |
| Other | Gov't | Design Build | Architect | Sales Engineer |
| Commerical Facility | Industrial Facility | Property Manager | Distributor | Utility |
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Membership Percent



- | | | | | |
|-----------------------|---------------------------|--------------------|---------------|------------------|
| ■ Consulting Engineer | ■ Student | ■ Manufacturer | ■ Contractor | ■ Manu. Rep |
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Report to Pub/Ed Council

Winter Meeting
Orlando, Florida

Presenter: Timothy G. Wentz, PE, HBDP | Fellow/ Presidential Member ASHRAE

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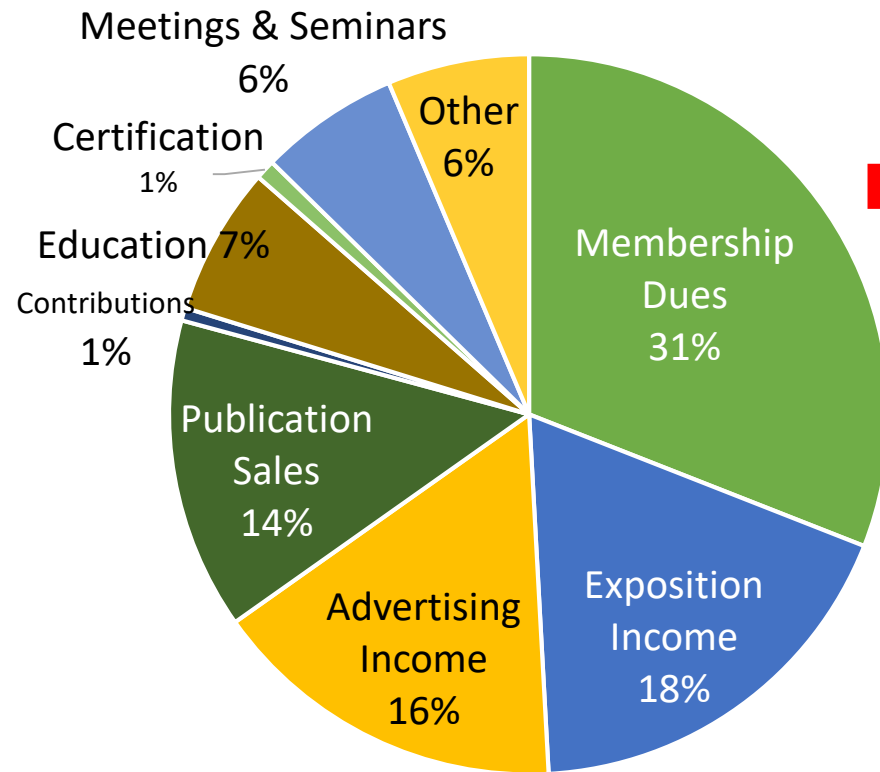


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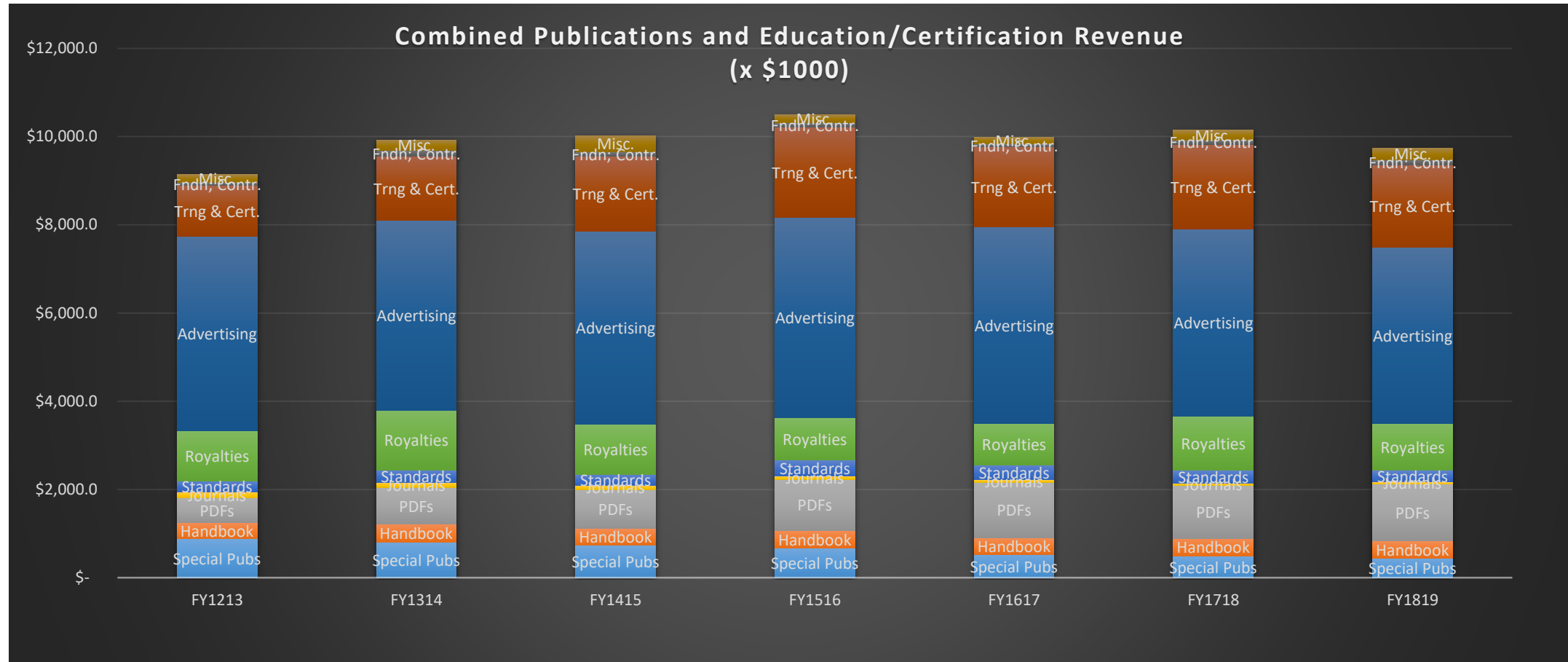
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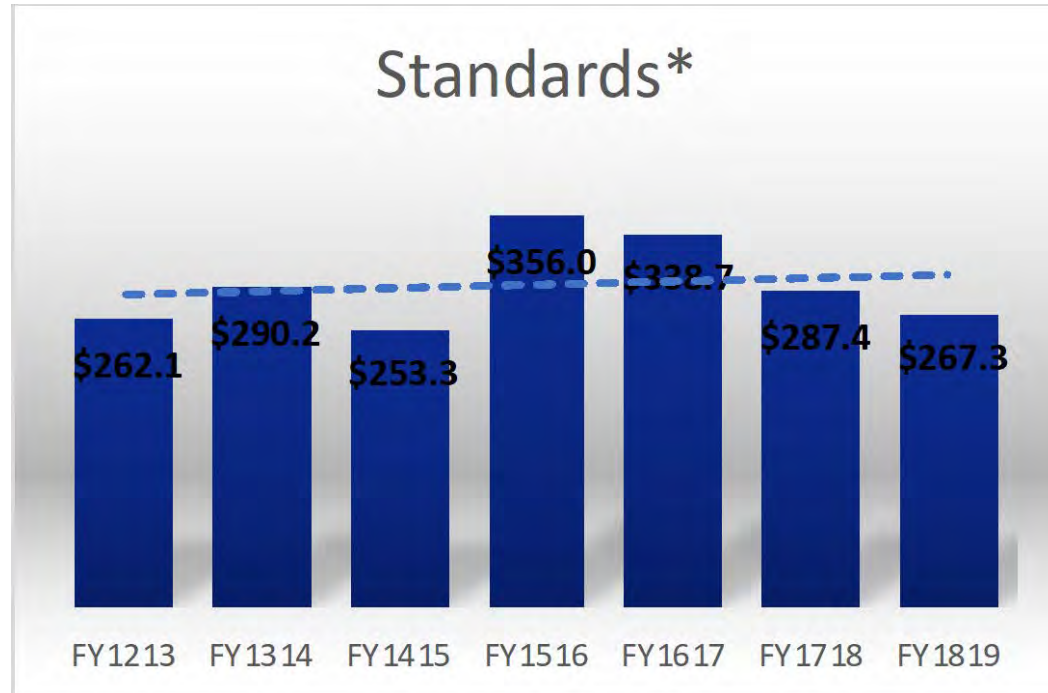
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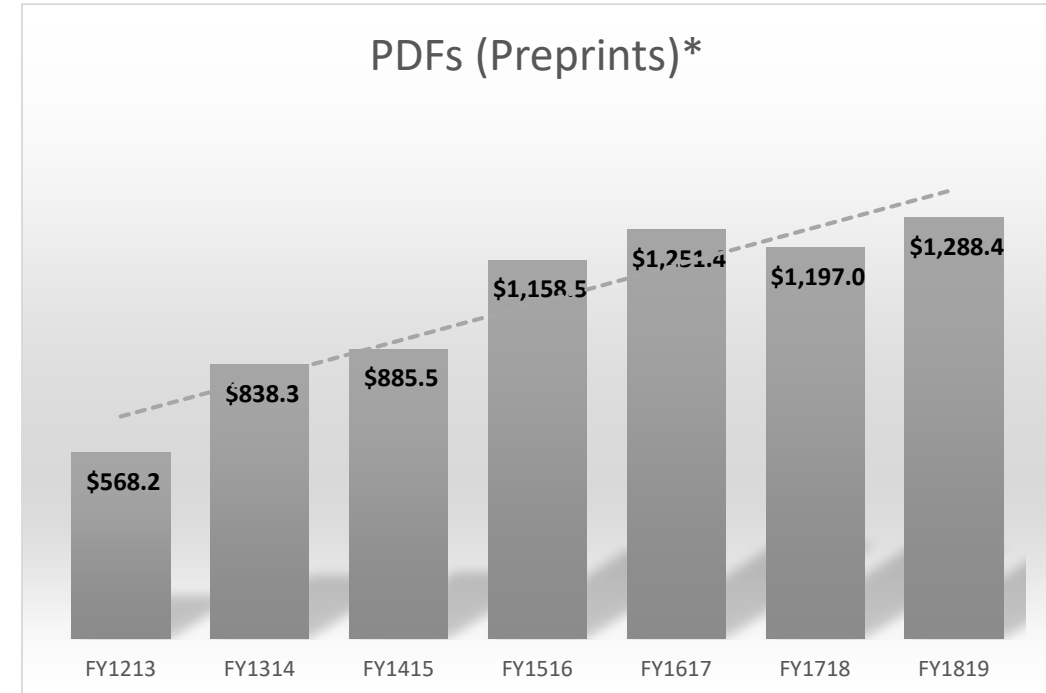
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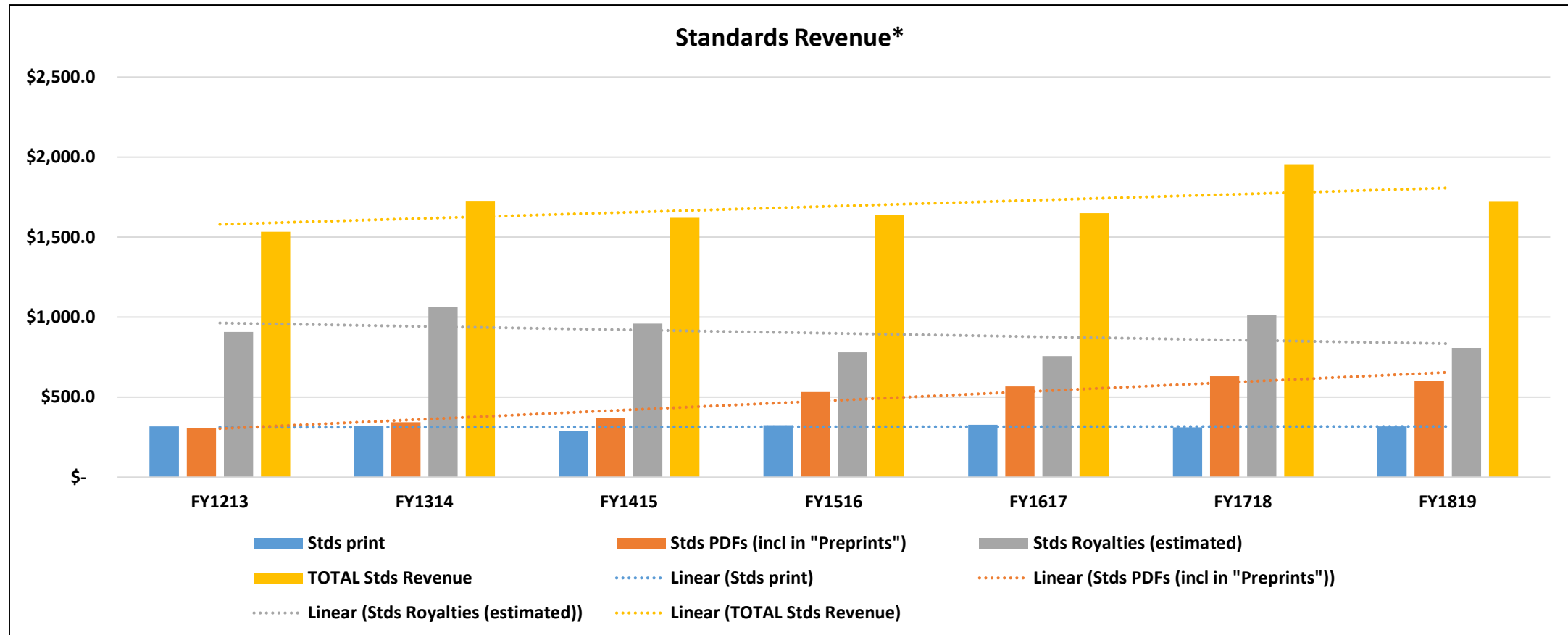


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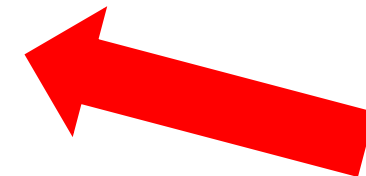


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OVERHEAD

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| | 2017 Thousands USD | 2018 Thousands USD | 2019 Thousands USD | Trend versus 2017 |
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Note: All figures taken from Society Financial Reports.

Nothing New

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| Budget Surplus/(Deficit) | \$ (158) | \$ (335) | \$ 674 | \$ (449) | \$ (283) | \$ (301) | \$ (13) | |
| Actual Surplus/(Deficit) | \$ 320 | \$ 404 | \$ 1,231 | \$ 702 | \$ 411 | \$ (175) | \$ 75 | |
| Positive/Negative Difference | + | + | + | + | + | + | + | |
| Difference (absolute) | \$ 478 | \$ 739 | \$ 558 | \$ 1,151 | \$ 694 | \$ 126 | \$ 88 | |
| % Error | 149% | 183% | 45% | 164% | 169% | 72% | 118% | 129% |

Nothing New

- What picture does this data paint for the Board?



And now for something completely different



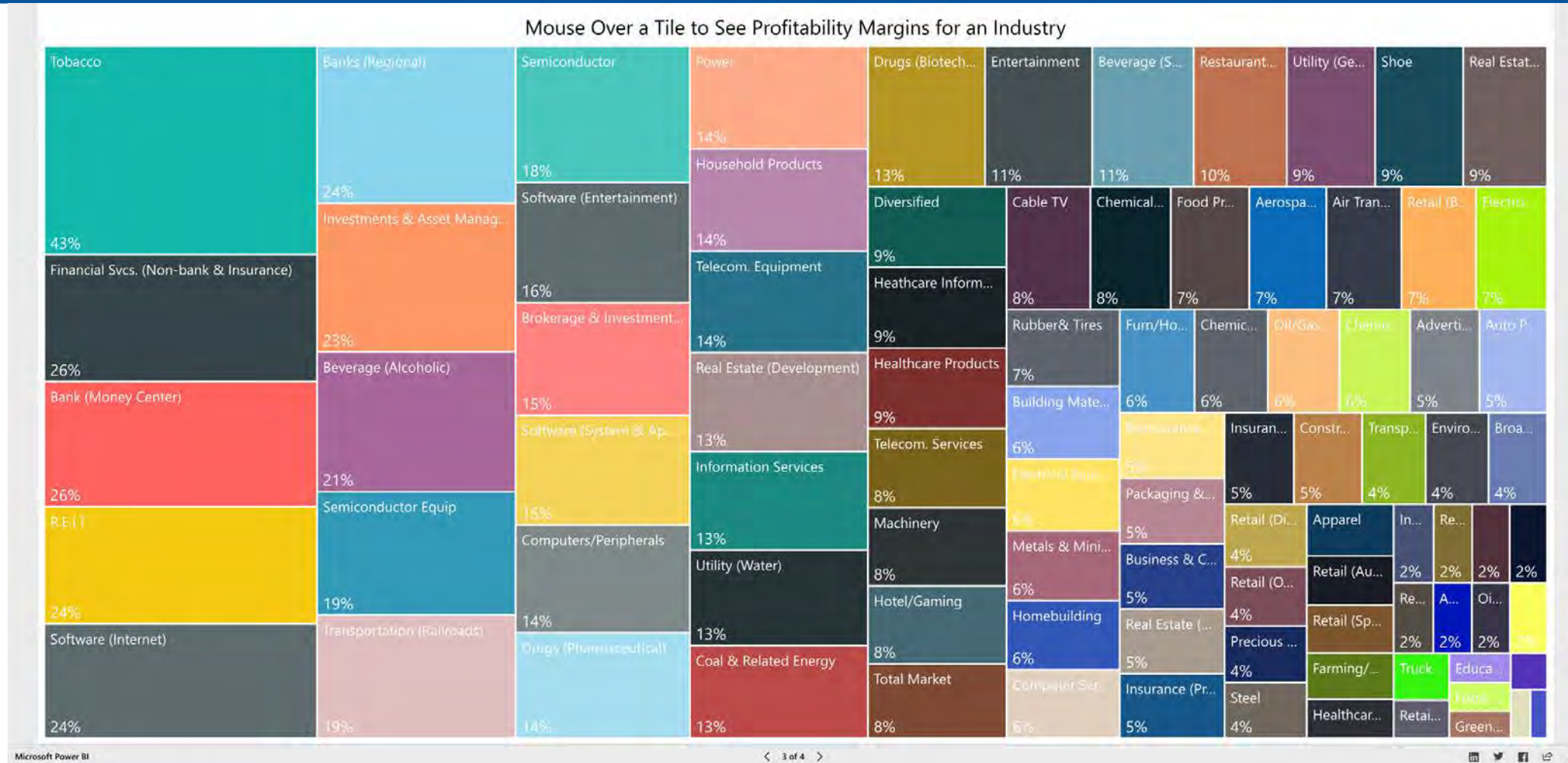
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The World of Margins



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How the Picture Changes

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Revenue = Sales for a product or service (\$US)

Variable Margin = Revenue

- Direct costs of product/service that vary with volume

Gross Margin = Revenue

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| Revenue Source | Gross Margin | | |
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| | 16-17 | 17-18 | 18-19 |
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| Advertising | 12% | 7% | 4% |
| Meetings/Conferences | -21% | -54% | -53% |
| Education | 9% | 14% | 8% |
| Certification | -87% | -52% | -63% |
| AHR Expo | 100% | 100% | 100% |

| Pub/Ed Council | | | | |
|-----------------------|----------------|-------------|-----------|---------------|
| SY 18-19 | Publications** | Advertising | Education | Certification |
| Revenue | \$3,041.8 | \$4,073.6 | \$1,870.2 | \$225.7 |
| Direct Expenses | | | | |
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| Promotion | 64.8 | 96.1 | 31.7 | 8.9 |
| Materials | 358.5 | 657.3 | 109.6 | - |
| Commissions | - | 742.5 | | |
| Shipping/Postage | 162.9 | 566.5 | 33.0 | 4.9 |
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| Variable Margin \$ | 1,838.9 | 1,712.1 | 613.1 | 21.5 |
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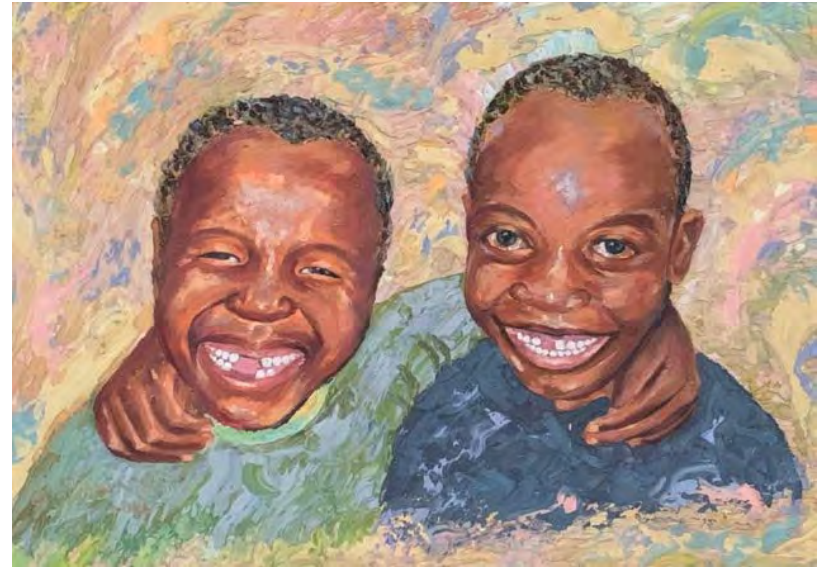
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Enhanced Goal Setting – Where We Want To Be

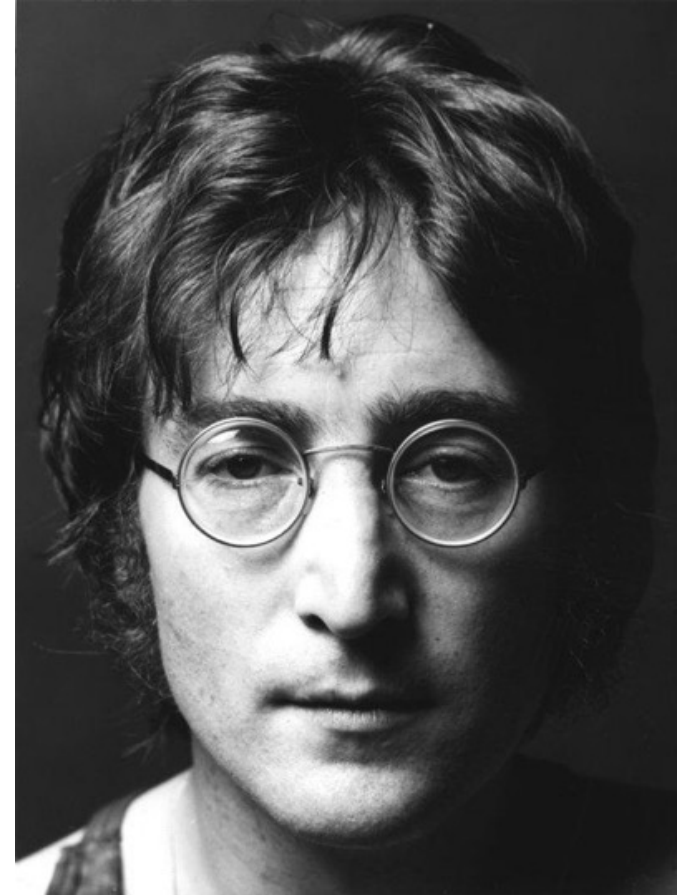
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| Proposed Gross Margin | 32% | 5% | 24% | 20% | 20% | 12% |

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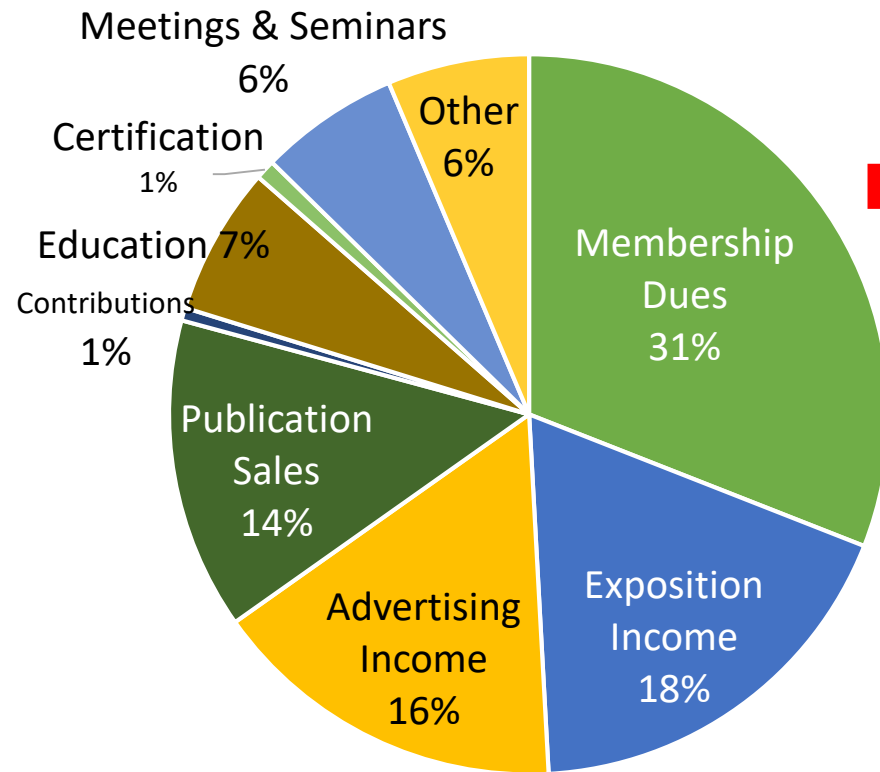


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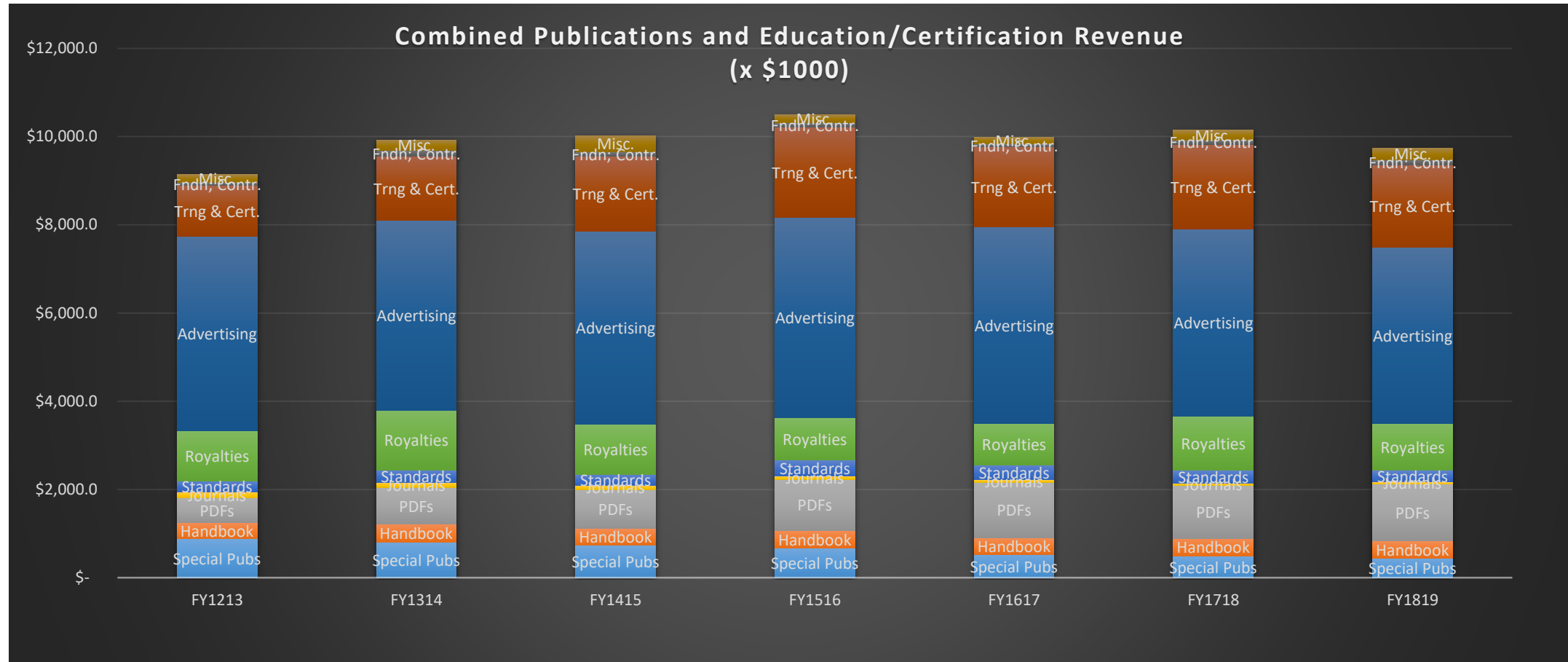
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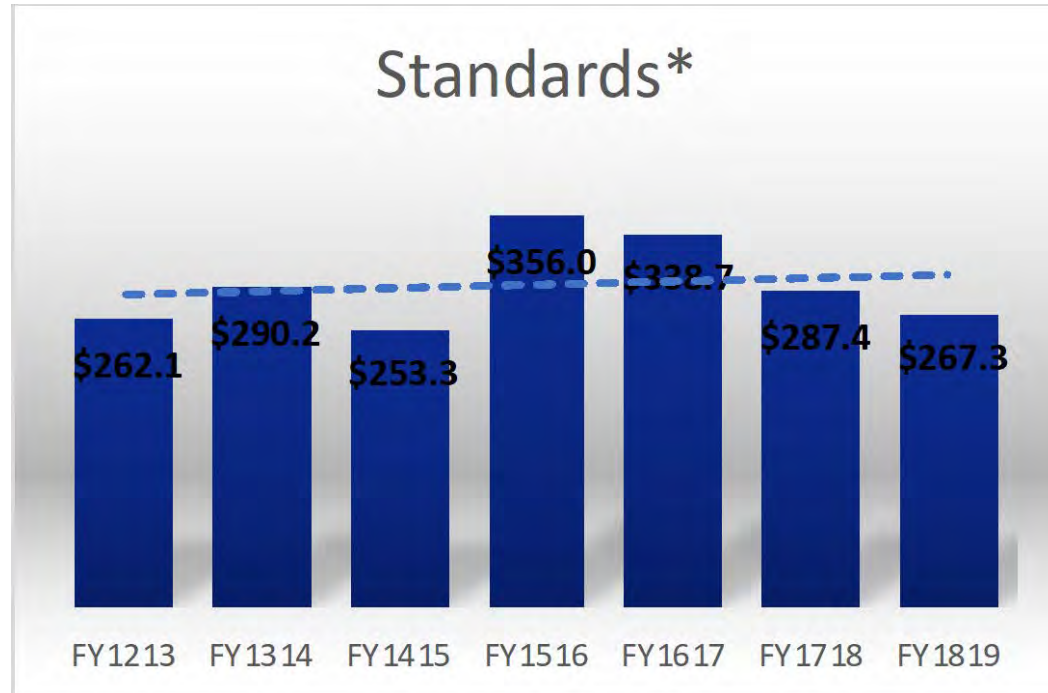
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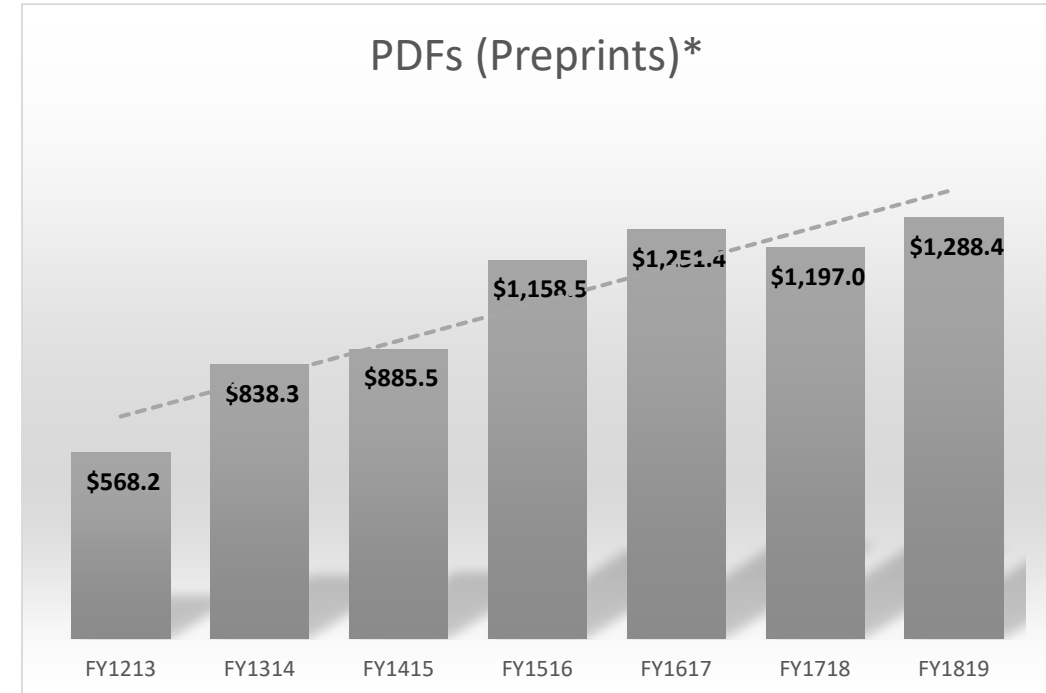
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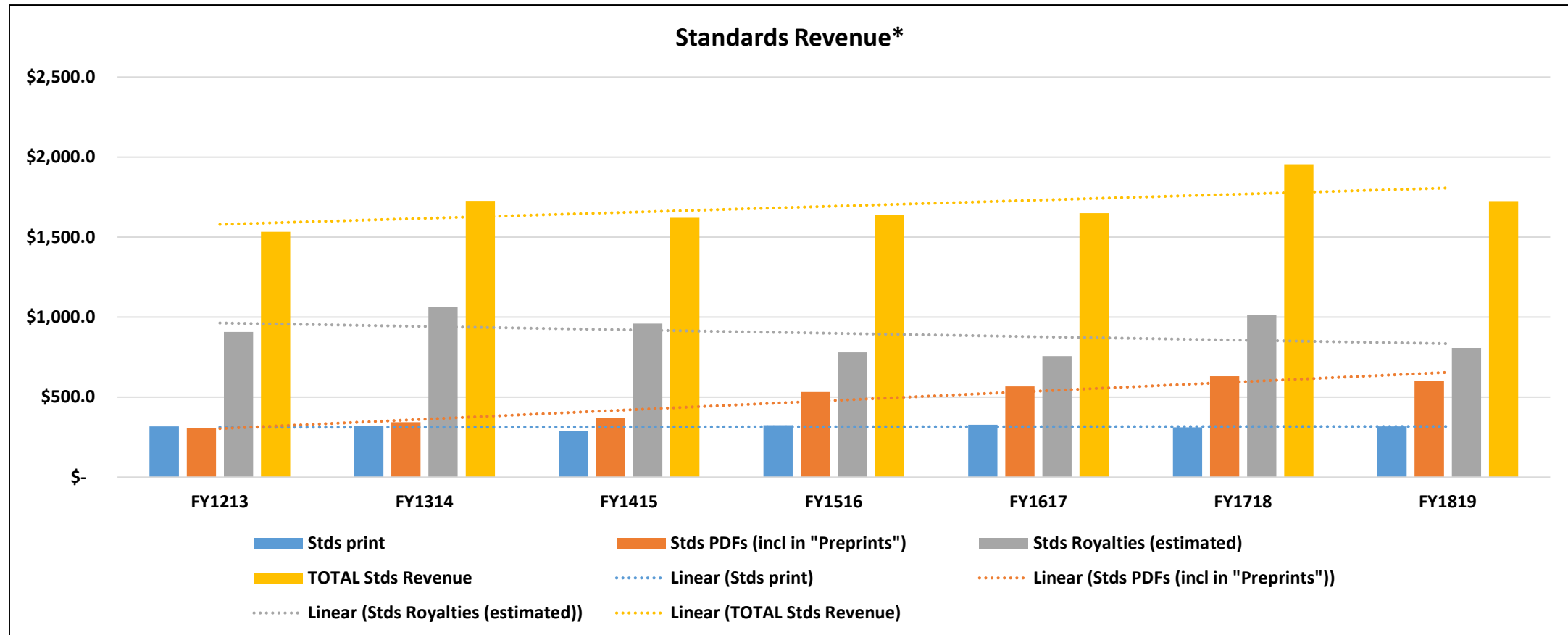


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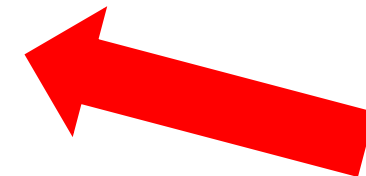


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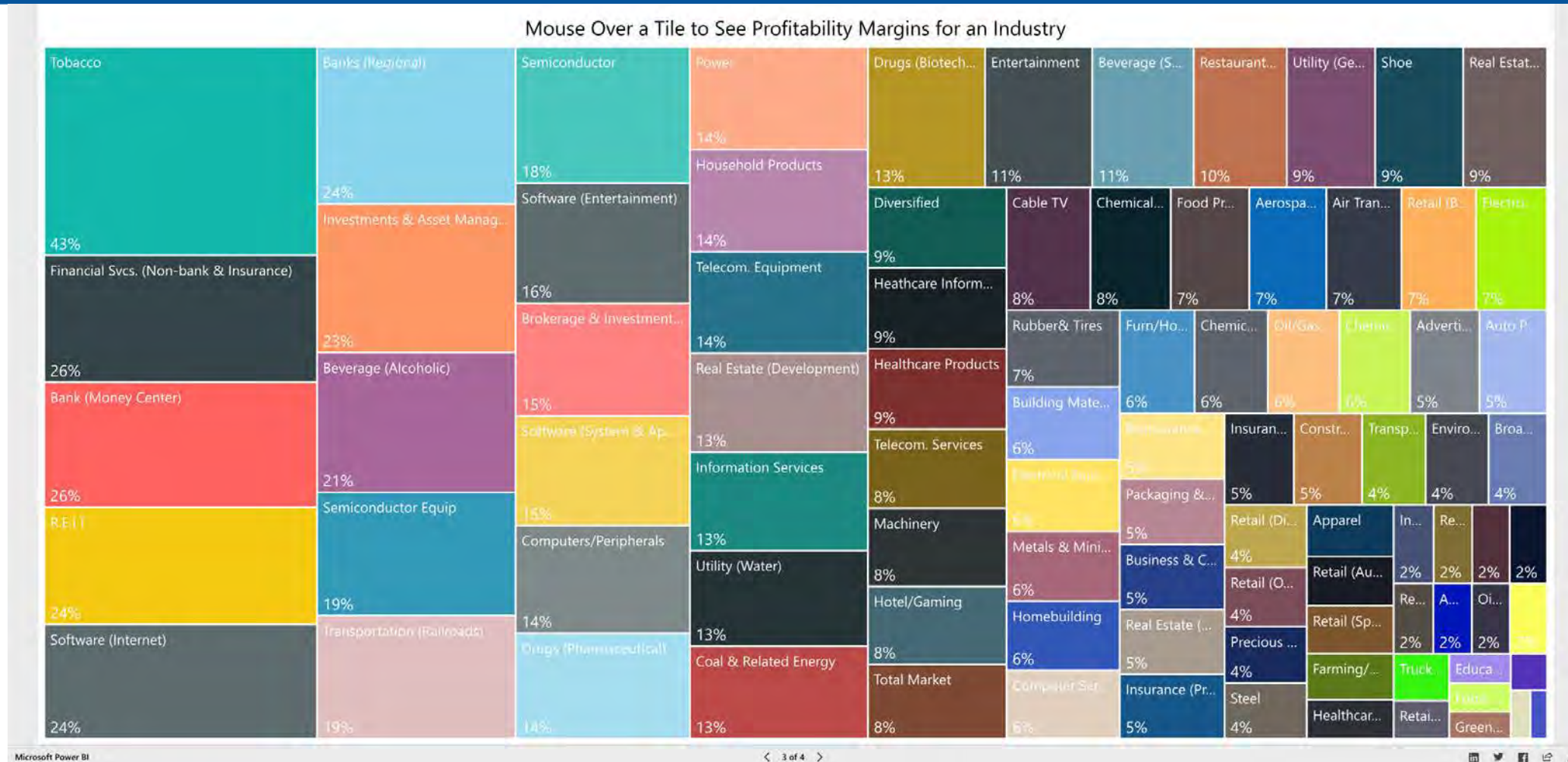
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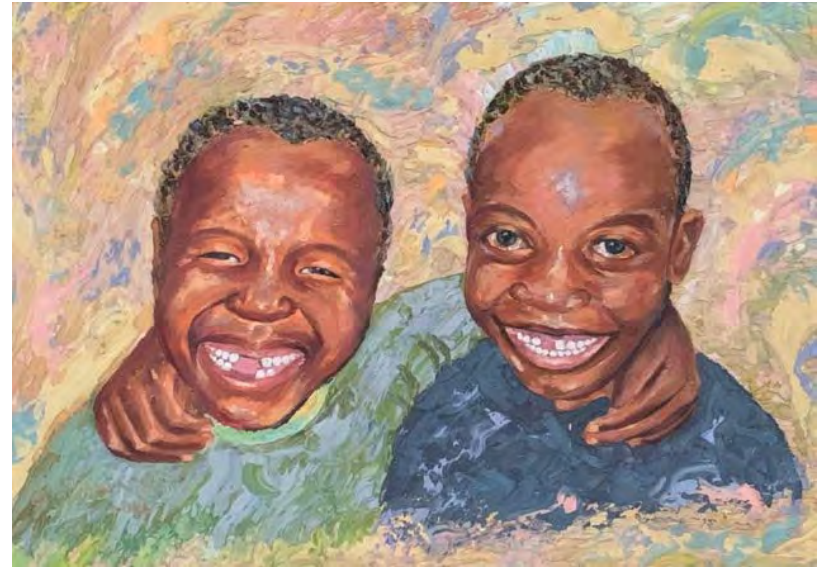
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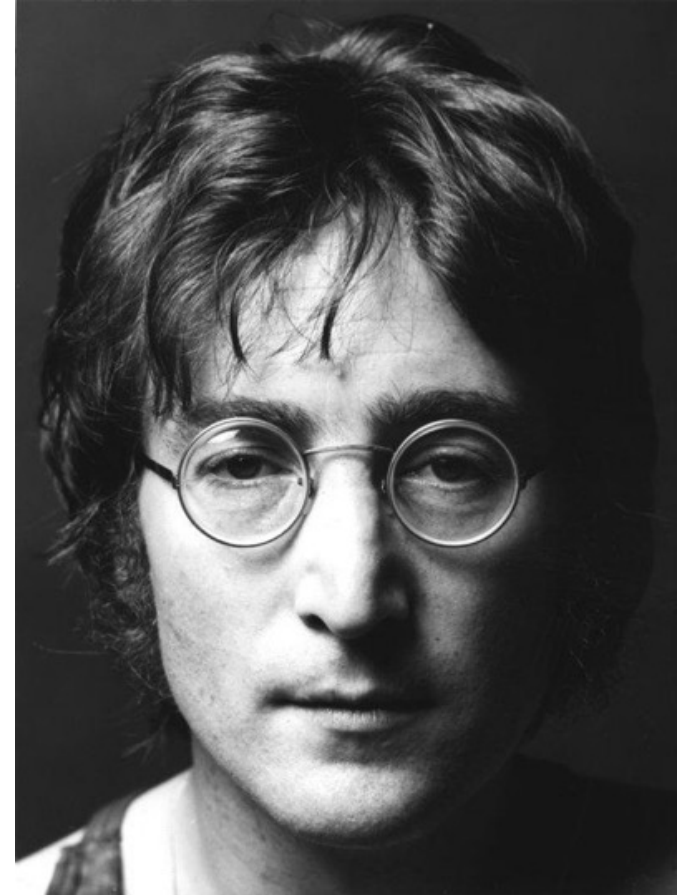
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OPERATING POLICIES AND GUIDELINES

ASHRAE TRAINING CENTERS

17 June 2019

1. Philosophy

- 1.1. ASHRAE Training Centres rest upon a philosophy of engaging members in geographic markets to increase the value of ASHRAE membership through delivery of training that meets the needs of the specific market, is available at affordable pricing in the market, and which expands awareness of ASHRAE among non-member professionals in the market.
- 1.2. ASHRAE Training Centres, alongside the delivery of training, can bring visibility to the works of ASHRAE, extending ASHRAE influence to a broad range of professionals, companies, governments, and allied associations. Training Centres are also assets for ASHRAE's cooperative efforts with inter-governmental bodies, such as UNEP, in outreach to technical communities in developing countries.
- 1.3. The packaging of training, content of training, sale of training, and pricing of training is determined by each respective Training Centre based upon the needs of the market in accordance with the approved budget, policies and guidelines in this document, and consistency with ASHRAE's brand promise of technical accuracy and credibility.

2. Establishment

- 2.1. Establishing an ASHRAE Training Centre requires approval of the Board of Directors based upon the recommendation of the Publishing and Education Council.
- 2.2. In making a recommendation to the Board of Directors to establish a Training Centre, the Publishing and Education Council will first confer with the respective ASHRAE Director and Regional Chair (or chairs if the market extends to more than one region) to ensure local perspective guides development of the recommendation.
- 2.3. Recommendations to establish a Training Centre will consider the need for market-specific products, market demand, staffing requirements, instructor interest, and volunteer availability to customize content for the specific market. The recommendations shall include a business plan for consideration by the Board of Directors.

3. Operation

- 3.1. ASHRAE Training Centres operate following policies and guidelines outlined in the document.
- 3.2. Responsibility for the operation, staffing and performance of each ASHRAE Training Centre shall be the responsibility of the Business Development Manager reporting to the Society's Executive Vice President, and in coordination with the Director of Publishing and Education and the Society's professional development staff.
- 3.3. Each Training Centre will be headed a Training Centre Manager responsible for promotion, sales, scheduling, and training deployment. The manager reports to the Business Development Manager EMEA. (Note: With ASHRAE being a US registered company, it might be beneficial to provide staffing support under contract rather than as salaried employees; reporting paths remain the same.)
- 3.4. Staffing support in an office can be increased in accordance with ASHRAE staffing policies and allowance in the operating budget for each respective centre.
- 3.5. Each Training Centre shall have a volunteer oversight committee appointed by Publishing and Education Council Chair consisting of the Director & Regional Chair(s) of the Region(s) in which the centre operates, Business Development Manager, Training Centre Manager and one or more volunteers from Publishing and Education Council. The oversight committee will report to the Publishing and Education Council at each Society meeting.

4. Fiscal Performance

- 4.1. The annual budgets for each Training Centre will be prepared by the Business Development Manager in consultation with each Training Centre Manager, for submission to the Director of Publications and Education for approval by and inclusion in the Publishing Council Budget during the normal ASHRAE budget development timeline.

5. Instructor Selection and Review

- 5.1. Training Centres respond to market demand and result from negotiated sales efforts. The selection and assignment of instructors for each Training Centre must recognize that flexibility is required to enable ASHRAE to deliver training at the speed of business and to meet market demand.
- 5.2. Instructors will be selected based on their technical knowledge, skill as an instructor, appeal in attracting registrants, knowledge of market applications and standards, and availability. Instructor selection is to be a balance between specific field knowledge and ability to instruct on a range of topics which enables ASHRAE to reduce cost when satisfying bundled-training opportunities.
- 5.3. The number of instructors approved to present courses at each Training Centre is dependent upon the demand for courses scheduled by each respective centre or under consideration for scheduling.
- 5.4. Persons to serve as instructors may be suggested by any member to the manager of each respective Training Centre.

- 5.5. To serve as a Training Centre instructor, each candidate will complete an Instructor Profile which collects information related to technical experience and marketability.
- 5.6. Instructors will be selected upon the recommendation of the respective Training Centre Manager by the Business Development Manager. Appointment and instructor compensation and duration of appointment is subject to the approval of the Volunteer Oversight Committee and the chair of the Publishing and Education Council.
- 5.7. Instructors identified for one Training Centre may be assigned instruction organized by another centre if their expertise and expertise is relevant to the other market.
- 5.8. Training Centres may schedule US and Canadian instructors to instruct with or without instructors from the market, depending on customer preference, demand in the market for a US/Canadian instructor, the ability to accommodate them within the budget for a scheduled training, and the need to train instructors from the market.
- 5.9. Attendee evaluation forms will be used with each scheduled training. Tabulated results will be shared with the respective instructor and will be taken into account when reappointing instructors.
6. Fees and Sales Channels
 - 6.1. Multiple sales channels may be among the sales channels employed at a Training Centre.
 - 6.1.1. Direct sales-- Scheduled training at a centre
 - 6.1.2. Company Sponsored -- Scheduled training offered with company sponsorship open to public
 - 6.1.3. In-Company training – Reserved training for company employees and clients
 - 6.1.4. Distributor Sales – Training packaged through private firm or organisation for resale
 - 6.1.5. Chapter Training – Training delivered by chapters
 - 6.1.6. Partnered Training – Training offered in cooperation with another organization
 - 6.1.7. Intergovernmental Outreach – Training or other support provided through grants
 - 6.2. A general principle for all markets is that Training Centres will not offer registration fee pricing that cannot cover the respective cost for that development and delivery of that training.
 - 6.3. Registration fees to be charged by each Training Centre are established by staff with consideration given within each market to direct cost of delivering training, indirect costs for delivering training, and recovery of investment for development of training in the market. Fees are also subject to competitive landscape, presence or absence of drivers for demand, purchasing power within each market, and fee structures in place in other Training Centres and in the US and Canada. These factors will lead to pricing structures that while desired to be consistent in different markets will necessarily reflect market differences.

- 6.4. Pricing offered through each sales channel will be at the discretion of the manager of the respective Training Centre and the Business Development Manager taking account of volume, the above factors and number of courses to be scheduled, anticipated attendance, ASHRAE cost to deliver training, value to ASHRAE in terms of promotion of standards, and location.

7. Course Locations and Costs

- 7.1. Considerations for course location include, dependent upon the type of course scheduled: Productive learning environment, catering or restaurant availability, audio visual services, convenience for attendees, nearby hotel for instructors, cost.
- 7.2. Courses may be located at hotels, universities, company facilities, with an emphasis on choosing a location that provides the greatest value, while ensuring satisfactory attendee experiences and considering the staffing time required for deployment.
- 7.3. Scheduling of courses, course agendas, and catering will be based on expectations of attendees from the market being served.

8. Course Selection

- 8.1. Course inventory for each Training Centre needs to be responsive to customer demand. This can require modification and customization. Courses in inventory must also be able to be delivered quickly and consistently so that ASHRAE can operate at the speed of business.
- 8.2. Course inventory will be developed based on demand as identified by potential customers, instructors, regional director, and chapter and regional volunteers and as consolidated by the respective Training Centre manager.
- 8.3. Courses can be included in the inventory with content developed for the US/Canadian market or based upon feedback from potential customers, instructors, regional director and chapter and regional volunteers customized for the respective market.
- 8.4. Courses can be developed that are specific to the market of each Training Centre if there is adequate demand.
- 8.5. If market customization is required, it will be done by voluntary effort from instructors or others either at one time or under a continuous development process. If market customization cannot be done voluntarily, funding from the respective centre's budget can be used upon recommendation of the Business Development Manager with the approval of the chair of the Publishing and Education Council.
- 8.6. Centre managers, Business Development Manager, Director of Publishing and Education Council, respective Volunteer Oversight Committee, and Publishing and Education Council chair will review scheduling of course inventory annually to proactively modify course inventory as needed.

9. Business Development

- 9.1. Each Training Centre Manager shall maintain a list of prospects for each of sales channels within their market. List will be used in regular communication including personal outreach will be employed with each of the prospect lists, recognizing purchasing traditions within the given market.
- 9.2. The Business Development Manager will work with each Training Centre manager to identify value propositions that resonate in each market and employ sales and communication techniques that are proven to be most effective in each region.
- 9.3. In addition to ASHRAE Media, Training Centre managers will use other communication channels through promotion budgets included in the annual budget for each Training Centre.

10. Metrics

- 10.1. A quarterly report for each Training Centre will be prepared showing scheduling of training during the period with date of course presentation, name of course presented, instructors, location, sales channel, total attendees, total revenue, total cost, net, and comments. In a format approved by the Publishing and Education Council Chair.
- 10.2. On a semi-annual basis combined tabulation of instructor evaluations from the previous 6 months will be shared by the Business Development Manager with the chair of the Publishing and Education Council and Volunteer Oversight Committee. This tabulation is to be held in confidence.

###

REPORT TO BOARD OF DIRECTORS (BOD)
Publishing and Education Council
November 15, 2019

Information Items:

1. Fiscal performance of PEC is shown in Attachment A for Q1 of FY20. Revenue is down slightly, by 29.5k; however, expenses are down by 147.2k, with the net at 116.9k better than last year and 131.9k better than current budget. Also shown in Attachment A, the net deficit after allocation of Overhead and BOD expense has increased from 2.528 million in 2017 to 3.543 million in 2019.
2. PEC has an ad hoc Chaired by Presidential Member Tim Wentz charged with reviewing current business models, and operation practices to determine how Revenues/Profits could be enhanced in a changing market place, in addition to on outlining potential new offerings. The ad hoc is following a three step approach:
 - i. Determining where we are now
 - ii. Determining where want to be
 - iii. Recommending how we can achieve our objectives.

The Ad hoc will report on (i) and (ii) in Orlando & submit their final report in Austin.

3. PEC MBO's (Attachment B) for FY 20 are centered around the Strategic Plan and involve strategizing for the future and analyzing current programs performance as well as developing a PEC "Dashboard."
4. New training contracts have been entered with the U.S. General Services Administration (GSA) and the U.S. Naval Facilities Engineering Command (NAVFAC) that will account for an additional \$63k and \$288k of revenue for ALI education programs in FY1920. ASHRAE will provide HVAC Design Levels I and II training as well as courses on Standard 55 and 90.1 at 19 events in the next 8 months.
5. ASHRAE's eLearning courses on HVACR fundamentals have been revised and are being relaunched on the eLearning platform. These revisions, along with other course improvements, were made possible by a \$60,000 grant from ASHRAE Foundation for FY1920.





Respectfully submitted,

Farooq Mehboob, Chair
15 November 2019




Attachment A

PEC FISCAL PERFORMANCE

1. FY 20 Through month of September

| | Thousands USD | Trend versus Last Year |
|--------------------------------|---------------|---|
| Total Revenue | 1,883.3 |  |
| Expenses before OH & BOD | 1,801.4 |  |
| Total Expenses Incl OH & BOD | 2,775.3 |  |
| Total (DEFICIT) after OH + BOD | 887.0 |  |

2. COMPARISON FY 17 to FY 19

| | 2017 Thousands USD | 2018 Thousands USD | 2019 Thousands USD | Trend versus 2017 |
|--------------------------------------|-----------------------|-----------------------|-----------------------|---|
| Total Revenue | 9,955.6 | 10,108.9 | 9,691.3 |  |
| Total Expenses Incl OH & BOD | 12,484.2 | 13,361.7 | 13,234.8 |  |
| Total (Deficit) after OH + BOD after | 2,528.6 | 3,252.8 | 3,543.5 |  |

Note: All figures taken from Society Financial Reports.

Attachment B

PUBLISHING & EDUCATION COUNCIL - MBOs 2019-2020 SY - Farooq Mehboob, Chair

| | | RESPONSIBILITY | | | | | | | | | | | | | | | |
|-----|---|----------------|----------|------------|-----|---------------|------------|--------|-----------|-----------------|------------------|--------|-------------|-----------|-------|-------------|---|
| | | Committees | | | | Subcommittees | | | | Other | | | | | | | |
| NO. | DESCRIPTION | Certification | Handbook | Historical | PDC | Publications | Functional | Fiscal | eLearning | Journal Advert. | Research Journal | Ad-hoc | PEC V Chair | PEC Chair | Staff | STATUS | COMMENTS |
| 1 | Appoint PEC Adhoc to address Strategic Business Development for potential new revenue streams. | - | - | - | - | - | - | - | - | - | - | X | - | - | X | In Progress | |
| 2 | Develop Strategy for expanding ALI Instructor core and establish procedures and criteria for instructor appointment and remuneration. | - | - | - | X | - | X | - | - | - | - | - | X | X | X | | Oversight by Functional Planning Subcommittee of PEC. |
| 3 | Analyse Certification Program and develop metrics for evaluating potential for new certifications aligned with Strategic Plan initiatives 1 & 2 after surveying members to establish interest and demand. | X | - | - | - | - | X | - | - | - | - | - | X | X | X | | Oversight by Functional Planning Subcommittee of PEC. |
| 4 | Analyse performance of special publications over the past three years and develop criteria for evaluating and approving special publication requests on a business case basis aligned with strategic plan initiative 3. | | | | | X | X | | | | | | X | X | X | | Oversight by Functional Planning Subcommittee of PEC. |
| 5 | Develop PEC 'Dashboard' showing relevant data pertaining to operations of PEC committees. This aligns with strategic plan initiative 3. | X | X | X | X | X | | X | | | | | X | X | X | | Oversight by Fiscal Planning Subcommittee of PEC. |

**REPORT TO THE BOARD OF DIRECTORS
From Publishing and Education Council (PEC)
As of February 4, 2020**

Recommendations for Board Approval:

1. MOTION: **That the Board of Directors approve the following changes to the Rules of the Board:**

2.101.007.3

ASHRAE shall publish and distribute ~~on-line~~ an electronic newsletter to its members. The ~~name of the~~ e-Newsletter ~~shall be Society Connections, and it~~ shall be an "official publication of the Society."

(SBL 10.2) (06-03-20-01)

2.101.007.4

(15-01-25/14-07-02-17)

ASHRAE shall publish and distribute to subscribers a journal of archival-quality research. The name of the publication shall be ~~HVAC&R Research to~~ *Science and Technology for the Built Environment*, and it shall be an "official publication of the Society."

BACKGROUND: These changes simply correct inaccuracies in (1) the mode of delivery (email, not "on-line") and (2) the names of the referenced publications ("eSociety" has supplanted "*Society Connections*" for some time; the "HVAC&R Research" is a remnant typo from the previous revision). *(PEC Approved 11-0-0 CNV)*

FISCAL IMPACT: None.

Information Items:

1. The council reviewed the end December 2019 financial status, which showed revenue up \$125k (3.13%) versus last year and down \$125k (2.96%) versus budget. Expense is down \$357k (9.12%) versus last year and down \$683k versus budget. Net before OH&BOD is \$482k better than last year and \$557k better than budget.
2. Education courses at the conference have attracted 1123 registrants, the second highest number of attendees in the past 10 years, close behind Las Vegas 2017 with 1161. Courses with the five highest registrations are the following:
 - 122 - Guideline 36: Best in Class HVAC Control Sequences
 - 76 - Designing and Operating High-Performing Healthcare HVAC Systems
 - 82 - Variable Refrigerant Flow Systems: Design and Applications
 - 68 - V in HVAC - What, Why, Where, How and How Much
 - 67 - Humidity Control II: Real-World Problems and Solutions
3. Through January 31, 2020, ASHRAE has received 20% more certification applications (292) over the previous Society YTD (244). This is due primarily to Certified HVAC Designer (CHD) applications.
4. Mr. Wentz, chair of PEC Strategic Business Development Ad Hoc, gave PEC a presentation on the analysis and recommendations for future opportunities of business development shown in **Attachment A.**

4 February 2020

Date

Farooq Mehboob

Chair



Report to Pub/Ed Council

Winter Meeting
Orlando, Florida

Presenter: Timothy G. Wentz, PE, HBDP | Fellow/ Presidential Member ASHRAE

Charge to the Ad Hoc

- Review the current business models and operating practices to determine how revenues/profits could be enhanced.
- Survey members and customers to establish if a demand exists for products and services that ASHRAE may be able to provide
- Study products and services being provided by bodies similar to ASHRAE both in North America and internationally which ASHRAE can provide
- Recommend an outline of potential new offerings with ballpark costs and revenue projections.
- Ensure alignment with the Strategic Plan, particularly Goals 1a, 1b and 3a

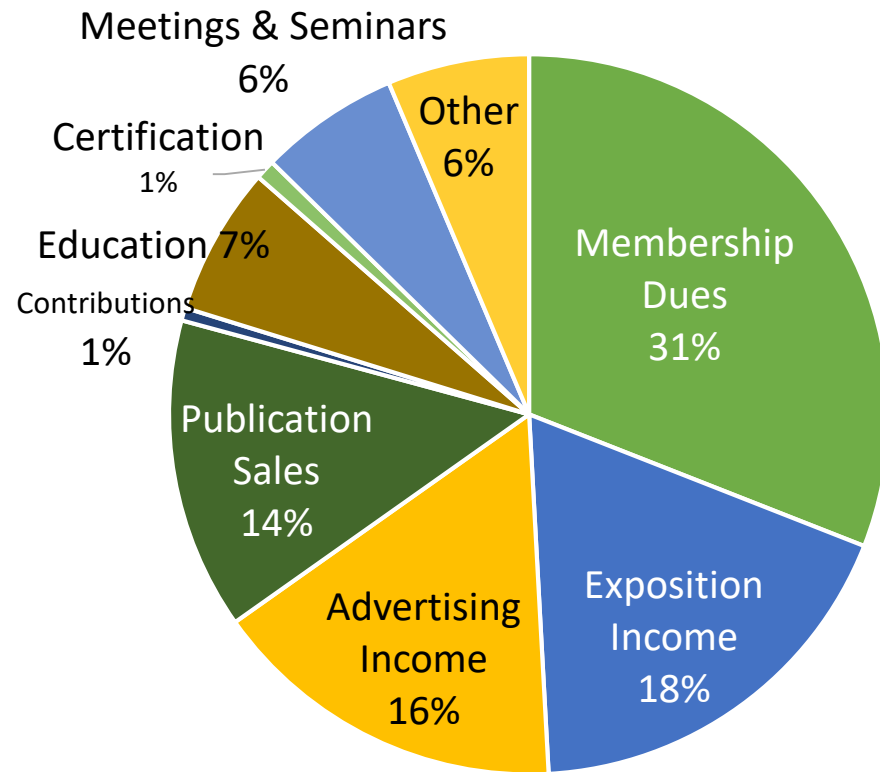


Charge to the Ad Hoc

- Determine where we are today
- Ascertain where we want to be
- Develop a plan to attain our goal



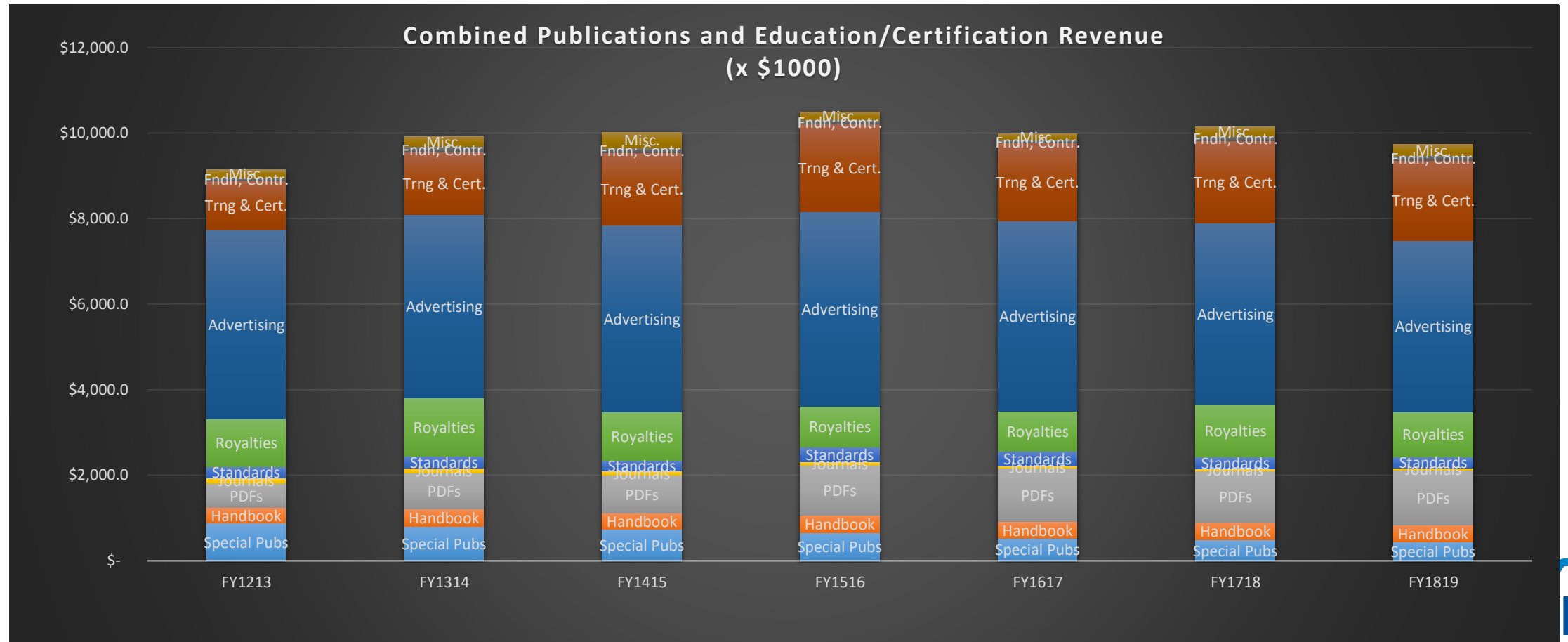
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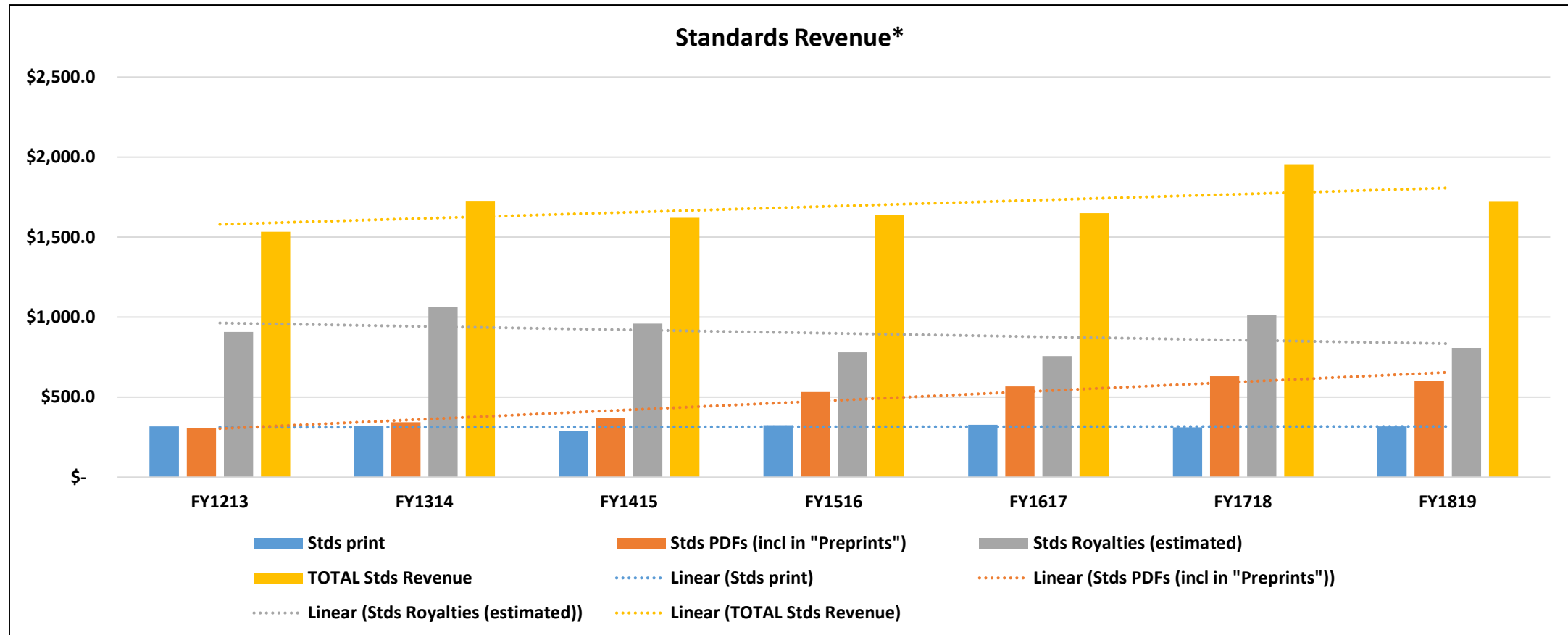
Source of Funds

| | | |
|---------------------|------------------|-------------|
| Membership Dues | \$7,624.3 | 31% |
| Exposition Income | 4,475.8 | 18% |
| Advertising Income | 3,958.2 | 16% |
| Publication Sales | 3,447.6 | 14% |
| Contributions | 141.8 | 1% |
| Education | 1,642.7 | 7% |
| Certification | 218.7 | 1% |
| Meetings & Seminars | 1,548.2 | 6% |
| Other | 1,569.5 | 6% |
| REVENUES | \$ 24,627 | 100% |

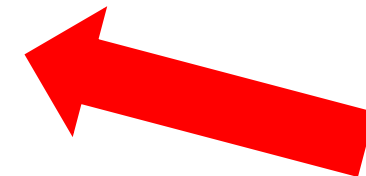
Nothing New



Nothing New



*Does not include Overhead or BOD Council allocated costs (\$8.5MM in FY18-19)



Nothing New

- Overhead are costs that support the business but do not generate revenue
- ASHRAE has about \$8M US in overhead
- Overhead is assigned to Councils based upon staff assignment
- PEC has an additional 17 staff assigned to the Council from support areas
 - Mail room
 - Accounting
 - Etc.
- Overhead is then assigned on the total staff, support staff included
- PEC is assigned about 50% of ASHRAE overhead



OVERHEAD

Nothing New

Pub/Ed Council Surplus/Deficit Report

| | 2017 Thousands USD | 2018 Thousands USD | 2019 Thousands USD | Trend versus 2017 |
|---|-----------------------|-----------------------|-----------------------|----------------------|
| Total Revenue | 9,955.6 | 10,108.9 | 9,691.3 | ↓ |
| Total Expenses Incl OH & BOD | 12,484.2 | 13,361.7 | 13,234.8 | ↑ |
| Total (Deficit) after OH + BOD after | 2,528.6 | 3,252.8 | 3,543.5 | ↑ |

Note: All figures taken from Society Financial Reports.

Nothing New

Society Surplus/Deficit Reports

| Fiscal Year | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | AVE |
|------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| Budget Surplus/(Deficit) | \$ (158) | \$ (335) | \$ 674 | \$ (449) | \$ (283) | \$ (301) | \$ (13) | |
| Actual Surplus/(Deficit) | \$ 320 | \$ 404 | \$ 1,231 | \$ 702 | \$ 411 | \$ (175) | \$ 75 | |
| Positive/Negative Difference | + | + | + | + | + | + | + | |
| Difference (absolute) | \$ 478 | \$ 739 | \$ 558 | \$ 1,151 | \$ 694 | \$ 126 | \$ 88 | |
| % Error | 149% | 183% | 45% | 164% | 169% | 72% | 118% | 129% |

Nothing New

- What picture does this data paint for the Board?



And now for something completely different



A Monty Python Moment

And now for something completely different

- ASHRAE has a very strong and robust accounting system
 - Accurately records revenue and expenses in a consistent manner in accordance with generally accepted accounting rules
- Significant difference between accounting and finance
 - Finance - Management discipline focusing on margins



How the Picture Changes

- The language of finance

Revenue = Sales for a product or service (\$US)

Variable Margin = Revenue

-Direct costs of product/service that vary with volume

Gross Margin = Revenue

-Direct costs of product/service that vary with volume

- Staff labor directly associated with product/service



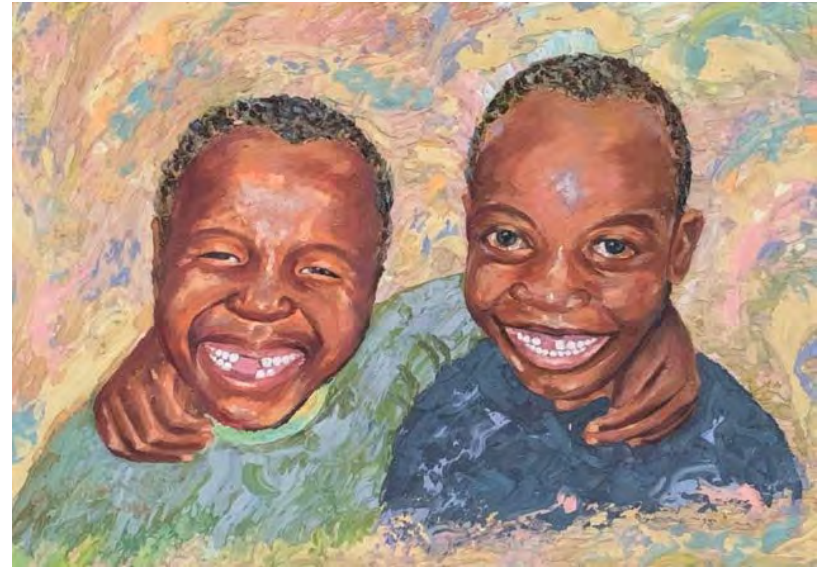
How the Picture Changes

- A focus on margins
 - Revenue is only important only in that it allows you to identify and analyze margins
 - Improves clarity and transparency – an ASHRAE core value
 - Better decision-making owing to deeper understanding of product contributions
 - Greater ability to identify and seize strategic opportunities
 - Creates a faster, more agile Society
 - The path forward on product evaluation becomes much simpler



And now for something completely different

- Looking at ASHRAE's products through the lens of finance paints a much different picture



How the Picture Changes

| Revenue Source | Gross Margin | | |
|----------------------|--------------|-------|-------|
| | 16-17 | 17-18 | 18-19 |
| Dues | 16% | 20% | 18% |
| Publications | 40% | 30% | 32% |
| Advertising | 12% | 7% | 4% |
| Meetings/Conferences | -21% | -54% | -53% |
| Education | 9% | 14% | 8% |
| Certification | -87% | -52% | -63% |
| AHR Expo | 100% | 100% | 100% |

| Pub/Ed Council | | | | |
|-----------------------|----------------|-------------|-----------|---------------|
| SY 18-19 | Publications** | Advertising | Education | Certification |
| Revenue | \$3,041.8 | \$4,073.6 | \$1,870.2 | \$225.7 |
| Direct Expenses | | | | |
| Staff Labor | 869.5 | 1,567.5 | 464.6 | 162.8 |
| Promotion | 64.8 | 96.1 | 31.7 | 8.9 |
| Materials | 358.5 | 657.3 | 109.6 | - |
| Commissions | - | 742.5 | | |
| Shipping/Postage | 162.9 | 566.5 | 33.0 | 4.9 |
| Meeting/Training | | | | |
| Costs | 21.7 | 3.3 | 715.6 | - |
| Travel | 33.3 | 26.2 | 17.6 | 5.4 |
| Dev/Outside | | | | |
| Services | 510.1 | 124.2 | 267.2 | 178.6 |
| Credit Card | | | | |
| Charges | 44.4 | 1.4 | 53.5 | 6.1 |
| Bad Debt | 7.0 | 79.4 | | |
| Other/Misc. | 0.2 | 64.6 | 28.9 | 0.3 |
| Total Direct Expenses | 2,072.4 | 3,929.0 | 1,721.7 | 367.0 |
| Variable Margin \$ | 1,838.9 | 1,712.1 | 613.1 | 21.5 |
| Variable Margin % | 60% | 42% | 33% | 10% |
| Gross Margin \$ | \$969.4 | \$144.6 | \$148.5 | \$(141.3) |
| Gross Margin % | 32% | 4% | 8% | -63% |

How the Picture Changes

We can see clearly now (apologies to Johnny Nash):

- Publications operates at a strong gross margin
- Advertising operates at a low gross margin
 - This is OK, as advertising as ASHRAE is required to pay tax on “business unrelated to its primary business”.
- Education is operating at a low gross margin
- Certification is operating at a negative gross margin



How the Picture Changes

- Future work of the ad hoc is cast in a completely new light
 - For products and services with low margins, make recommendation on how to lower cost or raise price (or both)
 - For products with good margins make recommendations on how to increase sales
 - Are we already high in market share or is there room to grow?
 - Look at other revenue streams (new products and services) based on what we see other organizations offering and emerging needs in the marketplace) and evaluate by margin



How the Picture Changes

Enhanced Goal Setting – One Possibility

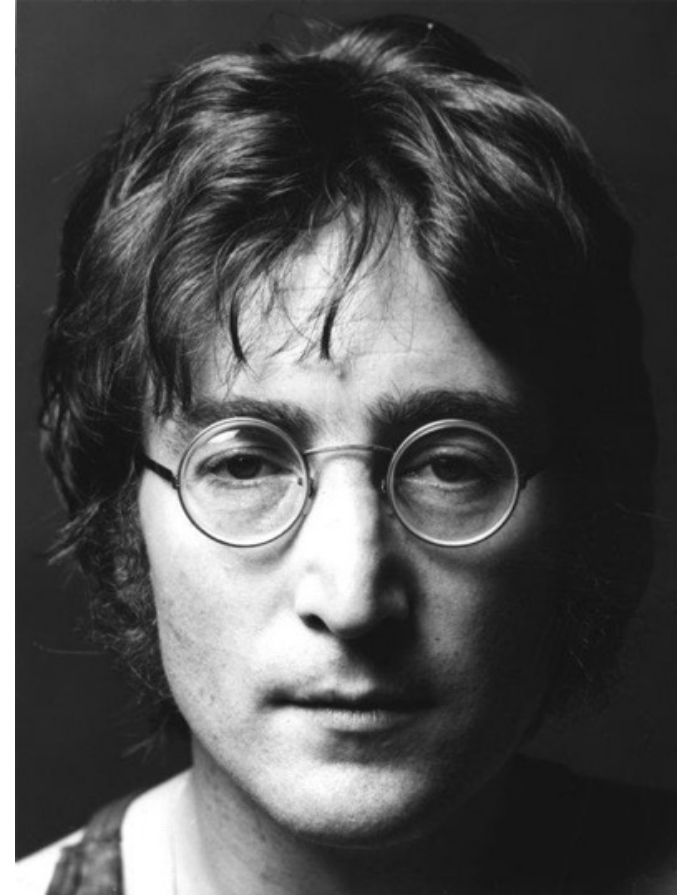
| | Publications | Advertising | Education | Certification | TOTAL |
|---------------------------|--------------|-------------|-----------|---------------|----------|
| Proposed Revenue Goal* | \$4,000 | \$4,100 | \$2,500 | \$500 | \$11,100 |
| Proposed Gross Margin* | \$1,280 | \$205 | \$800 | \$100 | \$2,385 |
| Proposed Gross Margin (%) | 32% | 5% | 32% | 20% | 21% |

*In \$1,000 US



How the Picture Changes

- Imagine an ASHRAE better focused on financial performance:
 - Expanded and enhanced revenue streams
 - Less reliance on expo income
 - More resilient to large economic swings
 - Faster, more agile in seizing opportunities
 - Better forecasting of financial position
 - Greatly enhanced decision-making



Questions





Report to Pub/Ed Council

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Orlando, Florida

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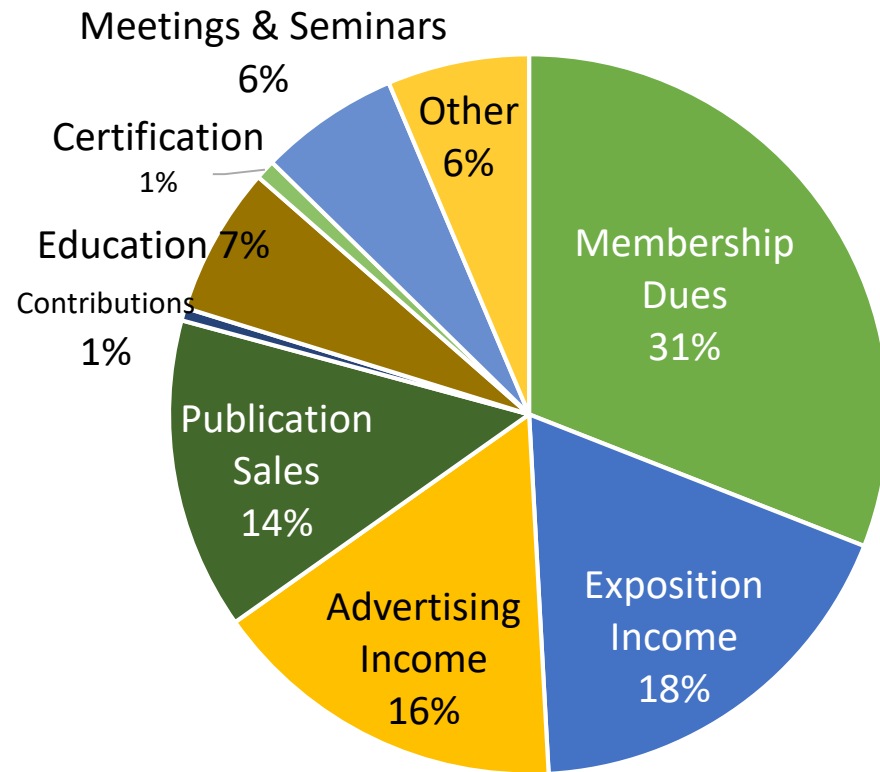


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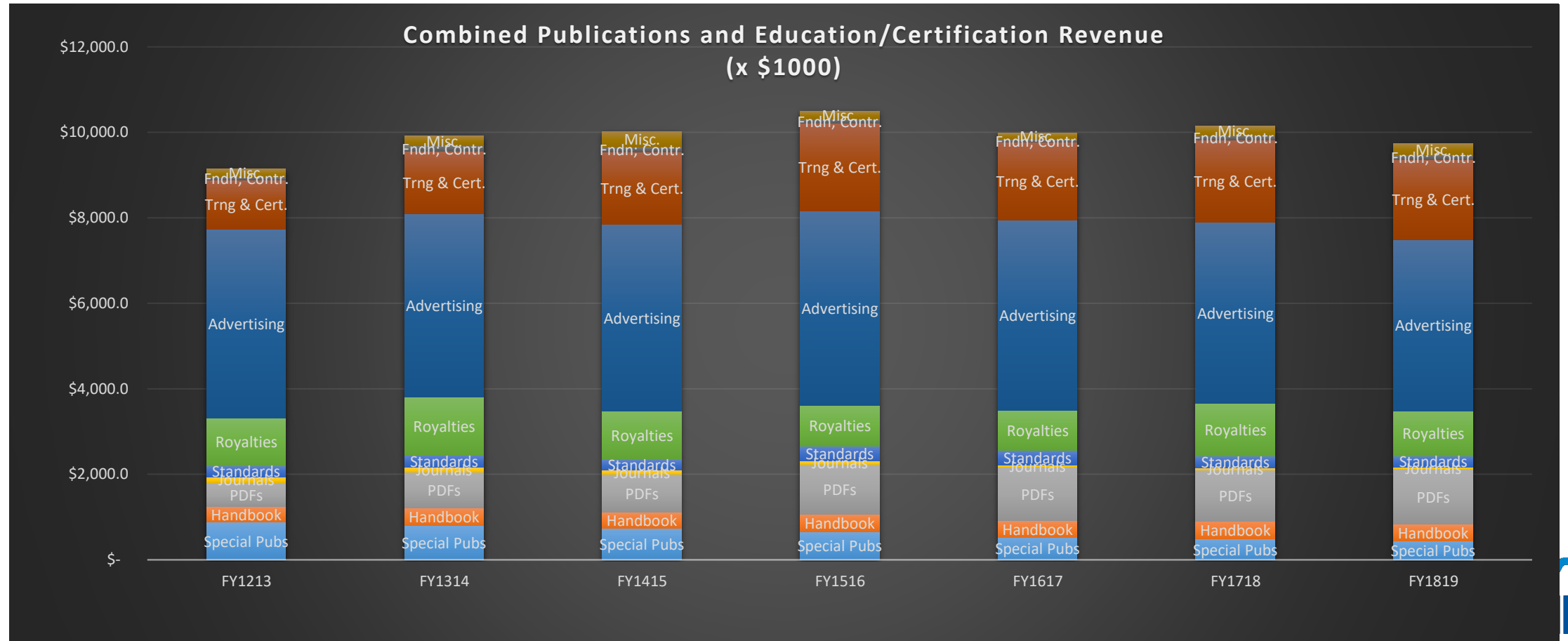


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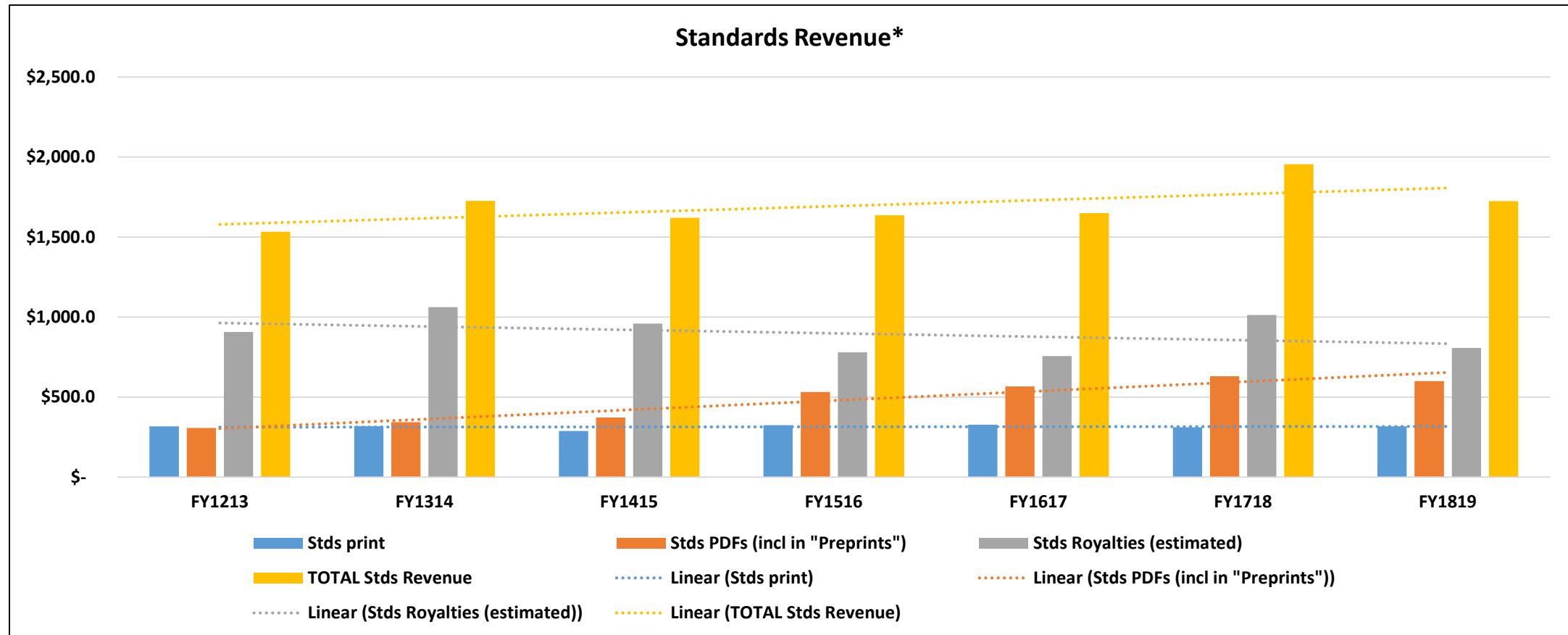


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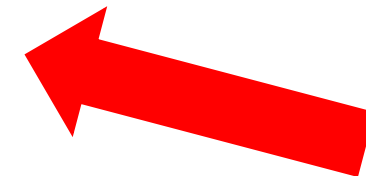
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| Fiscal Year | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | AVE |
|------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| Budget Surplus/(Deficit) | \$ (158) | \$ (335) | \$ 674 | \$ (449) | \$ (283) | \$ (301) | \$ (13) | |
| Actual Surplus/(Deficit) | \$ 320 | \$ 404 | \$ 1,231 | \$ 702 | \$ 411 | \$ (175) | \$ 75 | |
| Positive/Negative Difference | + | + | + | + | + | + | + | |
| Difference (absolute) | \$ 478 | \$ 739 | \$ 558 | \$ 1,151 | \$ 694 | \$ 126 | \$ 88 | |
| % Error | 149% | 183% | 45% | 164% | 169% | 72% | 118% | 129% |

Nothing New

- What picture does this data paint for the Board?



And now for something completely different



A Monty Python Moment

And now for something completely different

- ASHRAE has a very strong and robust accounting system
 - Accurately records revenue and expenses in a consistent manner in accordance with generally accepted accounting rules
- Significant difference between accounting and finance
 - Finance - Management discipline focusing on margins



How the Picture Changes

- The language of finance

Revenue = Sales for a product or service (\$US)

Variable Margin = Revenue

-Direct costs of product/service that vary with volume

Gross Margin = Revenue

-Direct costs of product/service that vary with volume

- Staff labor directly associated with product/service



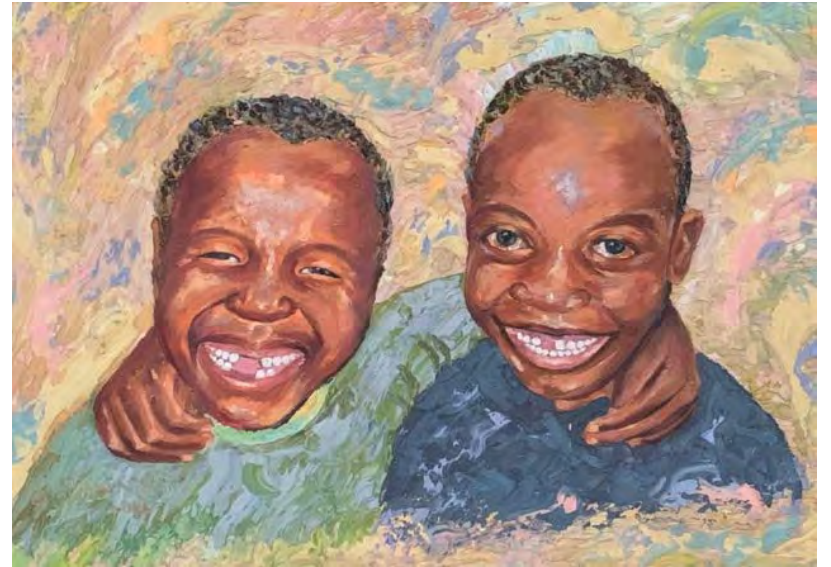
How the Picture Changes

- A focus on margins
 - Revenue is only important only in that it allows you to identify and analyze margins
 - Improves clarity and transparency – an ASHRAE core value
 - Better decision-making owing to deeper understanding of product contributions
 - Greater ability to identify and seize strategic opportunities
 - Creates a faster, more agile Society
 - The path forward on product evaluation becomes much simpler



And now for something completely different

- Looking at ASHRAE's products through the lens of finance paints a much different picture



How the Picture Changes

| Revenue Source | Gross Margin | | |
|----------------------|--------------|-------|-------|
| | 16-17 | 17-18 | 18-19 |
| Dues | 16% | 20% | 18% |
| Publications | 40% | 30% | 32% |
| Advertising | 12% | 7% | 4% |
| Meetings/Conferences | -21% | -54% | -53% |
| Education | 9% | 14% | 8% |
| Certification | -87% | -52% | -63% |
| AHR Expo | 100% | 100% | 100% |

| Pub/Ed Council | | | | |
|-----------------------|----------------|-------------|-----------|---------------|
| SY 18-19 | Publications** | Advertising | Education | Certification |
| Revenue | \$3,041.8 | \$4,073.6 | \$1,870.2 | \$225.7 |
| Direct Expenses | | | | |
| Staff Labor | 869.5 | 1,567.5 | 464.6 | 162.8 |
| Promotion | 64.8 | 96.1 | 31.7 | 8.9 |
| Materials | 358.5 | 657.3 | 109.6 | - |
| Commissions | - | 742.5 | | |
| Shipping/Postage | 162.9 | 566.5 | 33.0 | 4.9 |
| Meeting/Training | | | | |
| Costs | 21.7 | 3.3 | 715.6 | - |
| Travel | 33.3 | 26.2 | 17.6 | 5.4 |
| Dev/Outside | | | | |
| Services | 510.1 | 124.2 | 267.2 | 178.6 |
| Credit Card | | | | |
| Charges | 44.4 | 1.4 | 53.5 | 6.1 |
| Bad Debt | 7.0 | 79.4 | | |
| Other/Misc. | 0.2 | 64.6 | 28.9 | 0.3 |
| Total Direct Expenses | 2,072.4 | 3,929.0 | 1,721.7 | 367.0 |
| Variable Margin \$ | 1,838.9 | 1,712.1 | 613.1 | 21.5 |
| Variable Margin % | 60% | 42% | 33% | 10% |
| Gross Margin \$ | \$969.4 | \$144.6 | \$148.5 | \$(141.3) |
| Gross Margin % | 32% | 4% | 8% | -63% |

How the Picture Changes

We can see clearly now (apologies to Johnny Nash):

- Publications operates at a strong gross margin
- Advertising operates at a low gross margin
 - This is OK, as advertising as ASHRAE is required to pay tax on “business unrelated to its primary business”.
- Education is operating at a low gross margin
- Certification is operating at a negative gross margin



How the Picture Changes

- Future work of the ad hoc is cast in a completely new light
 - For products and services with low margins, make recommendation on how to lower cost or raise price (or both)
 - For products with good margins make recommendations on how to increase sales
 - Are we already high in market share or is there room to grow?
 - Look at other revenue streams (new products and services) based on what we see other organizations offering and emerging needs in the marketplace) and evaluate by margin



How the Picture Changes

Enhanced Goal Setting – One Possibility

| | Publications | Advertising | Education | Certification | TOTAL |
|---------------------------|--------------|-------------|-----------|---------------|----------|
| Proposed Revenue Goal* | \$4,000 | \$4,100 | \$2,500 | \$500 | \$11,100 |
| Proposed Gross Margin* | \$1,280 | \$205 | \$800 | \$100 | \$2,385 |
| Proposed Gross Margin (%) | 32% | 5% | 32% | 20% | 21% |

*In \$1,000 US



How the Picture Changes

- Imagine an ASHRAE better focused on financial performance:
 - Expanded and enhanced revenue streams
 - Less reliance on expo income
 - More resilient to large economic swings
 - Faster, more agile in seizing opportunities
 - Better forecasting of financial position
 - Greatly enhanced decision-making



Questions





Publishing and Education Council (PEC)
Report to Board of Directors (BOD)
Meeting of Tuesday, February 4, 2020

Journal Advertising Sales Subcommittee

1. ASHRAE Journal's paid advertising share of market (SOM) is 66% of all pages sold during the first 6 months of FY2019-20, compared to the same 66% SOM in July 2018-December 2019. At the same time, a net loss of 44 paid pages impacted ASHRAE Journal revenue. For the calendar year 2019, total advertising pages declined 75 pages for HVACR Engineering publications, with 39 pages less in ASHRAE Journal. Increased market competition for advertising dollars, and advertiser interest in new media channels account for much of the decline. The Journal remains advertisers' No. 1 choice for the past ten years. SOM has risen from 47% in 2009 to 62% for 2019 calendar year. Journal rates per page have been steadily increasing since greater rates and an expanded integration program were implemented.
2. Online-only advertising for ASHRAE Journal is forecast to be less than FY19-20 budget amount of \$875,000. Staff is developing new opportunities to accelerate online advertising revenue growth for the Society. The estimated fiscal impact of these new programs for FY19-20 exceeds \$100,000 in additional revenue.
3. HPB magazine advertising revenue is projected to finish at \$110,000 for the magazine and \$115,000 for online-only advertising sales. A rate increase, more webinar and website opportunities, as well as improved circulation will support increased revenue and advertising for the next fiscal year. Staff was assigned an action item to produce a proposal for adapting High Performing Buildings for maximizing revenue while reducing expenses.
4. Jay Scott, staff Editor of ASHRAE Journal will retire in March 2020. As of January 1, 2020, Mr. Scott's title is Editor Emeritus, and the new ASHRAE Journal editor is Ms. Sarah Foster, former managing editor of the Journal.

eLearning Subcommittee

5. Subscription revenue for ASHRAE eLearning is on track to make the 2019-2020 forecast with a very aggressive marketing effort. Subscription revenue for the fiscal year to date is \$89.1k on a year-end forecast of \$230k, with most revenue from individual subscriptions. eLearning is expecting a \$60k transfer from the Foundation to fund two new courses and course updating to achieve an interactive learning experience for the learner. Additional UNEP activities are forecasted to bring in \$166k.

6. ASHRAE eLearning is updating its courses to meet the demand of interactive learning in the marketplace. Current demand for courses was used to evaluate course updating and retirement. Fundamental courses have proven to be the most popular with corporate customers. In 2019-2020, the goal is to update 10 courses. (**Attachment A**)
7. To broaden and diversify the eLearning course catalog as well as meet member learning needs, eLearning continues to work with member volunteers to design and develop new courses as shown in **Attachment B**.
8. A systematic approach of developing and updating courses in cooperation with ASHRAE Learning Institute (ALI) is being implemented.
9. **Attachment C** shows UNEP activities including a new Energy Efficiency Literacy course, the translation of the Refrigerants Literacy course from English to French and the launch of the ASHRAE-UNEP portal, where all ASHRAE-UNEP partnership resources are housed. These projects are funded under the ASHRAE-UNEP contracts.
10. A motion from Membership Promotion to translate eLearning courses into several languages was put forward shown in **Attachment D**. The eLearning Subcommittee reviewed the cost associated with translation per course and the fiscal impact is estimated to be \$30k to \$35k per course. PEC rejected this motion and sent a referral response as shown in **Attachment E**

Fiscal Planning Subcommittee

11. The subcommittee reviewed the PEC December 2019 Financials.
12. The subcommittee discussed the value of developing training opportunities to work in conjunction with ASHRAE Certification. Staff reported that steps are being taken to implement this combination as soon as possible.

Functional Planning Subcommittee

13. The subcommittee approved and recommended to PEC changes to the Publications Committee and MOP as shown in **Attachment F** to reflect the reporting and procedural changes that will happen with the new PEC restructure plan to be implemented July 1, 2020. (*PEC Approved 12-0-0, CNV*)
14. Functional Planning Subcommittee will hold a conference call before the annual meeting in Austin to confirm all standing committees' MOPs are finalized before the PEC restructure implementation goes into effect July 1, 2020.

Research Journal Subcommittee

15. Society research journal *Science and Technology for the Built Environment* (STBE) received 69,751 article downloads in 2019, an increase of 43% over 2018. 129 papers were published in 2019, with 10 of them open access (OA). The journal's 2018 impact factor is 1.199, ranking 42/63 in the construction and building technology category of Journal Citation Reports (JCR).

Additional detailed information is contained in the Publisher's Report from Taylor & Francis shown in **Attachment G**.

16. STBE's editor, Dr. Jeff Spitler, reported plans for developing guidance on submitting papers to STBE for authors and expanding the pool of reviewers for STBE papers.
17. The subcommittee selected the winner of the 2019 STBE Best Paper Award and sent their nomination to the Honors and Awards Committee. The award will be presented at the annual meeting in Austin.

Certification Committee

18. Certification Committee has received 20% more certification applications Through January 31, 2020, (292) over the previous SYTD (244). This is due primarily to applications for the Certified HVAC Designer (CHD) certification.
19. The committee reported revenue close to budget through December 2019 with expenses forecast at a \$20,000 decrease.
20. Certification Committee PEC MBOs and status are listed in **Attachment H**.
21. The committee will pursue ANSI accreditation for the remaining three of seven ASHRAE certification programs, to avoid confusion in the marketplace and add value. The application fees are a onetime expense and will fall within currently budgeted expense.
22. The ANSI annual Management System Review was successfully completed, evaluating the results of internal and external audits, feedback from applicants and candidates, assessment of ASHRAE's exam development and delivery contractor, an impartiality threat analysis, the status of preventive and corrective actions, follow-up actions from previous management reviews, and the 2019 complaints log.
23. A total of 542 (70%) of 773 digital badges issued to certificants have been accepted, with more than 5,300 badge views in various electronic media. As examinees continue to pass their exam and certificants continue to renew their certification, more badges will be issued.
24. The committee is working with the Marketing Department to develop a marketing plan to improve performance of underperforming certification programs. Possible root causes and potential corrective marketing activities have been identified. A meeting is scheduled for February 2020.
25. Exam development activities in 2019-20 to ensure the continued relevancy and validity of ASHRAE's certification programs include the following:
 - BCxP: New exam form scheduled to launch March 2020.
 - BEMP: New exam form scheduled to launch March 2020.
 - HBDP: New form to launch July 1, 2020.
 - HFDP: New form to launch in February 2020.
26. The committee's 2019-20 MBOs and their status are shown in **Attachment I**.

Handbook Committee

27. Staff will pursue a solution to allow other internet browsers besides Explorer to be used with the ASHRAE Authoring Portal.
28. Handbook Committee continues to seek cost-efficient ways to reward contributors on the TCs, including “HB contributor” stickers for future meetings on attendee badges.
29. Staff will investigate applying to include ASHRAE Handbook in UNESCO’s Memory of the World archive.
30. The committee’s updated 2019-2020 MBOs are shown in **Attachment J**.

Historical Committee

31. All projects marking ASHRAE’s 125th anniversary have been completed or will be complete by the 2020 Annual Conference in Austin.
32. An historical plaque will be installed in Orange, Texas after the Region VIII CRC as the result of a pilot project for the committee. Plaques will continue to be self-funded, whether physical or possibly virtual in the future.
33. The committee suggested changes to PAOE for fiscal year 2020-21 with the goal of continuing to encourage nonparticipating chapters to reach minimum or par.
34. The committee’s 2019-2020 MBOs are shown in **Attachment K**.

Professional Development Committee (PDC)

35. In response to PEC MBO #2: *Develop Strategy for expanding ALI Instructor core and establish procedures and criteria for instructor appointment and remuneration*, the committee drafted a report with recommendations on the criteria for selection of course instructors as shown in **Attachment L**.
36. Courses relevant to the body of knowledge for the Building Commissioning Professional BCxP, Building Energy Assessment Professional (BEAP), and new HVAC Design (CHD) certification exams are being developed to assist applicants in preparation.
37. Five (5) new courses were presented in conjunction with the Orlando conference. Of those, *V in HVAC - What, Why, Where, How and How Much* drew the highest number of registrants with the hands-on *Best Practices for Installing DDC Systems* course not far behind. The combined total of all course registrants was 1,141, which was the second highest number of attendees in the past 10 years, close behind Las Vegas 2017 with 1,161 registrants. Courses with the five highest registrations were:
 - 122 - Guideline 36: Best in Class HVAC Control Sequences
 - 76 - Designing and Operating High-Performing Healthcare HVAC Systems
 - 82 - Variable Refrigerant Flow Systems: Design and Applications
 - 68 - V in HVAC - What, Why, Where, How and How Much
 - 67 - Humidity Control II: Real-World Problems and Solutions

38. The committee's 2019-2020 MBOs are shown in **Attachment M**.

Publications Committee

39. The committee selected the winner for the 2019 ASHRAE Journal Paper of the Year Award. The award will be presented to the author(s) at the 2020 Annual Conference in Austin.
40. The committee voted to support development and publication of the proposed book *ASHRAE Design Guide for Kitchen Ventilation Systems*.
41. The committee finalized the process for its participation in the Research Administration Committee's (RAC's) new PTAR process, wherein those submitting a proposal to receive RAC funding specifically earmarked for a publication as a deliverable will go through submission and approval procedures with RAC and Publications Committee.
42. The committee's 2019-2020 MBOs are shown in **Attachment N**.
43. In line with Goal 3 of the 2019-2024 ASHRAE Strategic Plan, the committee will collect feedback from our grassroots levels, including our international membership, with respect to their product needs (books, *ASHRAE Journal* articles, apps, and other tools) and communicate the results to Technology Council and other relevant bodies for their use in planning content development.

Strategic Business Development Ad Hoc Committee

44. Strategic Business Development Ad Hoc Committee gave a PowerPoint presentation to PEC on the ad hoc's recommendations for future PEC business development. **(Attachment O)**

Volunteer Oversight for Global Training Center (GTC) Ad Hoc Committee

45. Volunteer Oversight for GTC Ad Hoc gave a report to PEC on current analysis of the training center performance. **(Attachment P)**



**eLearning Subcommittee
Report to Publishing and Education Council (PEC)
Meeting of Tuesday, February 4, 2020**

Attendees

Farooq Mehboob — Chair (Present)
William Dean — Member (Present)
Charles Henck — Member (Present)
C S Ow — Member (Absent)
Chandra Sekhar — Member (Present)
Doug Fick — Member (Present)
Mark Owen — Staff Liaison
Eunice Njeru — Staff
David Soltis — Staff
Steve Comstock — Staff
Susan Polite — Staff

Action Items

None

Information Items

1. Financial Review

Subscription revenue for ASHRAE eLearning is on track to make the forecast for the 2019-2020 fiscal year, although a very aggressive marketing effort will be needed to achieve it. The cumulative subscription revenue for the fiscal year to date is 74.3K on a forecast of 230K (November Financials). Most of this revenue is from individual member and non-member subscriptions, with a few corporate subscriptions. eLearning is expecting a 60K transfer from Foundation to continue to fund both new courses and updating existing to achieve an interactive learning experience for the learner. UNEP activities are forecasted bring in 166K.

2. Course Updates Status

ASHRAE eLearning is updating its courses to meet the demand of interactive learning experience in the market place. The demand of the current courses was evaluated to determine which ones were worth updating and which ones were better off retired. The priority is Fundamental Courses, which have proven to be the most popular with corporate customers. For the Society Year 2019-2020, the goal is to update a total of 10 courses. See *Attachment A* for details.

3. New Course Development

To broaden and diversify the eLearning course catalog as well as meet member learning needs, eLearning continues to work with member volunteers to design and develop new courses (see *Attachment B*). A systematic approach of developing courses was discussed, including synergy between eLearning and ASHRAE Learning Institute (ALI) for decisions about new course development.

4. UNEP Activities

UNEP activities (see *Attachment C*) have included launching of the ASHRAE-UNEP portal where all ASHRAE-UNEP partnership resources are housed, translation of the Refrigerants Literacy course from English to French, and a new Energy Efficiency Literacy course. These projects are funded under the ASHRAE-UNEP contracts.

5. Translation

During the Members Council 2019 winter meeting in Atlanta, a motion to translate eLearning courses into several languages was put forward (see *Attachment D*). The eLearning Subcommittee reviewed the cost associated with translation per course. The fiscal impact per course is estimated at 30K-35K.

Respectfully submitted,

Farooq Mehboob, Chair
eLearning Subcommittee
4 February 2020
FM: en/mso

| Course Updates Progress Report | | |
|---------------------------------|--|---------------|
| Project Kickoff | March 2019 | |
| Goal | Update 10 Courses During SY 2019-2020 | |
| Completed | 1 | November 2019 |
| Scheduled to Launch | 1 | February 2020 |
| With Instructional Designers | 1 | March 2020 |
| Seeking Instructional Designers | 2 | April 2020 |
| With Subject Matter Experts | 5 | June 2020 |
| Seeking Subject Matter Experts | 6 | August 2020 |
| Proofing | 5 | December 2020 |
| With Content Organizers | 1 | December 2020 |
| Total | 22 | |
| | | |

| NEW/IN-PROGRESS/PROPOSED | | | |
|--------------------------|---|----------------|-----------------|
| Category | Title | Status | Completion Date |
| New | Safe Handling of Refrigerants for Technicians | Launched | November 2019 |
| | | | |
| In-progress | Advanced Energy Design Guide for K-12 School Buildings—Achieving Zero Energy – NREL | Review | March 2020 |
| | Introduction to DOAS | Content Design | May 2020 |
| | Designing Toward Net-Zero Energy Commercial Buildings | Content Design | May 2020 |
| | Energy Efficiency Literacy (UNEP) | Content Design | March 2020 |
| | | | |

| ASHRAE-UNEP PROJECTS | | |
|-----------------------------|--|------------------------------|
| Project | Description | Status |
| ASHRAE - UNEP Portal | Portal for all things ASHRAE-UNEP partnership. | Launched - November 2019 |
| Translation | Refrigerants Literacy translation to French | Launched - October 2019 |
| New Course | Energy Efficiency Literacy | Proposed Launch - March 2020 |
| | | |

TO: Julia A. Keen, Publishing and Education Council Chair
Mark Owen, Publishing and Education Council Staff Liaison

FROM: Joyce Abrams

DATE: February 27, 2019

SUBJECT: Members Council Referral – E-Learning Courses

During the Members Council 2019 winter meeting in Atlanta, the motion below was referred to Publishing and Education Council for consideration. I appreciate your keeping me advised of your actions. Let me know if you have any questions. Thank you.

Membership Promotion Committee – Motion 11 (01/15/2019):

That e-learning courses be translated to major non-English languages based on membership demographics.

Background: ASHRAE's vision is to be a global leader and foremost source of technical and educational information. Based on membership demographics, the top eight non-English speaking countries include: Canada (French), India (Urdo), Hong Kong (Chinese), Philippines (Tagalog), UAE (Arabic), Malaysia (Malay), Brazil (Portuguese), and Mexico (Spanish). Voice-over audio recording of the e-learning materials will provide greater global membership value. Translations can be completed by volunteer members with peer review.

Fiscal Impact: Recommend \$0 fiscal impact. Generate income with new e-learning benefit and increase use of e-learning.

cc: Michelle L. Swanson, Membership Promotion Committee Chair
Daniel B. Gurley, III, Membership Promotion Committee Staff Liaison



eLearning Subcommittee
Report to Publishing and Education Council (PEC)
Meeting of Tuesday, February 4, 2020

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cc: Michelle L. Swanson, Membership Promotion Committee Chair
Daniel B. Gurley, III, Membership Promotion Committee Staff Liaison



**Functional Planning Subcommittee of PEC
Report to PEC
Meeting of Monday, February 3, 2020**

Motions for PEC

1. **Functional Planning Subcommittee recommends PEC approve the following changes to the ROB:**

2.101.007.3

ASHRAE shall publish and distribute ~~on-line~~ an electronic newsletter to its members. The ~~name of the~~ e-Newsletter ~~shall be Society Connections, and it~~ shall be an "official publication of the Society."

(SBL 10.2) (06-03-20-01)

2.101.007.4

(15-01-25/14-07-02-17)

ASHRAE shall publish and distribute to subscribers a journal of archival-quality research. The name of the publication shall be ~~HVAC&R Research to~~ *Science and Technology for the Built Environment*, and it shall be an "official publication of the Society."

Background: These changes simply correct inaccuracies in (1) the mode of delivery (email, not "on-line") and (2) the names of the referenced publications ("eSociety" has supplanted "Society Connections" for some time; the "HVAC&R Research" is a remnant typo from the previous revision. *(Functional Planning Subcommittee 5-0-0 CNV)*

Fiscal Impact: None.

2. **Functional Planning Subcommittee recommends PEC approve changes to the Publications Committee MOP as shown in Attachment A.**

Background: These changes will reflect the reporting and procedural changes that will happen with the new PEC restructure plan to be implemented July 1, 2020. Additional editorial and clean up changes to these documents were also made. *(Functional Planning Subcommittee 5-0-0 CNV)*

Fiscal Impact: None.

Information Items

The subcommittee was assigned oversight of the following three PEC MBOs:

- PEC MBO #2 - Develop Strategy for expanding ALI Instructor core and establish procedures and criteria for instructor appointment and remuneration.

- PEC MBO #3 - Analyze Certification Program and develop metrics for evaluating potential for new certifications aligned with Strategic Plan initiatives 1 & 2 after surveying members to establish interest and demand.
- PEC MBO #4 - Analyze performance of special publications over the past three years and develop criteria for evaluating and approving special publication requests on a business case basis aligned with strategic plan initiative 3.

The subcommittee will work with the involved standing committee and staff to develop metrics and evaluation plans. A conference call will be held before the annual conference in Austin for the subcommittee to finalize their recommendations to be presented to PEC. (*Attachment B*)

Respectfully submitted,

Jon Symko
PEC Fiscal Planning Subcommittee Chair
3 February 2020



Publications Committee MANUAL OF PROCEDURES

~~January 31, 2017~~

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Table of Abbreviations

| | |
|--------------------------------------|--|
| <u>Annual Conference</u> | <u>Meeting of the Society, generally in June</u> |
| BOD | Board of Directors (or Board) |
| <u>CO</u> | <u>Coordinating Officer</u> |
| <u>MBO</u> | <u>Management by Objectives</u> |
| DAL | Director-at-Large |
| MOP | Manual of Procedures |
| ROB | Rules of the Board |
| <u>TC</u> | <u>Technical Committee</u> |
| BAR | Board Approved Rules |
| BL | Bylaws |
| EXCOM | Executive Committee (of the BOD) |
| MBO | Management by Objectives |
| Annual Meeting | Meeting of the Society, generally in June |
| Winter Conference Meeting | Meeting of the Society, generally in January |
| TC | Technical Committee |

STRUCTURE

~~The **Scope and Purpose** This manual describes procedures for accomplishing the duties and responsibilities assigned by the Rules of the Board (ROBs) applicable to the Publications Committee. The Scope and Purpose of the Committee shall be:~~

- ~~1. _____ To formulate the editorial policies of ASHRAE periodicals, books, and software products in print and nonprint formats in accordance with the policies of the Board of Directors.~~
- ~~2. _____ To be responsible for the Rules of the Board as follows: *ASHRAE Journal* is to maintain and enhance its leadership role in the communication of HVAC&R information to and from the profession, industry, and related interests through its worldwide readership and editorial content.~~

~~*ASHRAE Insights* shall be the primary vehicle for intrasociety communications.~~

~~Publications that are not *ASHRAE Handbook*, *ASHRAE Journal*, and *Insights* shall be referred to as special publications, including nonprint formats.~~

I. _____ Committee Organization

- ~~A. _____ *Committee Structure*^{*}: The Committee shall comprise a chair~~Chair~~, a vice chair~~Vice Chair~~, and ten other voting members ~~appointed by the president elect. Service on this Committee is intended to be for a 3-year term. Appointments are made, however, each year by the president elect for the administrative year covered by his/her term as president. Service on this committee is for a three-year term.~~ A: CO, a BOD Ex-Officio, the *ASHRAE Journal* editor, and the Special Publications editor~~and Staff Liaison~~ complete the committee; one of these editors serves as the staff liaison for the committee. ~~The Committee shall include a Planning Subcommittee.~~~~
- ~~The committee~~~~B. _____ *Direction*: The Chair shall direct all Committee activities. In the absence of, or as directed by the Chair, the Vice Chair shall perform the duties of the Chair.~~
- ~~C. _____ *Committee/Council/Board of Directors Relationships*: The Committee reports to the Products Committee of the Publishing and Education Council. ~~The Publications Chair is a member (non-voting) of the Publishing and Education Council, which makes policy determinations not requiring specific action by the BOD. The Publications Chair is the Committee's reporting channel to the Council and Board of Directors.~~~~

The committee chair~~Committee Chair~~ and vice chair~~Vice Chair~~ shall attend the Publishing and Education Council meetings to:

- ~~1. 1- Transmit and explain recommendations of the committee~~Committee~~ to the council~~Council~~.~~
- ~~2. 2- Bring recommendations and actions of the council~~Council~~ and BOD to the committee.~~

^{*}~~See the Reference Manual for specific details concerning Committee structure.~~

The BOD Ex-Officio is an advisor to the committee and an advocate for the committee on the Products Committee, on the Publishing and Education Council, and with the BOD. This individual shall receive agendas and minutes of all committee meetings and copies of all correspondence from and to the committee. -

The staff liaison shall carry out the requirements of the ROB and MOP and shall do the following

D. ~~Planning Subcommittee: A subcommittee may be appointed by the Chair.~~

E. ~~International Subcommittee: A subcommittee may be appointed by the Chair.~~

F. _____:

- ~~Attend all meetings of the committee.~~
- Advise the committee of plans and activities affecting publication and obtain committee input on planned programs and activities.
- Enlist committee assistance in obtaining articles, reviewing articles, and maintaining an editorial balance in the content of the material presented in the publication.
- Act as secretary to the committee in the preparation and distribution of the minutes.
- Distribute minutes of the past four committee meetings and the MOP to new committee members. This shall occur as new appointments are made by the president-elect.
- Distribute the agenda, reports, and other materials to members of the committee.
- Prepare a monthly ASHRAE Journal review form and send the form to members of the committee for them to rate each volume's technical articles.

SUBCOMMITTEES and LIAISONS

A Planning Subcommittee shall be appointed by the chair. This subcommittee shall consist of the chair and vice chair, the ASHRAE Journal editor, the Special Publications editor, the staff liaison, and other committee members who wish to attend. The vice chair will preside. The Planning Subcommittee shall meet prior to each meeting for the purposes of reviewing a list of objectives that will be reported with recommendations to the full committee.

Functional Subcommittee: The Vice Chair shall be responsible for enhancements and updates of the Committee's MOP and ROB and presentation of changes for approval at Publishing and Education Council.

G. _____ TAC Liaison: The chairChair shall appoint a member of the Publications Committee to be liaison with Research Administration Committee (RAC).

The chair shall appoint members of the Publications Committee to be liaisonsliaison to each section of the Technical Activities Committee (TAC).- TAC Section Liaisons shall contact the TC chairs in their assigned TAC section to communicate about upcoming Special Publications and/or the relevance of older Special Publications on the market. TAC Section liaisons shall also attend the TC/TG/MTG Chair's Breakfast meetings at the Annual and Winter Conferences to communicate with TC chairs and convey information to or from the chairs and Publications Committee.

On an ad hoc basis, the chair may appoint committee members to be liaisonsH. —Liaison to Other Committees: Members may be appointed by the Chair as liaison to other committees of the Society for the purpose of interchange of information of mutual value.

DUTIES

The Publications Committee identifies the technical information needs of the HVAC&R industry not met through the ASHRAE Handbook series, ASHRAE's research journal, standards, guidelines, or user's manuals and oversees editorial policies and delivery of products to the marketplace. This includes the editorial policies of ASHRAE's magazines (such as *ASHRAE Journal* and *High Performing Buildings*), ASHRAE's electronic newsletters, *ASHRAE Transactions* and other conference proceedings, and ASHRAE Special Publications, which are technical publications in print format, such as non-series books (including books resulting from ASHRAE Research Projects and Special Projects), books in the Advanced Energy Design Guide series and the ASHRAE Datacom Series, charts, and tools, as well as all technical publications in machine-readable format, such as audio and visual presentations, software, databases, apps, and online resources.

~~I. — *Journal Review Coordinator*: The Chair will appoint a Journal review coordinator.~~

~~J. — *Insights Review Coordinator*: The Chair will appoint an *Insights* review coordinator.~~

III. — Committee Assignments

Duties/Job descriptions for:

| | | |
|------------------|-----------------------------------|-----------------------|
| _____ | Publications Committee | Appendix A |
| _____ | Planning Subcommittee | Appendix B |

The responsibilities of the individual committee members are as follows:

- Attend two to four committee meetings per year. The Publications Committee meets at the Annual and Winter Conferences of the Society.
- Provide suggestions, comments, or feedback on ASHRAE's magazines and ASHRAE's electronic newsletters.
 - Read other publications touching on the fields covered by ASHRAE's magazines for comparative purposes and for making constructive suggestions.
 - Generate topics suitable for ASHRAE's magazines and suggest potential authors.
 - Suggest qualified reviewers to assist the *ASHRAE Journal* editor in evaluating or technically editing articles.
- Nominate a candidate for the Journal Paper Award each Society year.
 - Each month committee members will be sent a review form for the current month's *ASHRAE Journal* technical features; committee members are to complete this form to rate the *ASHRAE Journal* technical features and submit it to the *ASHRAE Journal* editor.
 - One week prior to the Winter Conference, the *ASHRAE Journal* editor will provide the committee electronic access to the three to six top-scoring technical features as rated by the committee members on the monthly review form. The committee, using this information and its members' judgment, shall select and nominate a candidate for the Journal Paper Award.
 - The technical features considered and nominated shall have been published within a calendar year (January through December) preceding the Winter Conference.

- It is the responsibility of the *ASHRAE Journal* editor to report the nomination to the Honors and Awards Committee staff liaison before the end of the Winter Conference. Presentation of the award will occur at the following Annual Conference.
- Recommend to the Products Committee of the Publishing and Education Council those Special Publications that the committee feels should be published and their methods of publication.
 - Committee members evaluate the suitability of proposed Special Publications based on the value of a proposed publication to the membership, the size of the expected audience, and the potential to recover publishing costs through sales of the publication.
 - For a proposal to be considered, the committee shall require submission of a completed online Publication Request Form. The form will be submitted electronically to the Special Publications editor, who will coordinate a staff analysis of the publication and submit recommendations to the Publications Committee.
 - The committee reviews the recommendations and provides supporting data on the fiscal impact to the Products Committee, which will approve, reject, or defer the proposed publication. In the case it is approved, it will move to Publishing and Education Council for final approval for publication.
 - When reviewing unsolicited material, the committee shall endeavor to maintain confidentiality regarding the material submitted, if requested.
 - Following review and approval of the final technical content by the project's cognizant TC or Project Monitoring Subcommittee (PMS), Special Publications staff will edit and format the manuscript for publication.
- Ensure that all Special Publications are current and timely.
 - The staff liaison will maintain a list of Special Publications that have publication dates of the first printing or latest revision four or more years old.
 - The Special Publications editor or the committee liaison assigned to the specific TAC section of the cognizant TC for each publication shall correspond with the chair of the cognizant TC or the TAC section head to determine whether the publication is still current and valid, whether it should be revised or updated, or whether the topic is no longer of interest to HVAC&R engineers and should therefore be made obsolete.

OPERATION

| | | |
|-------|--|------------|
| _____ | MBO Fiscal Budget | |
| _____ | Editorial Calendar | |
| _____ | <i>ASHRAE Journal/Insights</i> Reviews | Appendix C |
| _____ | International Subcommittee | Appendix H |

IV.—Committee Operations

~~A. The Committee year ends with the conclusion of its meeting at the Society Annual Meeting.~~
At or before the Annual ~~Conference Meeting~~, the ~~committee chair~~~~Chair~~ for the succeeding year shall work with the outgoing ~~chair~~~~Chair~~ to understand the status and performance of ~~committee~~~~Committee~~ objectives, to plan the continuing and new programs for the following year, and to become the keeper of the ~~committee's~~~~Committee's~~ archives.

B.—Prior to the Annual ~~(Summer)~~ Conference, the staff liaison~~Society~~ shall contact new committee~~Committee~~ members and invite their attendance and participation as guests at the regular Publications Committee Meeting. New member orientation will be conducted via conference call or email within the first 30 days of the new member's appointment. ~~The meeting shall include orientation for new members.~~

C.—The chair will assign mentors to new members using guidelines in the Reference Manual.

D.—Prior to the ~~Society~~ Annual Conference~~Meeting~~, the committee~~Committee~~ vice chair or the individual who will be the next year's chair will prepare objectives (MBOs) for the committee~~Committee~~ for the next year and present these objectives to the committee~~Committee~~ for review at the committee~~Committee~~ meeting held during the ~~Society~~ Annual Conference. The preparer of the objectives has the option of proposing objectives that extend beyond one year as long as the first-year objectives are clear and measurable. The objectives will be included in the committee's~~Committee's~~ report to the Products Committee~~council~~ at the Annual Conference as an information item, ~~and a copy of the objectives will be sent to the Assistant to the Board of Directors.~~

E.—Motions and resolutions presented to the Products Committee with the potential to be forwarded to Publishing and Education Council and the BOD shall follow the approved guidelines. These guidelines apply to proposed changes and clarifications for ROB, ~~BAR~~ and other committee-~~Committee-~~approved items requiring council~~Council~~ and/or BOD~~Board~~ approval. Appendices are part of the MOP and therefore require approval by the reporting body (B-97-97-02-16).

F.—This committee shall develop procedures for recommending updates to the Society's strategic plan on a continuous basis. As a minimum, the committee shall submit a report to the Product~~council~~ ~~at a time determined by the Board Planning~~ Committee annually ~~that.~~ ~~The report~~ includes the current status of each activity that supports the fulfillment of the committee's assignments under the strategic plan. The committee shall report to the Products Committee~~council~~ all recommendations for changes to the strategic plan as provided by the committee's constituents before the Annual Conference.

V.—~~**BOD Ex-Officio (Director-at-Large)**~~ The BOD Ex-Officio is an advisor to the Committee and an advocate for the Committee on the council and the BOD. This individual shall receive agendas and minutes of all Committee meetings and copies of all correspondence from and to the Committee. ~~The BOD Ex-Officio is a voting member of the Publishing and Education Council and carries motions forward to the Publishing and Education Council.~~

VI. — Staff Liaison

~~One week prior to the Winter~~ The staff liaison shall carry out the requirements of the ROB and MOP and shall:

- ~~• Attend all meetings of the Committee.~~
- ~~• Advise the Committee of plans and activities affecting the publication and obtain Committee input on planned programs and activities.~~

- ~~Enlist Committee assistance in obtaining articles, reviewing articles, and maintaining an editorial balance in the content of the material presented in the publication.~~
- ~~Act as Secretary to the Committee in the preparation and distribution of the minutes.~~
- ~~Distribute minutes of the past four Committee meetings and the MOP to new Committee members. This shall occur as new appointments are made by the President-Elect.~~
- ~~Distribute the agenda, reports and other materials to members of the Publications Committee.~~
- ~~Prepare a monthly *ASHRAE Journal* review form and send the form to members of the Publications Committee and the Publishing and Education Council for their review.~~
- ~~Prepare editorial calendar materials and distribute to Publications Committee members for feedback and input.~~

~~VII. Procedures~~ The guidelines for operation and procedures for the Publications Committee are outlined as follows:

| | |
|---|------------|
| Best Article Review Procedure..... | Appendix D |
| <i>ASHRAE Journal</i> Guidelines..... | Appendix E |
| <i>Insights</i> Content and Procedures..... | Appendix F |
| Special Publications Procedures..... | Appendix G |

Appendix A

Publications Committee Duties

1. ~~Attend two to four Committee meetings per year. The Publications Committee meets at the Annual and Winter Meetings of the Society. The Committee sometimes schedules a meeting on the same weekend as the Publishing and Education Council spring and/or fall meeting.~~
2. ~~Read each issue of *ASHRAE Journal* and *Insights* thoroughly. The *Journal* Review Form is to be completed and submitted to the assigned *Journal* coordinator. The *Insights* Review Form is to be completed and submitted to the assigned *Insights* coordinator.~~
3. ~~Recommend Best *ASHRAE Journal* feature articles for awards.~~
4. ~~Read other publications covering parts of the *Journal's* field for comparative purposes and make constructive suggestions.~~
5. ~~Suggest qualified reviewers to assist the *Journal* Editor in evaluating or technically editing an article.~~
6. ~~Perform all tasks assigned by the Chair.~~
7. ~~Generate topics suitable for *ASHRAE Journal* and suggest potential authors.~~
8. ~~Review editorial calendar and provide feedback to the *Journal* editor.~~
9. ~~Recommend to the Publishing and Education Council special publication items that should be published and also the method of publication.~~

Appendix B

Planning Subcommittee Duties

- ~~1. *Organization:* The Planning Subcommittee shall consist of the Chair and Vice Chair of the Publications Committee, the *Journal* coordinator, the *Insights* coordinator, and other members who wish to attend. The Vice Chair will preside.~~
- ~~2. *Purpose:* The Planning Subcommittee shall meet prior to each meeting for the purpose of reviewing a list of objectives that will be reported with recommendations to the full Committee; for reviewing and reporting on the editorial features calendar; and for establishing the proposed budget for the Committee's expenses.~~

Appendix C

ASHRAE Journal/Insights Reviews

ASHRAE Journal Review:

~~Each member of the Publications Committee and Publishing and Education Council will be sent a review form for the current month's *Journal*. The Committee chair shall assign a person to collect *Journal* review forms.~~

Insights Review:

~~At least annually, each member of the Publications Committee will be sent a review form for an issue of *Insights*. The Committee chair shall assign a person to collect *Insights* review forms.~~

Appendix D

Best Article Review Procedure

~~One week prior to the Winter Meeting, the *Journal* Review coordinator will provide the Committee the three to six top scoring articles along with the Best Article recommendation. The Committee Chair will also bring three sets to the Winter Meeting. The Publications Committee, using this information and its members' judgment, shall select and nominate to the Honors and Awards Committee a candidate for the *Journal* Best Paper Award. The *Journal* articles considered and nominated shall be within a calendar year (January through December) and shall relate to the arts and sciences represented by ASHRAE.~~

~~*Timetable for Nomination:* The Publications Committee shall rate the articles throughout the year through the monthly review process conducted by the Publications Committee and the Publishing and Education Council. It will be the responsibility of the Publications Committee Chair to report the nomination to the Honors and Awards Committee staff liaison before the end of the Winter Meeting. Presentation of the award will occur at the following Annual Meeting.~~

Appendix E

ASHRAE Journal Guidelines

A. Feature Articles:

1. Sources of feature articles include but are not restricted to:

- Technical papers from any past meeting.
 - Symposia papers from any past meeting.
 - Seminar presentations from any past meeting.
 - Forum discussions, but only with the permission of each participant quoted or paraphrased.
 - Papers from ASHRAE sponsored or cosponsored conferences.
 - Information or articles developed around current and past Society level and regional level Technology Awards.
 - Extracts from Professional Development Seminar presentations.
 - Chapter meeting and/or chapter seminar presentations.
 - Extracts or papers and publications of ASHRAE.
 - International affiliates.
 - Feature articles from other magazines that reach only a small percentage of *ASHRAE Journal* readers.
 - Past articles from *ASHRAE Journal*, publications of predecessor societies or magazines no longer in publication.
2. Prior to publishing any articles in the *Journal*, the editor must have the author's written permission to publish or in the case of reprinted articles, a written release of copyright.
3. The editor shall select a balanced spectrum of feature articles for each issue considering the background, specialization and interests of the readers. The minimum is to have at least one feature article in every other issue for at least 90% of *ASHRAE Journal* subscribers.
4. Papers may be published in condensed or original form at the discretion of the editor. All papers shall be edited as required to optimize their readership and value to the *ASHRAE Journal* subscriber.
5. Manuscripts, when reviewed and approved for publication, will be published in the length and coverage agreed upon by the editor and author.
6. Abstracts or condensations of technical papers or manuscripts shall first be requested of the author, but may be prepared by the *Journal* staff or a suitable authority. The author's written approval is required prior to publication.

A. Authors:

Standard practice is that authors:

- a. Submit articles in conformance with the specifications in "Instructions to Authors" available from the *ASHRAE Journal* staff.
- b. Have their article peer reviewed.

- ~~• c. May be identified by name, title, company affiliation and a brief business/education biography.~~
- ~~• d. Conform to *ASHRAE Journal's* policy relating to commercialism in both text and illustrations.~~
- ~~• e. Submit original material and be required to sign the ASHRAE agreement for exclusive Permission to Publish prior to peer review.~~

~~B. Readership:~~

~~Readership breakdowns are a valuable instrument for the Editor and Committee for targeting feature articles that provide value to the *Journal* readers.~~

Appendix F

Insights Contents and Procedures

- ~~A. The monthly newspaper, *Insights*, shall publish available news of ASHRAE officers, staff, and the general membership, meeting programs, educational programs, standards, actions and publications available from and through the Society. Emphasis in each issue shall be placed on news from the chapters and regions, research & technology, and individual members.~~
- ~~B. The staff and Committee are to establish and maintain close liaison with departments and Committees of the Society in order to effectively serve the membership with information of value and interest.~~
- ~~C. A survey shall be distributed by the *Insights* editor to the Publications Committee for review of *Insights*. The results shall be collected by the *Insights* coordinator and brought to the full Committee.~~

Appendix G

Special Publications Procedures

A. ~~Special publications are technical publications other than ASHRAE Handbook and periodicals. They are grouped into the following categories:~~

- ~~• 1. *Winter/Annual Meeting Products*: Preprints of technical and symposium papers presented at Society Winter and Annual Meetings; Winter/Annual Meeting CD, which contains the papers from the current meeting and discussion from the previous meeting; and *ASHRAE Transactions*, a book that is the official proceedings of Society Winter and Annual Meetings.~~
- ~~• 2. *Nonseries Books*: Books that are complete in themselves, which are products of ASHRAE research, governmental research, ASHRAE Committee projects, expansion of Handbook materials and conference proceedings.~~
- ~~• 3. *Nonprint Products*: Primarily CDs and some software.~~

~~4. *Standards*: ASHRAE standards.~~

B. ~~The Publications Committee action on each of the special publications is as follows:~~

- ~~1. *Winter/Annual Meeting Products*: Publication is governed by ASHRAE Program Committee and Rules of the Board.~~
- ~~2. *Nonseries Books*: Publications Committee reviews data, then either approves, rejects, or defers recommendation to the Publishing and Education Council.~~
- ~~3. *Nonprint Products*: Publications Committee reviews data, then either approves, rejects, or defers Publications Committee recommendation to the Publishing and Education Council.~~
- ~~4. *Standards*: No action required by Publications Committee; governed by Standards Committee and Rules of the Board.~~

C. ~~Special Publications:~~

- ~~• 1. *Review of proposed topics*. Publications Committee evaluates the suitability of proposed topics based on the value of a proposed publication to the membership, the size of the expected audience, and the potential to recover publishing costs through sales of the publication. Topics for special publications may originate from ASHRAE research projects, from unsolicited proposals, or by referrals from Publishing and Education Council.~~

~~a. Topics originating from ASHRAE research projects. Publications Committee identifies proposed research projects that have special publications as deliverables through liaison with Research Administration Committee, Technical Activities Committee, and the technical committees.~~

~~b. When reviewing unsolicited material, the Committee shall endeavor to maintain confidentiality regarding the material submitted, if requested.~~

~~c. For a proposal to be considered, the Committee shall require submission of a completed online Publication Ideas form.~~

~~• 2. For each accepted special publication topic, Publishing Committee identifies a cognizant committee to oversee production of the technical content.~~

~~○ a. For publications originating from ASHRAE research projects, the technical committee responsible for managing the research project also manages the technical content.~~

~~b. For publication topics that are clearly within the scope of a single technical committee or standing committee, Publishing Committee requests that committee to appoint a project monitoring committee.~~

~~c. If the publication topic is of too broad a scope for a single technical committee, Publishing Committee refers it to the Technical Activities Committee for appointment of a project monitoring committee.~~

~~• 3. Following review and approval of the final technical content by the cognizant committee, publications staff edits and formats the manuscript for publication. Publication proceeds only after recommendation by the project monitoring committee and approval by the Publications Committee and Publishing and Education Council.~~

~~D. The Publications Committee shall ensure that all special publications are current and timely by the following actions:~~

~~1. Maintain a list of all nonseries special publications with date of latest revision or publication.~~

~~2. For each nonseries publication, following four years of availability, the editor of special publications shall correspond with the cognizant technical committee or the Technical Activities Committee to determine whether the publication is still current and valid or whether it should be revised or updated.~~

~~3. If revision or update is required, Publishing Committee identifies the source of funding for the update.~~

Appendix H

International Subcommittee

~~1.—Organization: The International Subcommittee shall consist of three (3) members from the Publications Committee.~~

~~2.—Purpose: The International Subcommittee shall meet prior to the full committee meeting for the purpose of reviewing a list of objectives that will be reported with recommendations to the full committee. The subcommittee's activities will include reviewing and reporting on the committee's near and long term goals, publication activities and content, status, consumer acceptance and/or problems, technical values, market activities, and constraints.~~

ASHRAE New Special Publications Evaluation Criteria

Publication Name:

Publication Sponsor:

Point Threshold for Publication: (need to determine what this minimum is - 70 points?)

Evaluation:

| Criteria | Historical Performance of Similar Publications | Market and Industry Need | Projected Production Cost | Projected Revenue | Primary Buyer | Member Benefits | Current Hot Topic? | Total Points |
|-----------------|---|--------------------------------|---------------------------------|----------------------|------------------|--------------------|--------------------------|-----------------|
| Max Points | 15 | 20 | 15 | 15 | 10 | 15 | 10 | 100 |
| Points Assigned | | | | | | | | |

Notes:

Historical Performance of Similar Publications:

We should look at similar types of publications (Design Guides, User's Manuals, hands on guides, etc.) to help in estimating sales

**Projected
Margin**



**Report to PEC from
Research Journal Subcommittee
Meeting of Tuesday, February 4, 2020**

Motions for PEC

None.

Information Items

1. STBE received 69,751 article downloads in 2019, an increase of 43% over 2018. 129 papers were published in 2019, with 10 of them open access (OA). The journal's 2018 impact factor is 1.199, ranking 42/63 in the construction and building technology category of Journal Citation Reports (JCR). Additional detailed information is contained in the Publisher's Report from Taylor & Francis (Attachment A).
2. STBE's editor, Dr. Jeff Spitler, discussed with the subcommittee developing a presentation or article with guidance on submitting papers to STBE for authors and the idea of an expanded review board for the review of STBE papers.
3. The subcommittee has selected a paper (confidential as of this report) for the 2019 STBE Best Paper Award and sent their nomination to the Honors and Awards Committee. The award will be presented at the annual meeting in Austin.

Respectfully submitted,

Farooq Mehboob, Chair
Research Journal Subcommittee
4 February 2020
FM/jh/mso



Research Journal Subcommittee Report to PEC
Attachment A



Science and Technology for the Built Environment

Confidential Publishing Report
January 2020

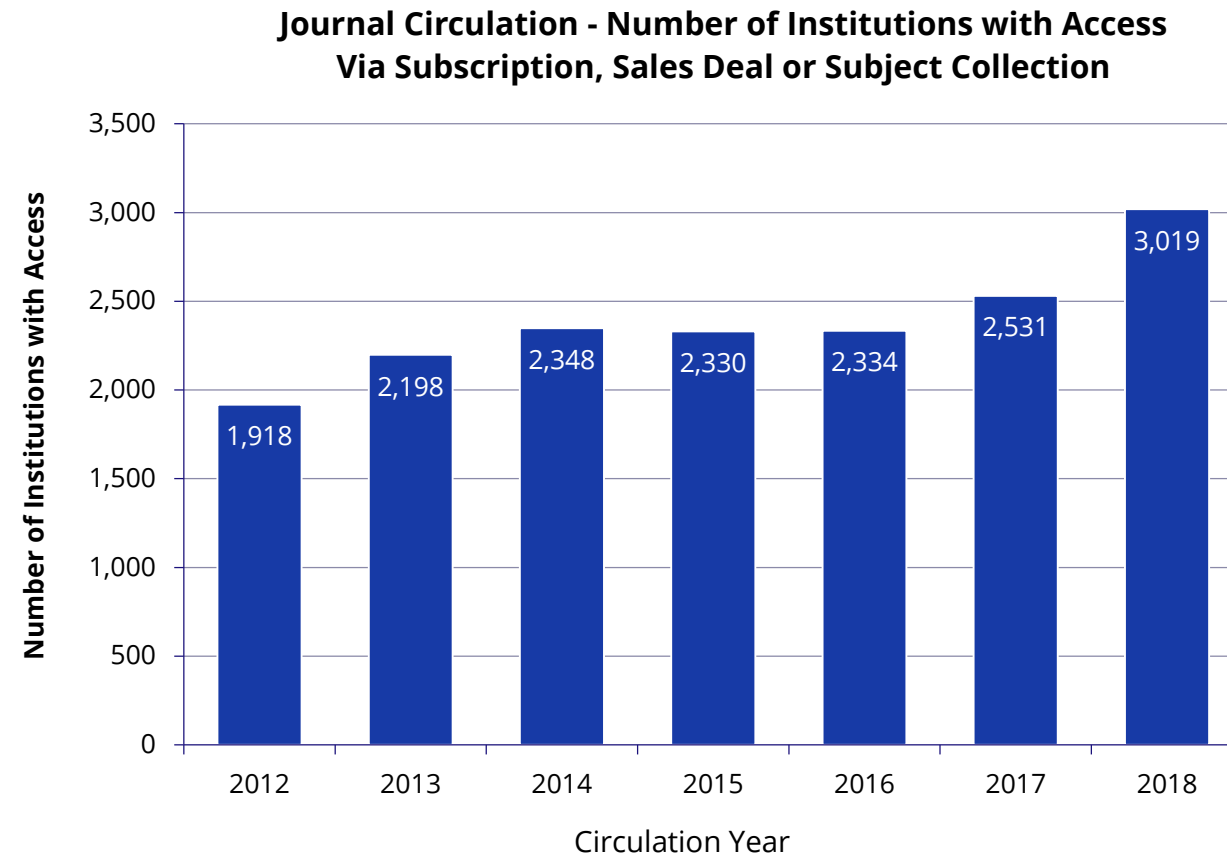
Agenda

1. Global Reach
2. Altmetric Analysis
3. Citation Analysis
4. Marketing Report
5. Production Report
6. Author Survey
7. Resources
8. Journal Contacts

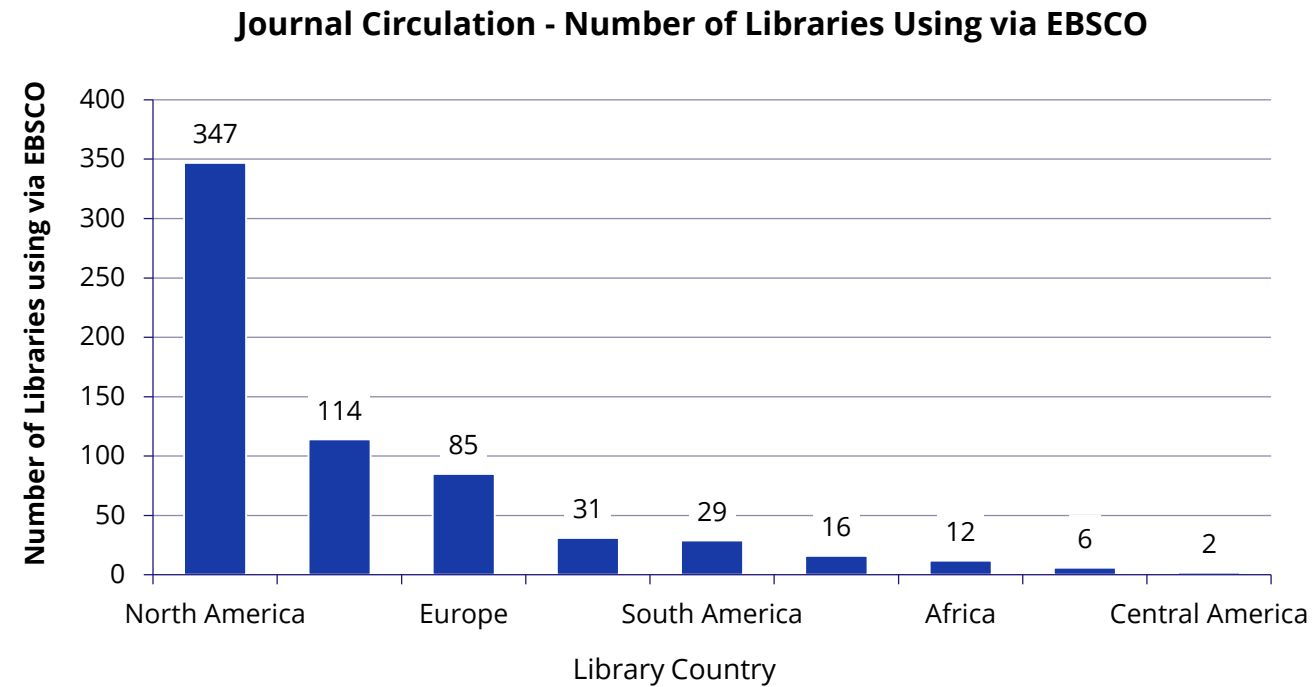
Highlights

- Your Journal received **69,751 article downloads** in 2019, which is **43% higher** than downloads received in 2018.
- The most downloaded article is 'Equipment power consumption and load factor profiles for buildings' energy simulation (ASHRAE 1742-RP) by Omer Sarfraz, with **2,324 downloads**.
- The top Altmetric scoring article was 'Indoor air quality in 24 California residences designed as high-performance homes' by Brennan Less, Nasim Mullen, Brett Singer, Iain Walker, with a **score of 5**.
- The journal's **2018 Impact Factor is 1.199**, ranking 42/63 in the construction and building technology JCR category.
- The journal's **2018 CiteScore is 1.300**, ranking 73/168 in the Building and Construction Scopus category.
- There were 129 publications in 2019, **10 of which were Open Access**.

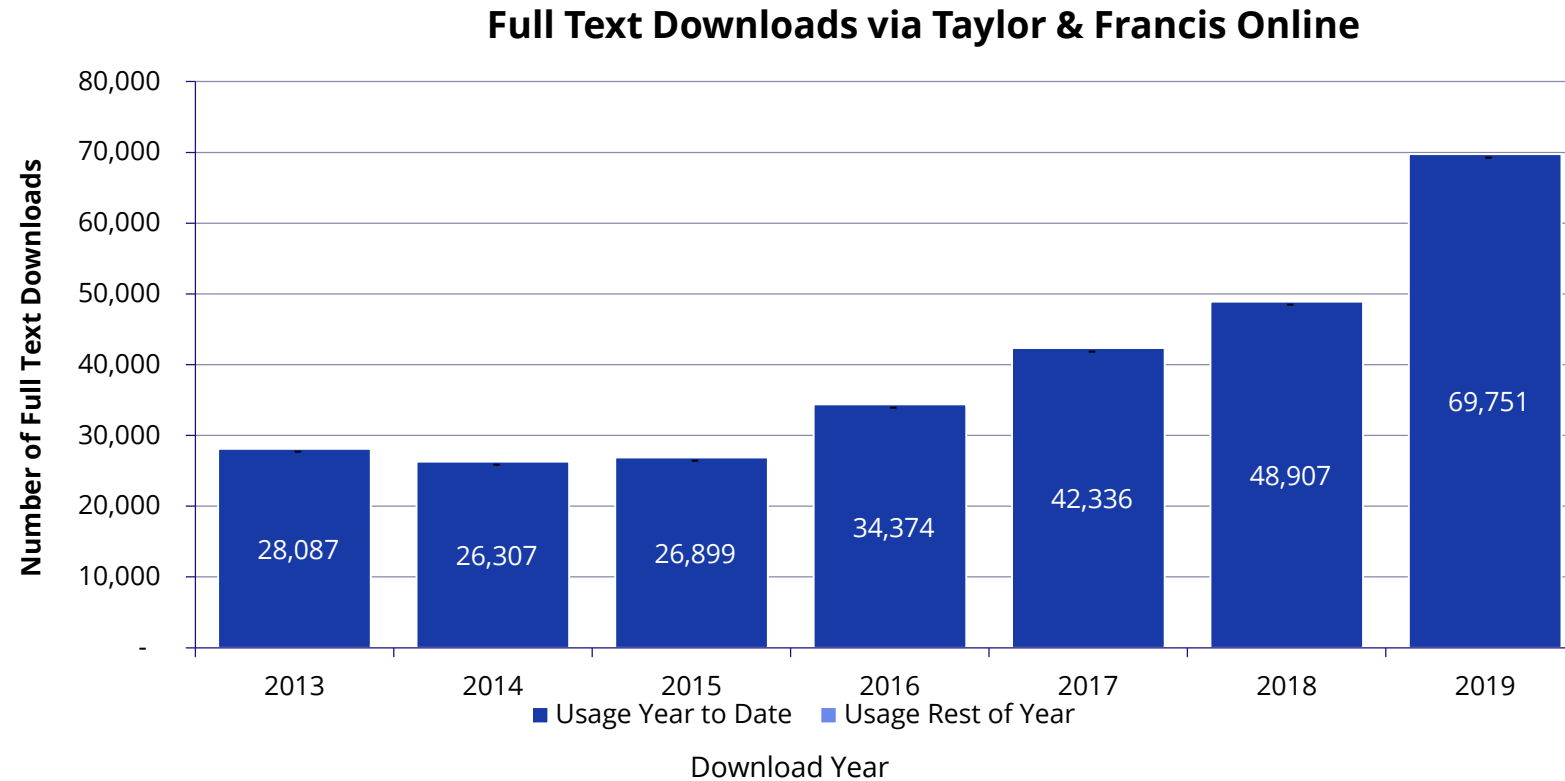
Global Reach – Circulation



EBSCO Circulation (2018)

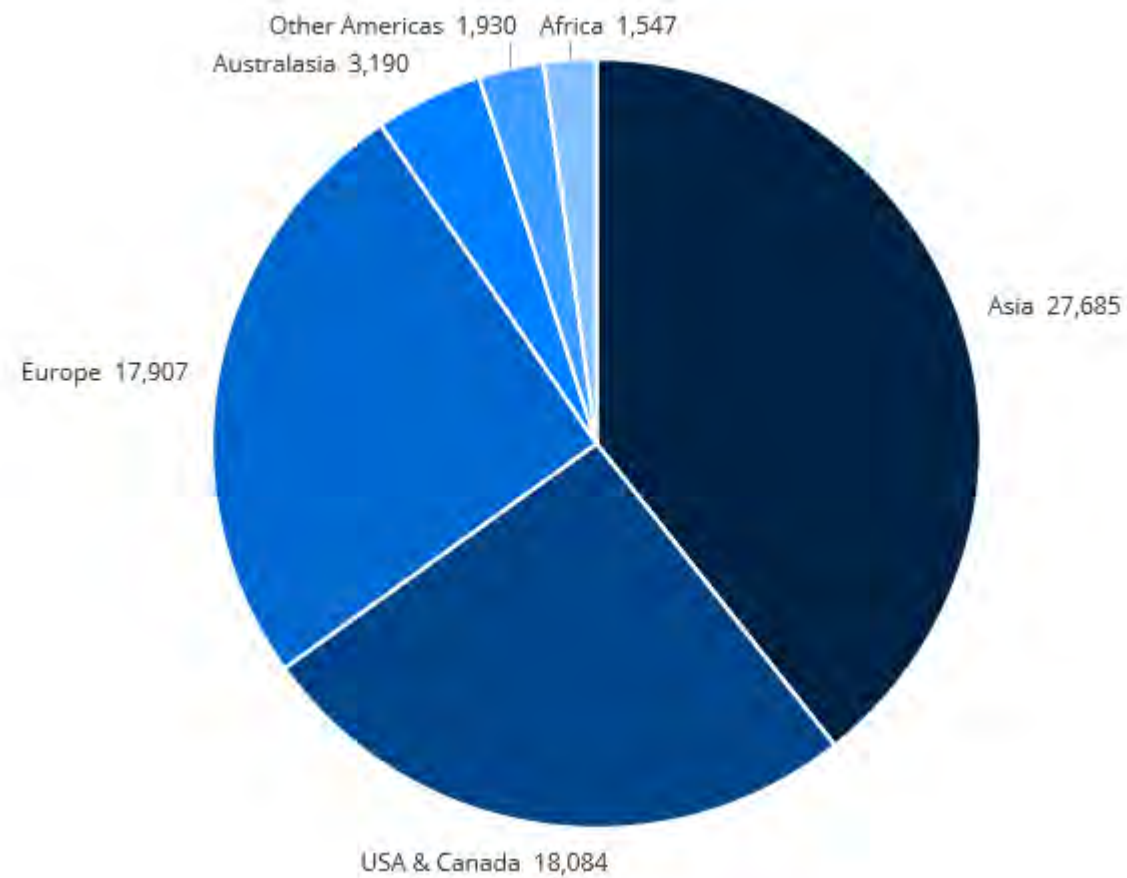


Article Downloads – Taylor & Francis Online (TFO) Usage



There were 69,751 article downloads in 2019. Article downloads have increased by 43% from 2018 to 2019.

Article Downloads by Region (in the past 12 months)



Most Downloaded Articles in the Past 12 Months (from Past Three Volume Years)

| Article Title | First Author | Volume and Issue | Number of Downloads | Open Access |
|--|--------------------------|------------------|---------------------|-------------|
| Equipment power consumption and load factor profiles for buildings' energy simulation (ASHRAE 1742-RP) | Omer Sarfraz | 24(10), 2018 | 2,324 | Yes |
| Traffic noise level predictions for buildings with windows opened for natural ventilation in urban environments | Jelena Srebric | 23(5), 2017 | 1,254 | Yes |
| Design optimization and validation of high-performance heat exchangers using approximation assisted optimization and additive manufacturing | Vikrant Aute | 23(6), 2017 | 1,103 | Yes |
| Supermarket system characteristics and operating faults (RP-1615) | David Yuill | 24(10), 2018 | 917 | Yes |
| Window and door opening behavior, carbon dioxide concentration, temperature, and energy use during the heating season in classrooms with different ventilation retrofits—ASHRAE RP1624 | Jorn Toftum | 24(6), 2018 | 838 | Yes |
| Recent advances on heat and mass transfer in refrigeration and air-conditioning systems | Lorenzo Cremaschi | 23(6), 2017 | 793 | No |
| A heat transfer and friction factor correlation for low air-side Reynolds number applications of compact heat exchangers (1535-RP) | Cheng-Xian (Charlie) Lin | 23(1), 2017 | 781 | Yes |
| IAQ and energy implications of high efficiency filters in residential buildings: A review (RP-1649) | Jeffrey A. Siegel | 25(3), 2019 | 737 | Yes |
| IAQ 2016: Defining indoor air quality: Policy, standards and best practices | S. C. Sekhar | 24(2), 2018 | 734 | No |
| Fouling and Its Effects on Air-cooled Condensers in Split System Air Conditioners (RP-1705) | Mehdi Mehrabi | 25(6), 2019 | 714 | Yes |

*chart shows list of articles published in the last three volumes that were the most downloaded in 2019.

Top Institutions by Downloads (Past 12 Months)

| Institution name | Number of Downloads |
|--|---------------------|
| Tongji University | 1,202 |
| Hong Kong Polytechnic University | 987 |
| Huazhong University of Science & Technology | 719 |
| Tianjin University | 682 |
| Concordia University Library | 663 |
| Oklahoma State University - Stillwater and Tulsa | 651 |
| Zhejiang University | 604 |
| Xian Jiaotong University | 591 |
| Purdue University Calumet | 560 |
| National Renewable Energy Lab | 540 |

Note: Consortia have been removed from this table.

Altmetrics

An Altmetric score is a high-level measure of the quality and quantity of online attention that an individual article has received. The score is based on relevant mentions from social media sites, newspapers, policy documents, blogs, Wikipedia, and many other sources.

| Volume | Sources | Authors |
|---|--|--|
| The score for an article rises as more people mention it. We only count 1 mention from each person per source, so if you tweet about the same paper more than once, Altmetric will ignore everything but the first. | Each category of mention contributes a different base amount to the final score. For example, a newspaper article contributes more than a blog post which contributes more than a tweet. | We look at how often the author of each mention talks about scholarly articles, at whether or not there's any bias towards a particular journal or publisher and at who the audience is. For example, a doctor sharing a link with other doctors counts for far more than a journal account pushing the same link out automatically. |

The Colors of the Donut

- Policy documents
- News
- Blogs
- Twitter
- Post-publication peer-reviews
- Facebook
- Sina Weibo
- Syllabi
- Wikipedia
- Google+
- LinkedIn
- Reddit
- Research highlight platform
- Q&A (Stack Overflow)
- Youtube
- Pinterest
- Patents



Default Weights

| | |
|-------------------------------|------|
| News | 8 |
| Blogs | 5 |
| Twitter | 1 |
| Facebook | 0.25 |
| Sina Weibo | 1 |
| Wikipedia | 3 |
| Policy Documents (per source) | 3 |
| Q&A | 0.25 |
| F1000/Publons/Pubpeer | 1 |
| YouTube | 0.25 |
| Reddit/Pinterest | 0.25 |
| LinkedIn | 0.5 |
| Open Syllabus | 1 |
| Google+ | 1 |

According to Altmetric, "The score is derived from an automated algorithm, and represents a weighted count of the amount of attention we've picked up for a research output. Why is it weighted? To reflect the relative reach of each type of source. It's easy to imagine that the average newspaper story is more likely to bring attention to the research output than the average tweet. This is reflected in the default weightings:"

Altmetric Analysis – Top Altmetric Scores (Past Year)

Report generated January 2020.

| RANK | ATTENTION SCORE | RESEARCH OUTPUT | | | |
|------|-----------------|---|-----|---|--|
| #1 | 5 | Indoor air quality in 24 California residences designed as high-performance homes Article in <i>Science and Technology for the Built Environment</i> , January 2015 | #6 | 1 | Light transmittance characterization and energy-saving analysis of a new selective coating for in situ window retrofit Article in <i>Science and Technology for the Built Environment</i> , June 2019 |
| #2 | 4 | Meta-analysis of summertime indoor temperatures in new-build, retrofitted, and existing UK dwellings Article in <i>Science and Technology for the Built Environment</i> , June 2019 | #7 | 1 | Explicit multipole formulas and thermal network models for calculating thermal resistances of double U-pipe borehole heat exchangers Article in <i>Science and Technology for the Built Environment</i> , July 2019 |
| #3 | 3 | IAQ 2016: Defining indoor air quality: Policy, standards and best practices Article in <i>Science and Technology for the Built Environment</i> , December 2017 | #8 | 1 | Adaptation of fan motor and VFD efficiency correlations using Bayesian inference Article in <i>Science and Technology for the Built Environment</i> , May 2019 |
| #4 | 2 | Characterization, testing, and optimization of load aggregation methods for ground heat exchanger response-factor models Article in <i>Science and Technology for the Built Environment</i> , September 2019 | #9 | 1 | Window and door opening behavior, carbon dioxide concentration, temperature, and energy use during the heating season in classrooms with different ventilation retrofits—ASHRAE RP1624 Article in <i>Science and Technology for the Built Environment</i> , February 2018 |
| #5 | 1 | Effects of moisture content, temperature and pollutant mixture on atmospheric corrosion of copper and silver and implications for the environmental design of data centers (RP-1755) Article in <i>Science and Technology for the Built Environment</i> , January 2020 | #10 | 1 | Fouling and Its Effects on Air-cooled Condensers in Split System Air Conditioners (RP-1705) Article in <i>Science and Technology for the Built Environment</i> , June 2019 |

Overview and Source Breakdown of Altmetric Attention Score (Past Year)

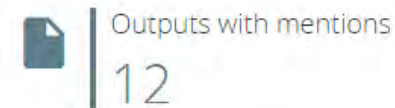
REPORT OVERVIEW



Total number of mentions for research outputs in this report



Total number of research outputs in this report, including those without mentions



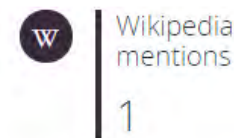
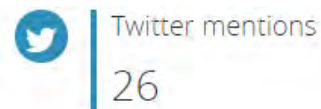
Total number of research outputs in this report that have Altmetric mentions



Number of attention sources that mention research outputs in this report

ATTENTION SOURCE BREAKDOWN

The number of mentions from each source that Altmetric has tracked for the research outputs in this report.



Link to Altmetric Report

The link below can be used to access a report containing the latest Altmetric attention to your journal. This data is updated daily, so can be used to keep track of trending articles.

<https://www.altmetric.com/explorer/report/269fecca-3cf3-409d-956b-56161e477766>

Impact Factor & Ranking

$$\text{JIF} = \frac{\text{Citations in 2018 to items published in 2016 (146) + 2017 (101)}}{\text{Number of citable items in 2016 (100) + 2017 (106)}} = \frac{247}{206} = 1.199$$

1.199

2018 Journal Impact Factor



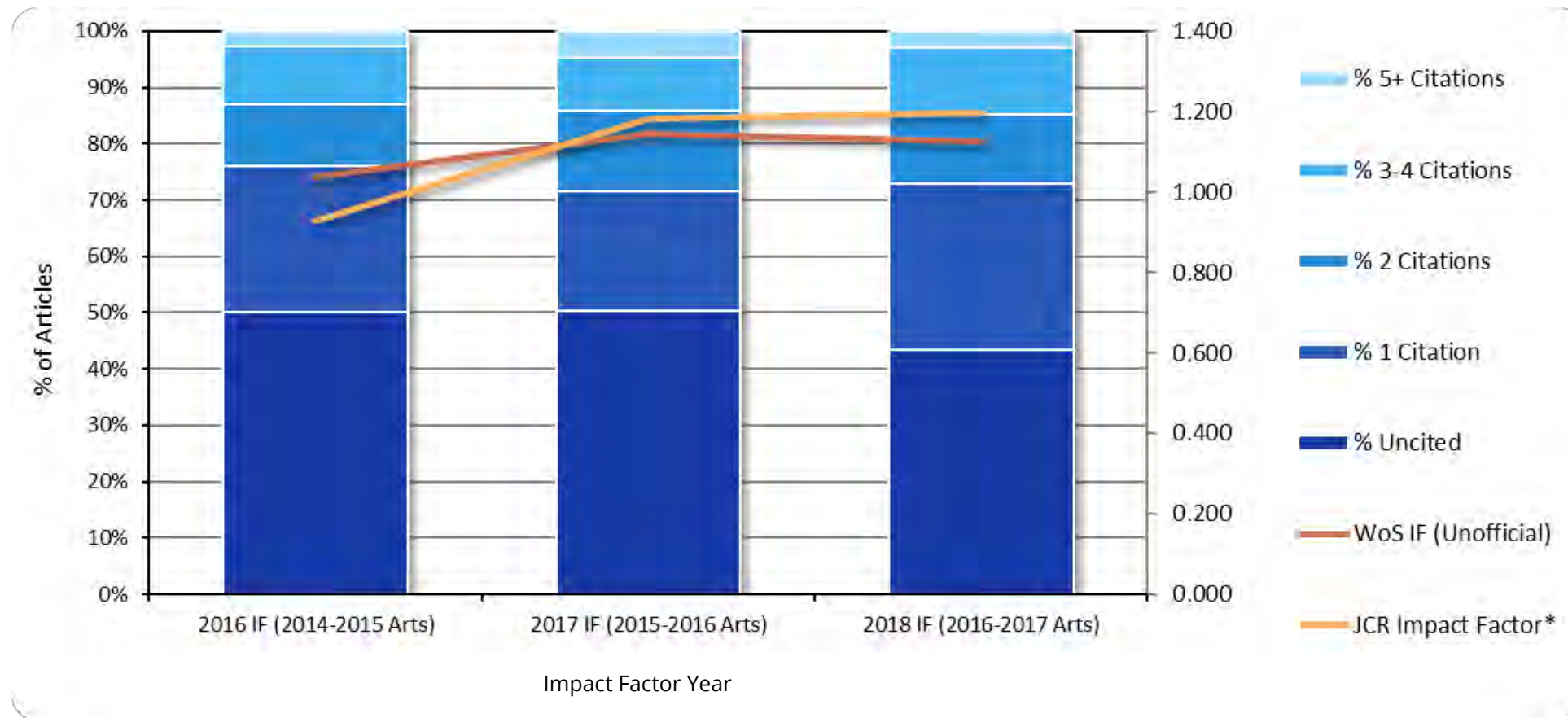
| Impact Factor Year | Impact Factor | Rank |
|--------------------|---------------|--|
| 2013 | 0.745 | (31/58 Construction & Building Technology, 36/55 Thermodynamics, 75/126 Engineering, Mechanical) |
| 2014 | 0.673 | (35/59 Construction & Building Technology, 43/55 Thermodynamics, 92/130 Engineering, Mechanical) |
| 2015 | 0.871 | (37/61 Construction & Building Technology, 43/58 Thermodynamics, 86/132 Engineering, Mechanical) |
| 2016 | 0.928 | (36/61 Construction & Building Technology, 47/58 Thermodynamics, 97/130 Engineering, Mechanical) |
| 2017 | 1.183 | (37/59 Thermodynamics, 38/62 Construction & Building Technology, 87/128 Engineering, Mechanical) |
| 2018 | 1.199 | (42/63 Construction & Building Technology, 43/60 Thermodynamics, 90/129 Engineering, Mechanical) |

Top Cited Articles – 2018 Impact Factor

| Article title | First Authors | Volume | Issue | Document Type | Number of Citations |
|---|---------------------|--------|-------|---------------|---------------------|
| Design of a hydraulically driven compressive elastocaloric cooling system | Qian, Suxin | 22 | 5 | Article | 8 |
| Magnetic heat pumps: An overview of design principles and challenges | Trevizoli, Paulo V. | 22 | 5 | Article | 7 |
| Optimal operation scheduling for microgrid with high penetrations of solar power and thermostatically controlled loads | Luo, Fengji | 22 | 6 | Article | 6 |
| A power limiting control strategy based on adaptive utility function for fast demand response of buildings in smart grids | Tang, Rui | 22 | 6 | Article | 6 |
| Sizing heating, ventilating, and air-conditioning systems under uncertainty in both load-demand and capacity-supply side from a life-cycle aspect | Huang, Pei | 23 | 2 | Article | 6 |
| Exploring the efficiency potential for an active magnetic regenerator | Eriksen, Dan | 22 | 5 | Article | 5 |
| Elastocaloric cooling: From fundamental thermodynamics to solid state air conditioning | Schmidt, Marvin | 22 | 5 | Article | 4 |
| Modeling the impact of residential HVAC filtration on indoor particles of outdoor origin (RP-1691) | Azimi, Parham | 22 | 4 | Article | 4 |
| Effects of passenger thermal plume on the transport and distribution characteristics of airborne particles in an airliner cabin section | Yan, Yihuan | 22 | 2 | Article | 4 |
| Airflow patterns due to door motion and pressurization in hospital isolation rooms | Mousavi, Ehsan S. | 22 | 4 | Article | 4 |

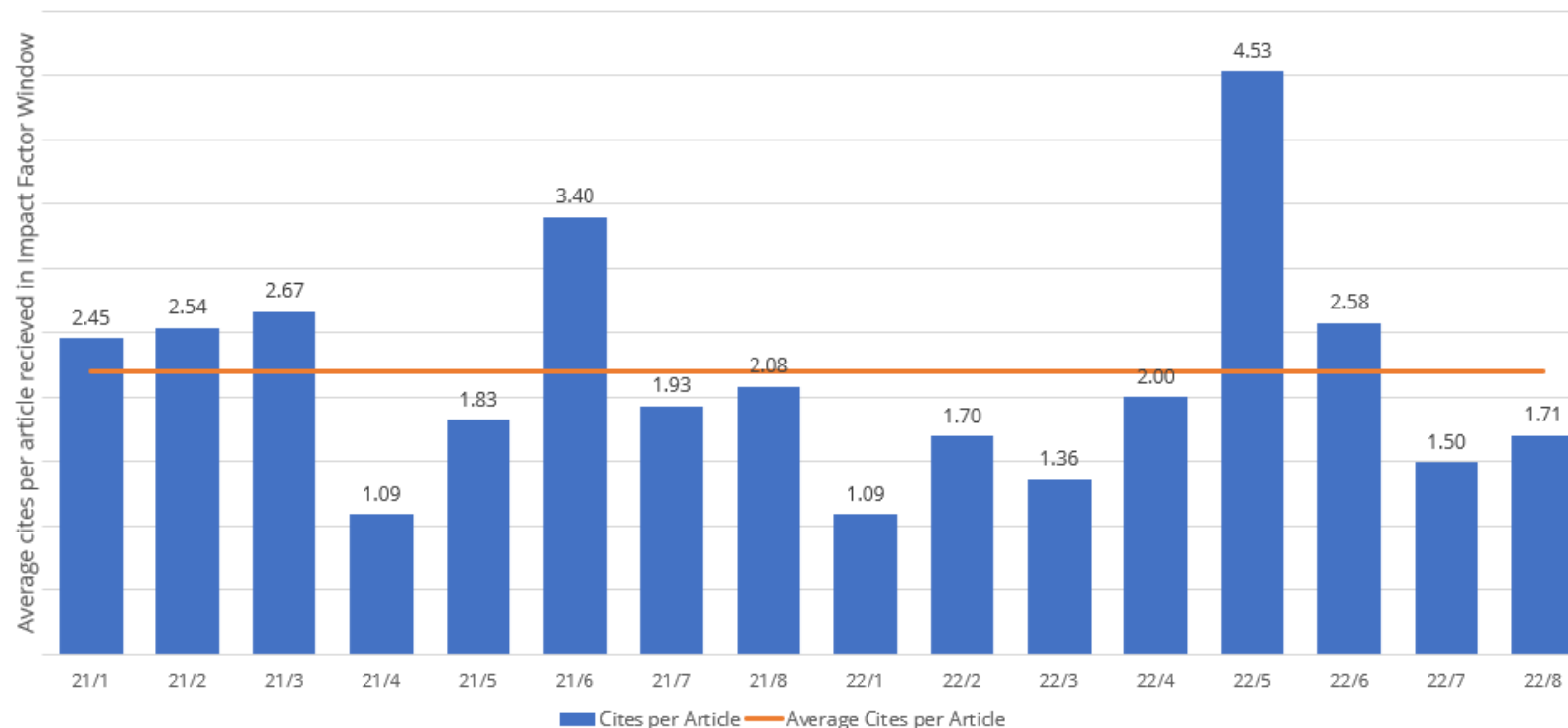
*19 self-citations out of 247 – 7.69% self-citation rate.

Article Citation Distribution – 2018 Impact Factor



Issue Citation Breakdown

Average Impact Factor Contributing Citations per Article – by Issue



This chart shows how many citations articles have picked up which contributed to the Impact Factor. This is grouped into issues to show if special issues contributed more citations than regular issues to the Impact Factor.

An article contributes to the Impact Factor in 2 years. E.g. for Article X published in 2016 – citations it receives in 2017 and 2018 contribute to the Impact Factor. Therefore we can define "Impact Factor Citations" as the number of citations an article picks up in the 2 years after it was published. A 2016 issue therefore will contribute to the 2017 and 2018 Impact Factors.

The orange line shows the average number of citations which articles received in all the volume years looked at in the chart. This is designed to provide a baseline to show which issues are better cited than average (above the average line) or worse cited than average (below the average line).

Citing Sources – 2018 Impact Factor



Note: Number of citing articles from each journal.

Citing Regions – 2018 Impact Factor



Note: Shows number of citing articles from each region. Web of Science lists England, Scotland, Wales and Northern Ireland separately.

CiteScore and Ranking

| CiteScore | Score | Rank |
|-----------|-------|---|
| 2016 | 1.010 | (19/47 Fluid Flow and Transfer Processes, 50/149 Building and Construction) |
| 2017 | 1.050 | (26/66 Fluid Flow and Transfer Processes, 66/161 Building and Construction, 66/106 Environmental Engineering) |
| 2018 | 1.300 | (30/76 Fluid Flow and Transfer Processes, 65/117 Environmental Engineering, 73/168 Building and Construction) |

Marketing – Objectives

Through various campaigns and the marketing of your journal, our objectives are to:

- Drive and sustain usage
- Demonstrate impact
- Grow international reach
- Attract high quality submissions
- Increase citations
- Increase author and researcher engagement
- Increase membership.

Reaching Readers Emails

STBE benefits from highly-targeted promotion focused on article-level marketing that leverages the web of connections attached to every published article such as colleagues, reviewers, funders, cited authors, and hundreds more.

Once new articles are published in the journal, they are included in our Reaching Readers email service – a bi-weekly email that is sent to researchers within our network, and contains content based on their subject interest. These campaigns are designed to deliver reach, readership and potential citations as relevant articles are presented weekly to interested readers and the recipient doesn't need to be signed up to the journal to learn about new articles, just registered with Taylor & Francis with an interest in the subject area.

In total, 111 articles have been promoted this way since January 2019.

| Article Title | Contact Count |
|--|---------------|
| A study of the effects of water capacity on the thermal performance of water-in-glass evacuated tube solar collectors applied to space heating | 2,804 |
| Investigating the influence of different speeds and directions of winds on the performance of split air conditioning systems | 1,340 |
| Development of control quality factor for HVAC control loop performance assessment—II: Field testing and results (ASHRAE RP-1587) | 1,251 |
| Data-driven energy models for existing VFD-motor-pump systems | 1,207 |
| Virtual measurement of the air properties in air-handling units (AHUs) or virtual re-calibration of sensors | 1,207 |
| The impact of rock fracturing and pump intake location on the thermal recovery of a standing column well: model development, experimental validation, and numerical analysis | 1,141 |
| Determine the absolute roughness of phenolic duct (RP-1764) | 1,004 |
| A numerical analysis and optimization of the dynamic performance of a multipurpose solar thermal system for residential applications | 997 |
| Detection and interpretation of anomalies in building energy use through inverse modeling | 984 |
| Performance simulation of underground seasonal solar energy storage in hot summer and cold winter zone in china | 956 |

Alerts and Social Media

New Contents Alerts:

The journal can be found at **<https://www.tandfonline.com/UHVC>** where anyone can sign up for new contents alerts. Your journal currently has 200 active e-Table of Contents (e-ToC) subscribers.

Social Media

Taylor & Francis has official social media accounts for each of the major subject areas that provides journal level marketing.

- You can find your relevant Taylor & Francis social media feeds here:
 - Twitter: <http://www.twitter.com/TandFSTEM>
 - Facebook: <http://www.facebook.com/TandFScience>
- You can find the social media guide for editors here: **<http://bit.ly/ER-SocialMedia>**

Marketing for Authors

- Authors have the option to opt into marketing after publication. They will be emailed upon publication, at 6 months and at 12 months after publication.
- Author anniversary emails have an average open rate of 40% and a click through rate of 18%, considerably higher than industry averages*. In 2019, 50% of researchers who open these emails are clicking on the embedded social media links, showing recipients are sharing their article on social platforms because of these alerts.
- To encourage more authors to receive these alerts, please encourage them to check their marketing subscription status at:
<http://pages.email.taylorandfrancis.com/taylorandfrancissubscriptioncenter>

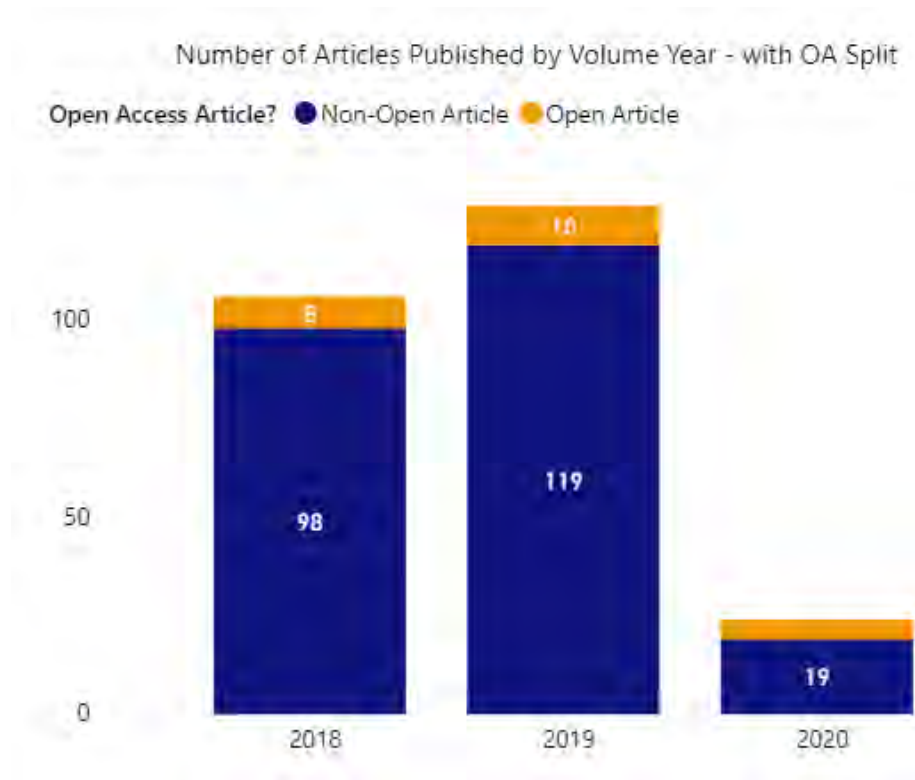


*Current media & publishing industry open rate is 21.33% <https://mailchimp.com/resources/email-marketing-benchmarks/>

Production – Published Content (Volume Years 2018-2020)

Number of Documents by Article Type

| Article Type | Distinct Count of Documents |
|-----------------|-----------------------------|
| Article | 238 |
| Editorial | 12 |
| Guest Editorial | 4 |
| Correction | 2 |
| Corrigendum | 2 |
| Addendum | 1 |
| Total | 259 |



For more information on Open Access and Plan S, please visit:

- <http://authorservices.taylorandfrancis.com/publishing-open-access-with-taylor-francis/>
- <https://editorresources.taylorandfrancis.com/peersupport/coalition-s-plan-s-and-accelerating-oa/>

Production Schedule (2019-January 2020)

Online Issue Published

| Issue Number | 2019 | 2020 |
|--------------|------------------|-----------------|
| 01 | 14 February 2019 | 07 January 2020 |
| 02 | 19 March 2019 | |
| 03 | 19 March 2019 | |
| 04 | 23 April 2019 | |
| 05 | 29 May 2019 | |
| 06 | 08 July 2019 | |
| 07 | 02 August 2019 | |
| 08 | 08 October 2019 | |
| 09 | 29 October 2019 | |
| 10 | 12 December 2019 | |

Print Issue Published

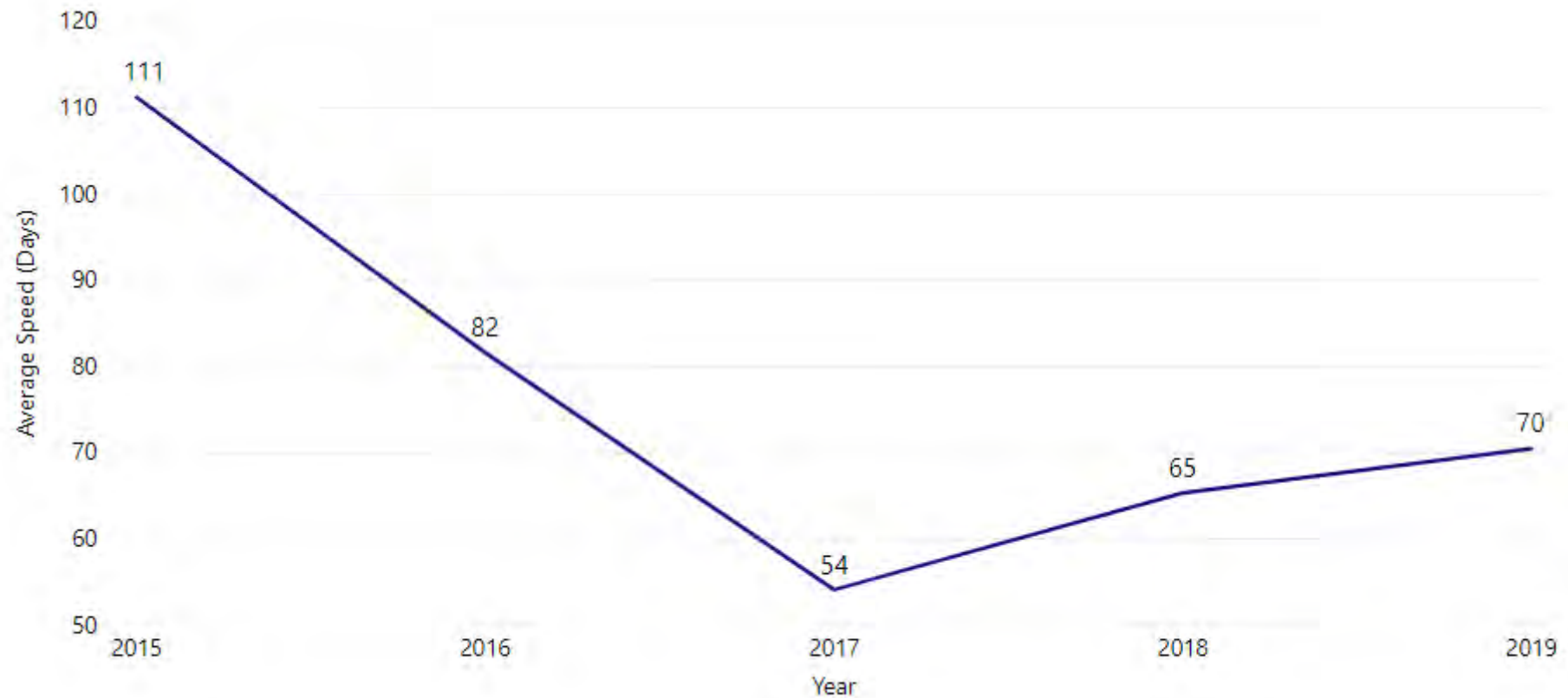
| Issue Number | 2019 |
|--------------|------------------|
| 01-05 | 27 June 2019 |
| 06-10 | 19 December 2019 |

Page Count & Backlog Report (Vol. Years 2019 and 2020)

| Volume Year ▲ | Budgeted Pages | Actual Pages | Number of Pages Remaining |
|------------------|----------------|--------------|---------------------------|
| 2019 | 1520 | 1524 | -4 |
| 2020 | 1520 | 441 | 1079 |

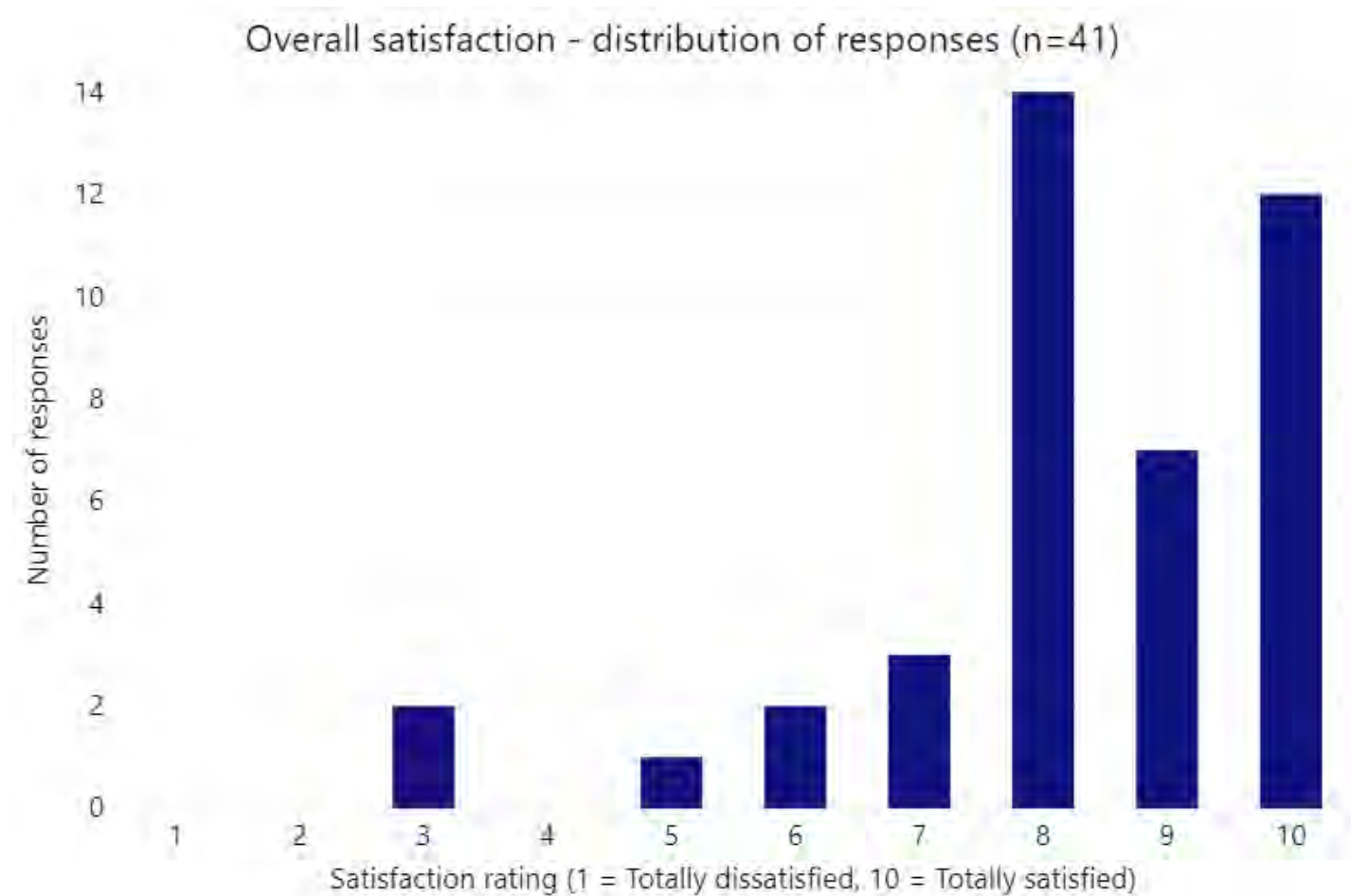
*There are no articles in the backlog. Any copyflow concerns should be discussed with your Taylor & Francis Editorial contact.

Average Speed of Article Publication*

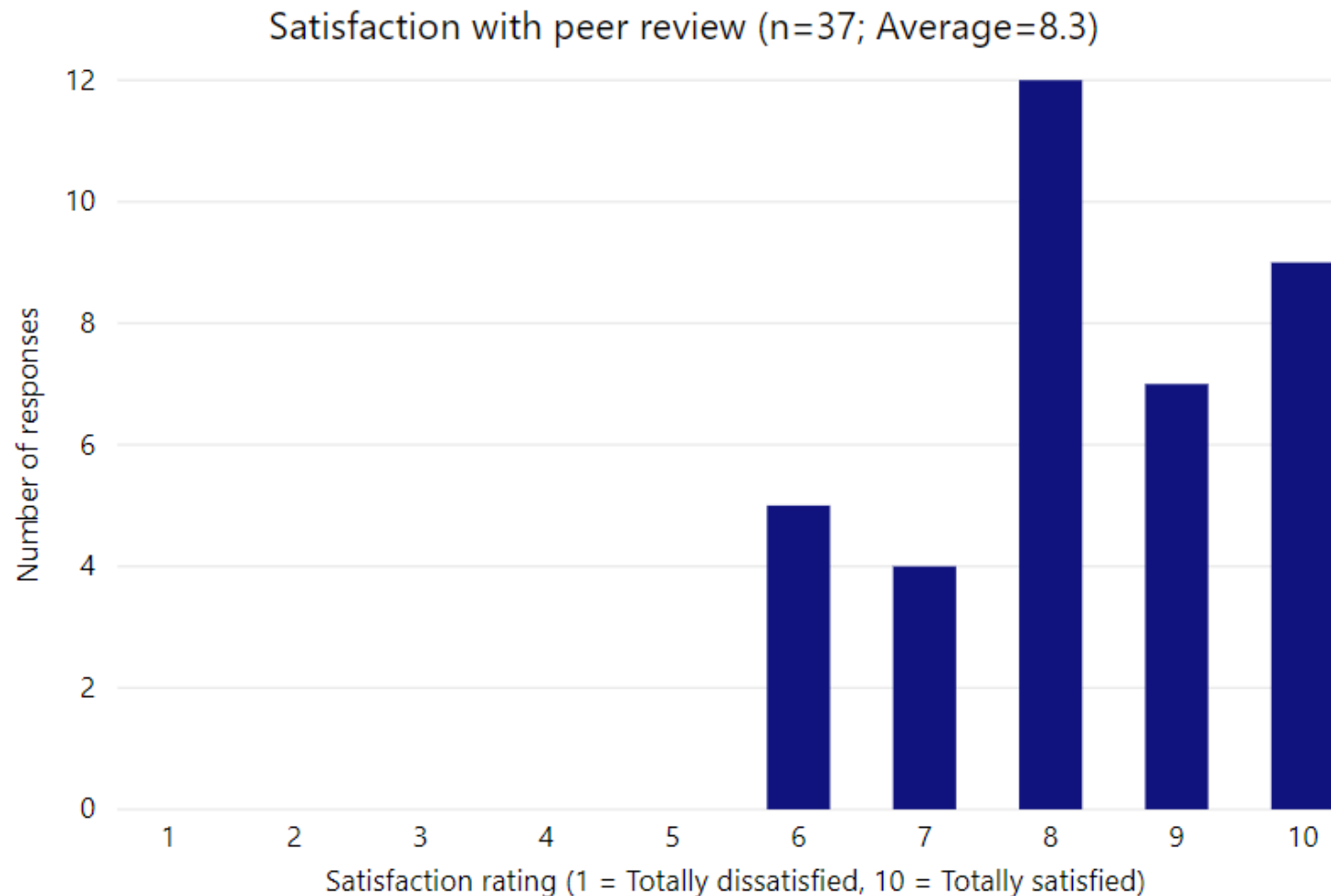


* mean days from submission to Central Article Tracking System (CATS) to online publication.

Author Survey – Overall Satisfaction (2018-2020)



Satisfaction with Refereeing Process (2018-2020)



Resources

News, support and guidance for Editors, authors and Librarians:

EDITOR RESOURCES
Supporting Taylor & Francis journal editors

<http://editorresources.taylorandfrancisgroup.com/>

AUTHOR SERVICES
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LIBRARIAN RESOURCES
Taylor & Francis supporting librarians

<https://librarianresources.taylorandfrancis.com/>



A bi-monthly campaign designed for Editors.
Sign up here: http://bit.ly/tandf_ppp



Sign up for updates, tips and talking points from **Author Services**, **Editor Resources** and **Librarian Resources** websites straight to your inbox:
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Development Initiatives

We need research from around the world to address global challenges. We remain committed, therefore, to supporting emerging region researchers on their publishing journeys.

For more information on the Taylor & Francis development initiatives, please visit:

- <http://taylorandfrancis.com/about/corporate-responsibility/development-initiatives>
- <https://authorservices.taylorandfrancis.com/star>
- <https://librarianresources.taylorandfrancis.com/services-support/development-initiatives>
- <https://www.taylorandfrancis.com/sdgo>



Feedback

We'd love to hear what you think! If you have any feedback or suggestions for improvement, please fill out the below questionnaire using the following link or scan the QR code:

<https://www.surveymonkey.co.uk/r/TTJG7TP>



Journal Contacts

Editorial

- Portfolio Manager – bailey.young@taylorandfrancis.com

Production

- Production Editor – UHVC-production@journals.taylorandfrancis.com

Peer-Review

- Submission Portal Help Desk – RPsupport@tandf.co.uk



Attachment H
PEC Report to BOD-
after Orlando Conference 2020

To execute PEC MBO #3, the Certification Committee has identified the following steps:

A. Generate proposals for possible certification program(s) that support Strategic Plan Initiatives 1 and 2. In Progress

- Nineteen (19) TCs and SSPCs were invited to consider submitting a proposal for such a new Certification program. These TCs and SSPCs likewise were invited to attend the Certification Committee meeting on Feb. 1 and given the opportunity to have a Certification Committee member attend their meeting in Orlando and be a resource to answer questions and provide guidance. In the end, five TC and SSPC Chairs requested Certification Committee Member attendance at their meeting in Orlando.
- The due date to submit a proposal is 3/15/2020.

B. Develop metric for evaluating the likelihood of success for the proposed program(s).

COMPLETED. The “ASHRAE Certification Program Proposal Evaluation Algorithm” was created in 2015.

C. Survey members regarding interest and demand in the possible certification program(s).

A step in the Certification program evaluation process is to conduct market research into the need and demand for the proposed certification program.

D. Evaluate the likelihood of proposed program success.

The due date to submit a proposal is 3/15/2020. The “ASHRAE Certification Program Proposal Evaluation Algorithm” clearly defines the criteria for recommending new certification programs.

Attachment I
PEC Report to BOD-
after Orlando Conference 2020



Certification Committee MBOs Society Year: 2019-2020

Mission: To serve humanity by advancing the arts and sciences of heating, ventilation, air conditioning, refrigeration and their allied fields.

Vision: A healthy and sustainable built environment for all.

Goal #1: Position ASHRAE as an Essential Knowledge Resource for a Sustainable, High-Performance Built Environment.

Goal #2: Maximize Member Value and Engagement.

Goal #3: Optimize ASHRAE's Organizational Structure to Maximize Performance.

Certification Committee Scope: The Certification Committee is responsible for developing, implementing, and monitoring ASHRAE certification programs.

Chair: Mark Bettin, OPMP

Date: January 17, 2020

| Objective | SP 2019 -24 ¹ | Completion Date | Fiscal Impact | Responsible Party | Status | Comment |
|---|--------------------------|-----------------|----------------------|--|--------------------|---|
| 1. Attain 80% recertification rate for the 2019 renewal class, exceeding the industry average of 76%. | 2C | 3/31/2020 | Currently budgeted . | Chair, Certification Committee, Staff | <i>In progress</i> | 171 applications received through 12/31/2019. Late application period began 1/1/2020. |
| 2. Grow the number of certification applications by 10% over 2015-16 total of 500, a record high. | 3A | 6/30/2020 | None, Staff Time | Chair, Certification Committee, HVAC Designer Exam | <i>In progress</i> | Through 12/31/2019, 30% increase in applications (234 total) over LYTD. |

| | | | | | | |
|--|----|-----------|--------------------------|--|--------------------|---|
| | | | | Subcommittee, Staff | | |
| 3. Enhance relevancy of ASHRAE certification to ASHRAE members and the industry in general. | 2C | 6/30/2020 | Volunteer and Staff Time | Chair, Certification Committee, HVAC Designer Exam Subcommittee, Staff | <i>In progress</i> | <p>- Launched examination for new HVAC Designer (CHD) certification on June 3, 2019.</p> <p>- Digital badging launched September, 2019. As of Jan. 15, 726 digital badges issued with 511 badges claimed for a 70% acceptance rate, against an industry average of 45%. 4,979 badge views for an 9.3 average views per share rate, against an industry average of 2.0 views. 38 "expired" badges.</p> |
| 4.1 Manage certification programs against the ANSI/ISO/IEC 17024 accreditation standard. | 2B | 6/30/2020 | Currently budgeted . | Chair, Certification Committee, Staff | <i>In progress</i> | <p>- BCxP, BEAP, BEMP and HBDP are accredited.</p> <p>- Certification staff attended 2019 Client Day and 17024 Workshop meetings Sept. 18-19.</p> |
| 4.2. Launch new HBDP and HFDP exam forms updated per revised exam Detailed Content Outlines. | 3A | 11/1/2019 | Currently budgeted . | Chair, Certification Committee, HVAC Designer Exam Subcommittee, Staff | <i>In progress</i> | New exam items are being pre-tested. Additional HBDP exposures are needed. New HFDP form slated to launch by Feb. 15, 2020. New HBDP form to launch by 7/1/2020. |
| 4.3. Recruit 2020-23 class of Exam Subcommittee members. | 2A | 6/30/2020 | | Chair, Certification Committee, Nominations Task Force, Staff | | |

| | | | | | | |
|---|----------------------|-----------|--|---------------------------------------|----------------------|--|
| 5. Monitor the effectiveness of current certification programs, and recommend and implement any steps to improve program effectiveness. | 3A | 6/30/2019 | None. | Chair, Committee Task Force, Staff | Completed. | Task Force recommendations accepted by Certification Committee in Oct. 4 meeting. |
| 6. Finalize 2019-20 MBOs. | 2:A, B, C; 3:A, B | 9/30/2019 | To be determined. | Chair, Certification Committee, Staff | Completed. | Task Force to incorporate new Strategic Plan and Committee self-assessment. |
| 7. Evaluate Live Remote Proctoring as an alternative exam delivery mode. | 3B | 6/30/2020 | To be determined. | Chair, Certification Committee, Staff | <i>In progress</i> . | A proposal from PSI has been received. In winter 2020 ANSI to issue "remote proctoring questionnaire," a guidance document, to aid certifying bodies in evaluating vendor "remote proctoring services. |
| 8. Evaluate the certification and recertification application fee schedule for any possible updates in the February 1, 2020 meeting. | 3A | 1/12/19 | None. Possible 2020-21 revenue increase. | Chair, Certification Committee, Staff | | The Certification Committee agreed to maintain the current fee schedule one additional year through June 30, 2020. |
| 9. Analyze Certification Program and develop metrics for evaluating potential for new certifications aligned with Strategic Plan initiatives 1 (<i>promote best practices that enable adaptability, resilience and recovery of buildings and communities</i>) & 2 (<i>promote understanding of indoor environmental quality (IEQ) among practitioners</i>) after surveying members to establish interest and demand | 2B, 3A | 6/30/2020 | Staff time. | Chair, Certification Committee | <i>In progress</i> | Assigned by PEC and evaluated by Certification Committee in Oct. 4 meeting. Next steps to complete objective: 1. Generate proposals for possible certification program(s) that support SP Initiatives 1 and 2. 19 TCs and SSPCs invited to submit proposals by 3/15/2020, 2. Survey members regarding interest and demand in the possible certification program(s) |

| | | | | | | |
|---|--|--|--|--|--|--|
| | | | | | | 3. Develop metric for evaluating the likelihood of success for the proposed program(s) COMPLETED. 4. Evaluate the likelihood of proposed program success. |
| Recommendations for Strategic Planning: | | | | | | |

'2019-24 Strategic Plan: Goals & Objectives

1. Position ASHRAE as an Essential Knowledge Resource for a Sustainable, High-Performance Built Environment

- A. Utilize a holistic approach to ASHRAE's offerings and activities to drive positive economic, environmental and social impact through innovation in building design and operations.
- B. Expand capabilities globally to create, aggregate and disseminate essential information and knowledge focusing on emerging market trends and transformative approaches

2. Maximize Member Value and Engagement

- A. Infuse enthusiasm, vitality and diversity throughout ASHRAE events and services
- B. Expand the impact of collaboration and partnerships with industry organizations, universities and government agencies
- C. Leverage technology to increase member engagement, awareness and value

3. Optimize ASHRAE's Organizational Structure to Maximize Performance

- A. Prototype and launch new approaches that will increase ASHRAE's relevance and speed to market for key offerings
- B. Optimize ASHRAE's organizational systems and structures to increase capacity, efficiency and effectiveness
- C. Cultivate industry and member philanthropy to extend ASHRAE's impact and reach



**Handbook Committee Report to
Publishing and Education Council (PEC)
Meeting of February 4, 2020**

Action Items

1. Handbook Committee recommends that we investigate further the possibility of applying to include ASHRAE Handbook in UNESCO's Memory of the World archive.
Fiscal impact: none
Vote: 15 Y/1 N/0 abs CNV

Information Items

1. Presently there are no changes to the HBC MOP or ROB. Revisions are planned in time for the Austin meeting in June 2020.
2. HBC will evaluate their meeting room requirements before the Austin (2020) annual meeting and consolidate spaces where possible.
3. ASHRAE staff will pursue a solution to allow Internet browsers beyond just Internet Explorer to be used with the ASHRAE Authoring Portal. (This limitation has historically derived from SharePoint limitations, but new software versions may allow more flexibility.)
4. HBC continues to seek cost-efficient ways to reward contributors on the TCs, including "HB contributor" stickers for future meetings (similar to "Research Contributor" stickers on attendee badges).
5. The status of the 2019-2020 MBOs is attached. (*Attachment A*)

Respectfully submitted,

Suzanne LeViseur, Chair
Handbook Committee
2 February 2020
SL: hek

| Objective | | Completion Date | Fiscal Impact | Responsible Party | Status | Comment |
|-----------|---|-----------------|----------------------------|-------------------|-------------|--|
| 1 | Solicit ideas from volume subcommittee chairs for process improvements. | 6/20 | None | HBC | Continuous | |
| 2 | Improve peer-to-peer training of incoming volume subcommittee chairs. | 6/20 | None | Vice Chair | Continuous | Mentoring of new members |
| 3 | Review the relevance, scope, and objectives of subcommittees. | 6/20 | None | HBC ExCom | Continuous | Reshape HBC to best function under the new TC structure (when implemented) in a way that serves both HBC's and TCs' needs |
| 4 | Encourage TCs to develop extra features (spreadsheets, sidebar discussions, video, etc.) for Handbook Online. Suggest using YEA members | 6/20 | None | HBC | In progress | |
| 5 | Address volume imbalances | 6/20 | Could reduce mailing costs | HBC ExCom | In progress | Applications and Fundamental volumes are nearly twice the size of Refrigeration volume. Look at the possibility of shifting some material to a different volume. |
| 6 | Improve international representation /input in the handbook process | 6/20 | None | HBC ExCom | Ongoing | Continue with the effort started by Don Fenton |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |



Historical Committee (HC)
Report to Publishing and Education Council (PEC)
ASHRAE 2020 Winter Conference / Orlando, FL

Information Items

1 Historical Committee heard an update on the progress of all projects for 125th anniversary. All projects have been completed or will be complete by the 2020 Annual Conference in Austin.

2 Historical Committee discussed the pilot plaque project that will be installed in Orange, Texas after the Region VIII CRC. The Committee agreed that for the foreseeable future, plaques will continue to be self-funded. The Committee discussed the use of virtual plaques in lieu of physical plaques.

3 Historical Committee reviewed names for the next two Leadership Voices interviews to be filmed in Austin.

4 Historical Committee discussed the importance of including not just Presidential members but also industry innovators and leaders.

5 Historical Committee acknowledged that although they do not endorse candidates for either Hall of Fame or Pioneers of the Industry, they as a Committee can nominate someone.

6 Historical Committee discussed the necessity of continuity of communication, to keep Regional and Chapter Historians involved in history at the Society level.

7 Historical Committee reviewed a report on the status of PAOE points on the part of chapters by regions and approved suggested changes to PAOE for fiscal year 2020-21 with the goal of continuing to encourage non-participating chapters to reach minimum or par.

11 MBOs *Attachment A*

Respectfully submitted,

Stan Westhoff, Chair Historical Committee
02/02/2020
SW: ess

*Historical Committee Report to PEC
Attachment A*

Historical Committee 2019-2020 MBOs – Stan Westhoff, Historical Chair 02/02/2020

| Objective | SP Goal | Completion Date | Fiscal Impact | Delegated to: | Status | Comment |
|--|---------|---------------------|-------------------------|---|-----------------------------------|--|
| HC MBO 1 Develop proposals to improve the opportunities for Regional Historians to participate in Historical Committee activities. | 1 | Winter 2020 Orlando | None | RVC Guideline sub committee | Ongoing | Continue on-line participation of (RVCs) at Committee meetings. |
| HC MBO 2 Develop PAOE Recommended Changes to 2020-2021 PAOE | 1 | 2020 Austin | none | | Complete February | To get ahead of the PAOE Committee Cycle with proposal for the following year's PAOE Letter in Summer 2020. |
| HC MBO 3 History VC PAOE Update Summary Report at Annual & Winter Meetings to include copy similar to 2018-2019 Annual meeting | 1 | Winter & Annual | None | VC Report | Complete February | To encourage RVCs to target the below PAR performing Chapters in their Region based on the previous year's History PAOE Summary. |
| HC MBO 4 Encourage Chapter Historians who don't Attend their Regional CRC to complete the Chapter Historians Training Power Point and promote on-line workshop participation at CRCs | 1 | Winter 2020 | minor | RVC Guideline sub committee | Complete February | Update the Chapter Historians Training PowerPoint. Add points for submittal of a completed MBO with phone discussion with RVC History prior August 30 of fiscal year. Promote on-line workshop participation at CRCs |
| HC MBO 5 Assist in publicizing 125 th Anniversary. Develop information of historical interest that can be presented at Society & Regional Meetings | 1 | Summer 2020 | Major | 125th Anniversary Celebration sub committee | Complete June 2020 | Continue 125th Seminar and Historical Articles Promotions with PEC to support the 125th anniversary and demonstrate to members the strength in depth of our Society. |
| HC MBO 6 Develop proposal for publication/s to celebrate 125th Anniversary | 1 | Summer 2020 | To Be Advised | Historical Committee | Complete February | Continue working on and supporting 125th Publications to PEC. |
| HC MBO 7 Foster collaboration with other international societies to improve our historical research and support history-related activities of the Society | 4 | Summer 2020 | None | Historical Committee | Ongoing | Continue work on collaboration. HC has links with similar groups in CIBSE and AiCARR - opportunity to pursue to work w/similar committees in CEN, International Institute of Ammonia Refrigeration (IIR), International Institute of Refrigeration (IIR), & Global Cold Chain Alliance (GCCA). |
| HC MBO 8 Encourage younger members of ASHRAE to have interest in history-related activities of the Society | 2 | Summer 2020 | None | Historical Committee | Complete February | Proposing to keep the PAOE line item "For a local Chapter Historical activity performed by an actively engaged YEA member" |
| HC MBO 9 Leadership Recall Arrange for videos at Annual meeting 2020 | 2 | Summer 2020 | Verify \$1,000 Budgeted | Historical Committee | Ongoing | Arrange two Presidential interviews. Review other potential interviewees |
| HC MBO 10 Digitize Archived Journals + Transactions | 3 | Summer 2020 | Major | Historical Committee/PEC | Ongoing | Encourage digitalization of all Society Journals and Transactions |
| HC MBO 11 Incorporate a Women In Engineering component to the 125 Year ASHRAE Anniversary celebration | 1 | Summer 2020 | None | Historical Committee | Complete (WIA now called diverse) | Continue WIA PAOE Support in History |
| Jun 22–26, 2019 – Kansas City, MO | | | | | | Feb 1-5, 2020 – Orlando, FL |



**Professional Development Committee
Report to Publishing and Education Council (PEC)**

ASHRAE 2020 Winter Conference – Orlando

Information Items

1. The committee edited, reviewed and approved the MOP for the new Training and Education Committee (TEC) and submitted it to the Functional Planning Subcommittee.
2. In response to PEC MBO #2: ***Develop Strategy for expanding ALI Instructor core and establish procedures and criteria for instructor appointment and remuneration.***
The committee drafted a report with recommendations on the criteria for selection of course instructors. The report is attached. We felt that the honorarium paid to instructors would vary based upon the location of the courses and cost of the courses. It should be left up to staff to set the course costs. We will add this to our reference manual. See *Attachment A*.
3. Discussion are underway with instructors to create exam prep courses for the Building Commissioning Professional BCxP, Building Energy Assessment Professional (BEAP), and new HVAC Design (CHD) certification exams.
4. We had one referral from Members Council and have sent a response.
5. Five (5) new courses were presented in conjunction with the Orlando conference. Of those, the *V in HVAC - What, Why, Where, How and How Much* drew the highest number of registrants with the hands-on *Best Practices for Installing DDC Systems* course not far behind.
6. The combined total of all course registrants is 1,123 – the 2nd highest number of attendees in the past 10 years, close behind Vegas 2017 with 1,161. Courses with the five highest registrations are:
 - 122 - Guideline 36: Best in Class HVAC Control Sequences
 - 76 - Designing and Operating High-Performing Healthcare HVAC Systems
 - 82 - Variable Refrigerant Flow Systems: Design and Applications
 - 68 - V in HVAC - What, Why, Where, How and How Much (New!)
 - 67 - Humidity Control II: Real-World Problems and Solutions
7. Professional Development Committee 2019-2020 MBOs are included as *Attachment B*.

Respectfully submitted,
Charles E. Henck, Professional Development Committee Chair
February 3, 2020

INSTRUCTOR QUALIFICATIONS

Instruction Qualifications

1. Solid grasp of engineering fundamentals.
2. Practical experience to answer questions for students and to be able to distinguish between theory and practice in day to day engineering.
3. Skill and ability to teach and present well in a compelling and engaging manner. This means preparing ahead of time and not just reading the slides.
4. Motivation and interest in teaching. We're not looking for reluctant instructors who will turn over regularly.

Search Criteria

1. ASHRAE DL Series: Sort by high ratings and participation. DL's with these criteria have already expressed and interested in teaching and presenting and have the skills do so.
2. Regular Chapter Speakers: Most local chapters have their go to speakers. Many of those speakers are motivated to give back and/or to develop their careers and speaking abilities. Chapters are not going to recommend unskilled speakers who aren't capable of presenting.
3. Sole (Sr.) Practicing Engineers: There are a quite a few consultants working on sunset or second careers that have a tremendous depth of practical experience that would be applicable to teaching. Need to carefully screen for the speaking / teaching ability.
4. Academia: There are many great teachers produced by academia. The challenge is screening out those who do not have the practical experience needed or who are mostly focused on research and less interested in teaching but may agree to build a resume.

Attachment M
PEC Report to BOD-
after Orlando Conference 2020

Attachment B
PDC Report to PEC

Professional Development Committee

MBOs for Society Year 2019-2020

Chair: Charlie Henck **Date:** June 24, 2019

| Objective | SP | Complete by | Fiscal Impact | Responsible Party | Comment/ Status |
|---|-----------|--------------------|----------------------|--------------------------|---|
| 1. Review new strategic plan for items that apply to PDC and develop a plan to implement. | | Jun-20 | None | Planning Subcommittee | |
| 2. Develop topics and RFPs for an additional (3) practical applications courses to 'fill the gaps' in our current offerings for developing young engineers. | | Jun-20 | None | Planning Subcommittee | In progress |
| 3. Review all SDLs and issue RFPs for the ones that need updating. | | Jun-20 | None | Operations Subcommittee | Review by Jan complete Issue RFP by June |
| 4. Review all existing courses and sunset those that have not been used in 5 years or recommend updates | | Jun-20 | None | Operations Subcommittee | Continuous |
| 5. Update of the Reference Manual | | Jun-20 | None | Operations Subcommittee | Update with approval of restructure |
| 6. Every course reviewed by PDC Liaison prior to presentation– Quality check | | Jun-20 | None | Operations Subcommittee | Continuous |
| 7. Improve marketing of courses/branding. Work with ASHRAE marketing for improvement | | Jun-20 | TBD | Planning Subcommittee | Continuous |
| Additional Recommendations for Strategic Planning: Not at this time | | | | | |

Publications Committee Report to Publishing and Education Council

Tuesday, February 4, 2020, 8:00-12:00

Major Motions Passed

1. Publications Committee voted in executive session to select the winner for the 2019 Journal Paper Award, the title and author(s) of which Jay Scott will forward to the Honors and Awards Committee for award presentation to the author(s) at the 2020 ASHRAE Annual Conference.
2. Publications Committee voted to support development and publication of the proposed book *ASHRAE Design Guide for Kitchen Ventilation Systems*.

Action Items for PEC

(None)

Information Items

1. Publications Committee finalized the process for committee participation in RAC's new PTAR process (wherein those submitting a proposal to receive RAC funding specifically earmarked for a publication as a deliverable will go through submission and approval procedures with RAC and Publications Committee) and is participating in a guinea pig project with RAC.
2. For PEC MBO #4, Publications Committee discussed the publications performance data they need from ASHRAE staff that will enable them to determine the criteria for evaluating and approving special publication requests on a business case basis. The committee will hold a conference call before the 2020 ASHRAE Annual Conference to complete their work on this MBO.
3. For PEC MBO #5, Publications Committee discussed the data they need from ASHRAE staff that will enable them to determine the publications data appropriate for the PEC Dashboard. The committee created a subcommittee that will finalize their results before the 2020 the ASHRAE Annual Conference.
4. Updates on the Publications Committee MBOs for the 2019-2020 Society year are included in *Attachment A*.
5. In line with Goal 3 of the 2019-2024 ASHRAE Strategic Plan, Publications Committee recommends that ASHRAE develop a survey tool that collects feedback from our grassroots levels, including our international membership, with respect to their product needs (books, *ASHRAE Journal* articles, apps, and other tools) and to link this information back to TAC council and other relevant sections for their further actions.

Respectfully submitted,
Chee S. Ow, Chair
Publications Committee
2 February 2020

Publications Committee
MBOs for Society Year 2019-2020
Chair: Chee S. Ow Date: 2 February 2020

| Objective | SP 2019 | Compl. by | Fiscal Impact | Resp. Party | Comment/Status |
|--|---------|-----------|---------------|--|-------------------|
| Establish evaluation criteria for Publications Topic Acceptance Request (PTAR) submissions in line with RAC liaison processes. | 1b | June 2020 | Nil | Roberto Aguilo and Hugh McMillan (Chair) | In progress |
| Review Pub. Committee Orientation materials. | 3b | June 2020 | Nil | Rennie Tisdale (Chair) and Hugh McMillan | Completed 8/20/19 |
| Determine international readership needs for ASHRAE Journal. | 1b, 2c | June 2020 | Nil | Vikram Murthy (Chair) and Adeeba Mehboob | Ongoing |
| Additional Recommendations for Strategic Planning: In line with Goal 3 of the 2019-2024 ASHRAE Strategic Plan, Publications Committee recommends that ASHRAE develop a survey tool that collects feedback from our grassroots levels, including our international membership, with respect to their product needs (books, <i>ASHRAE Journal</i> articles, apps, and other tools) and to link this information back to TAC council and other relevant sections for their further actions. | | | | | |

SP 2019 = Strategic Plan 2019 Initiative addressed by objective



Attachment O
PEC Report to BOD-
after Orlando Conference 2020

Report to Pub/Ed Council

Winter Meeting
Orlando, Florida

Presenter: Timothy G. Wentz, PE, HBDP | Fellow/ Presidential Member ASHRAE

Charge to the Ad Hoc

- Review the current business models and operating practices to determine how revenues/profits could be enhanced.
- Survey members and customers to establish if a demand exists for products and services that ASHRAE may be able to provide
- Study products and services being provided by bodies similar to ASHRAE both in North America and internationally which ASHRAE can provide
- Recommend an outline of potential new offerings with ballpark costs and revenue projections.
- Ensure alignment with the Strategic Plan, particularly Goals 1a, 1b and 3a

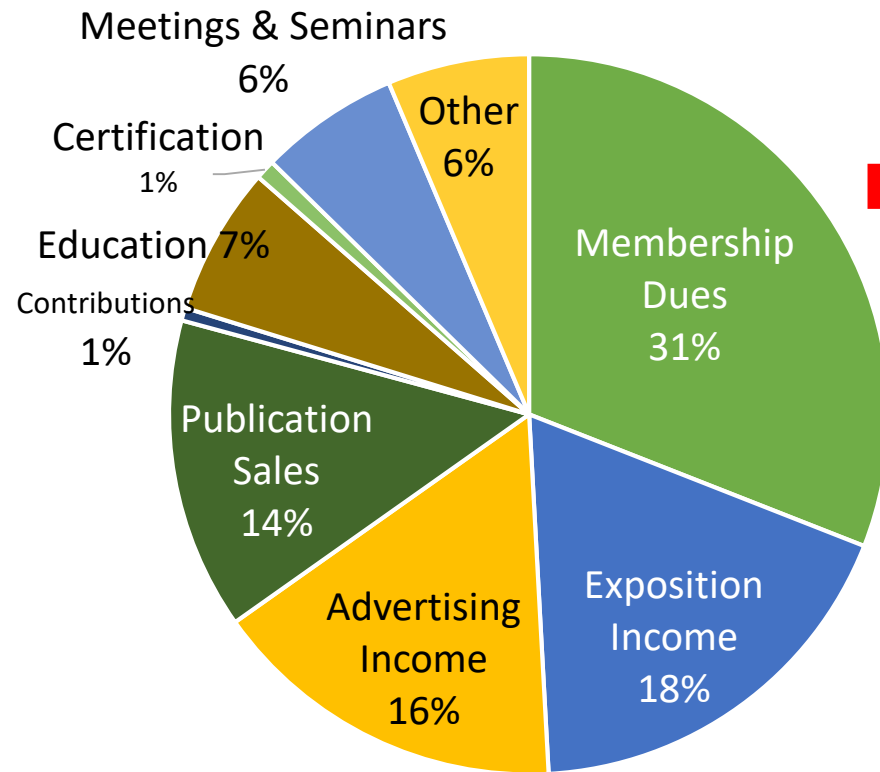


Charge to the Ad Hoc

- Determine where we are today
- Ascertain where we want to be
- Develop a plan to attain our goal



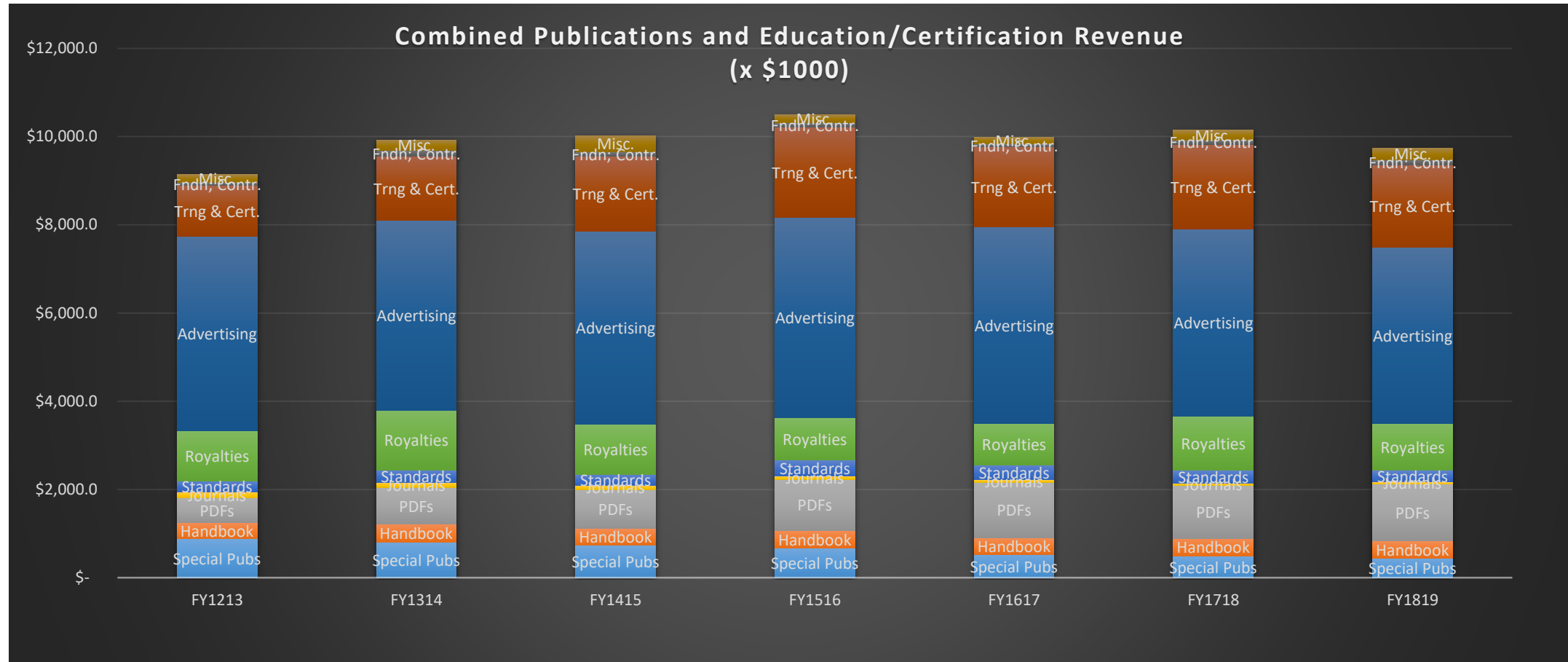
Nothing New



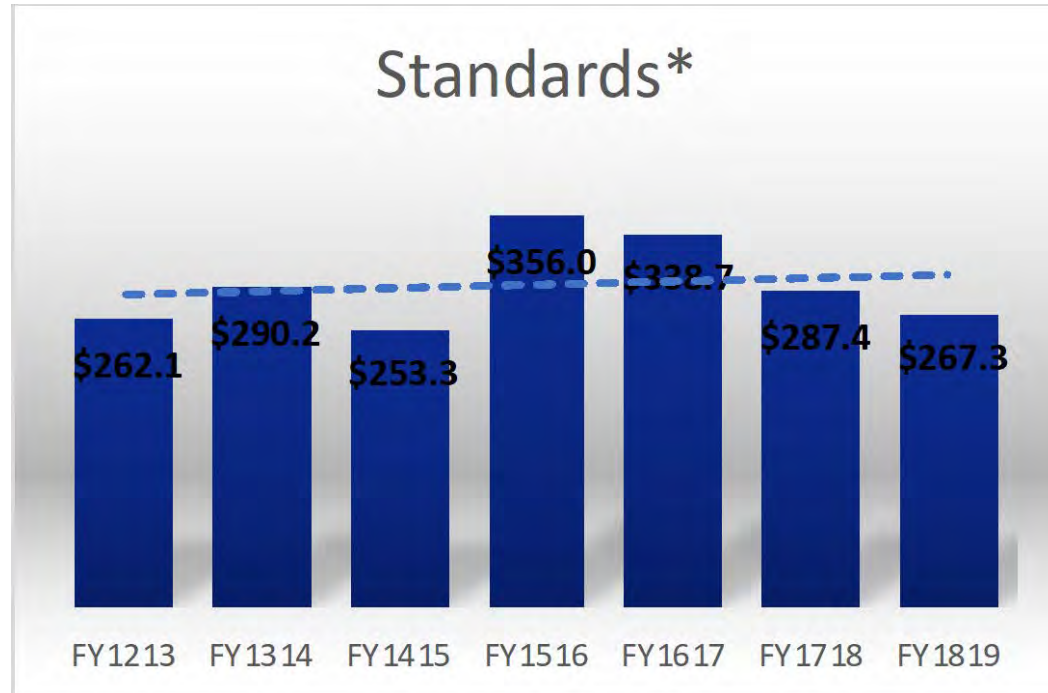
Source of Funds

| | | |
|---------------------|-----------|------|
| Membership Dues | \$7,624.3 | 31% |
| Exposition Income | 4,475.8 | 18% |
| Advertising Income | 3,958.2 | 16% |
| Publication Sales | 3,447.6 | 14% |
| Certification | 218.7 | 1% |
| Education | 1,642.7 | 7% |
| Contributions | 141.8 | 1% |
| Meetings & Seminars | 1,548.2 | 6% |
| Other | 1,569.5 | 6% |
| REVENUES | \$ 24,627 | 100% |

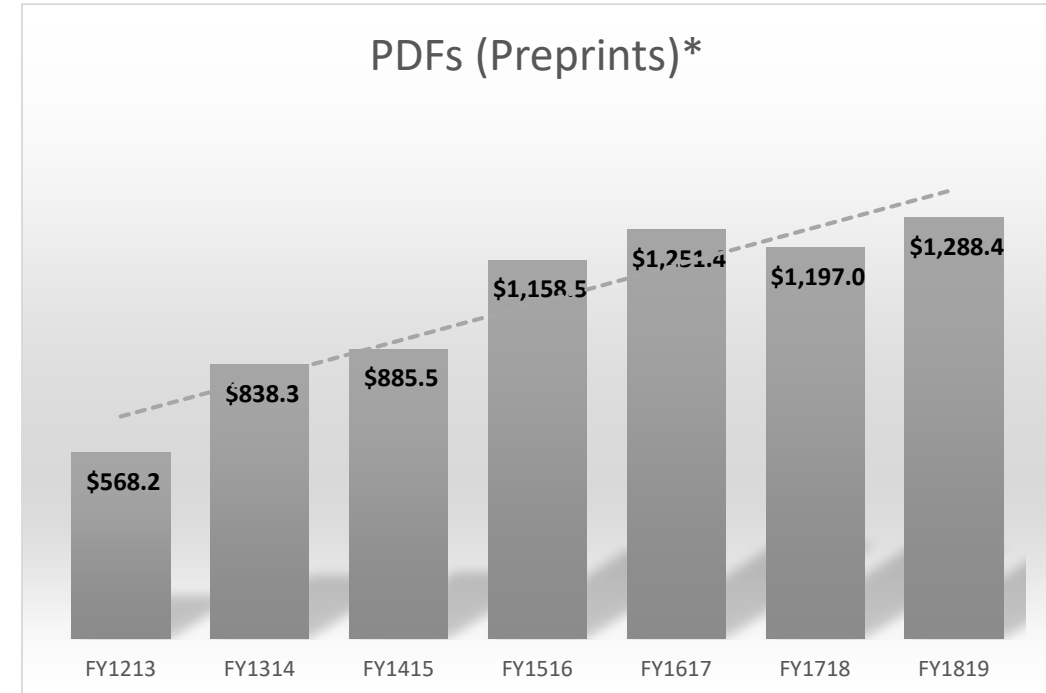
Nothing New



Nothing New

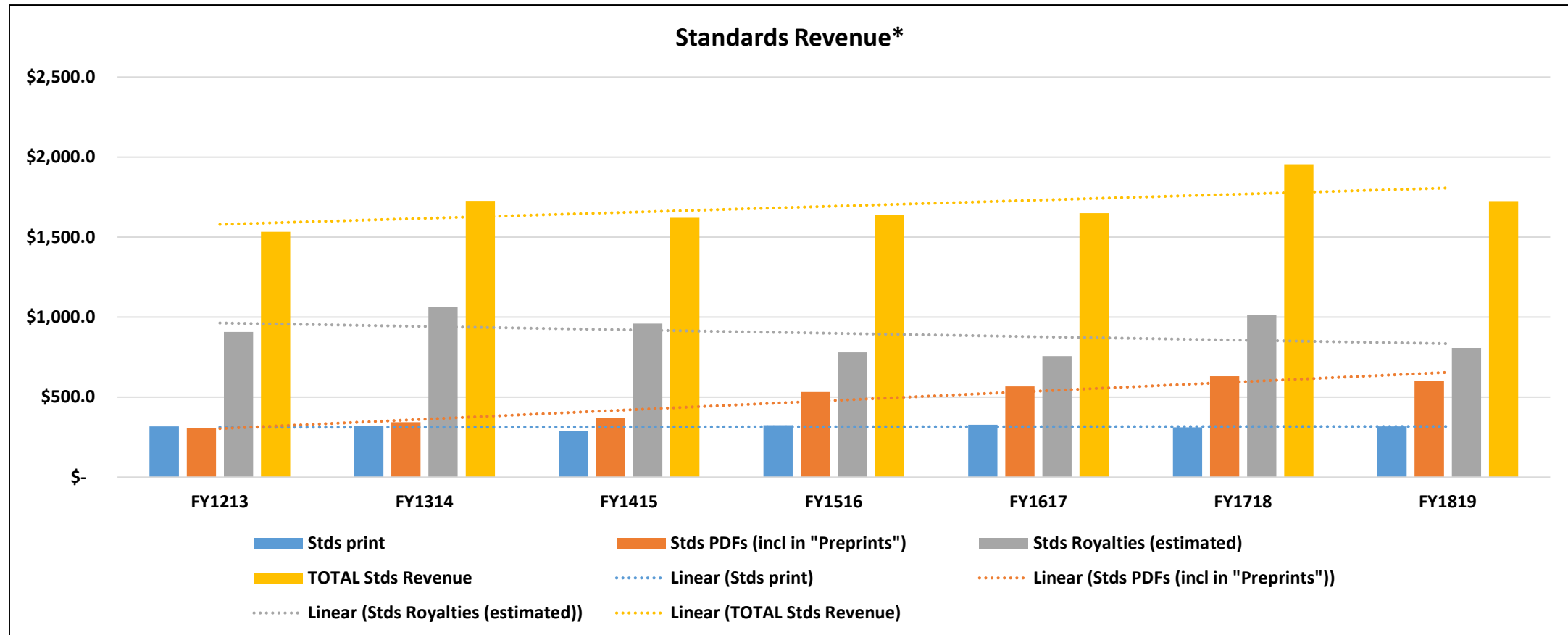


*Print only. PDF's are in Preprints

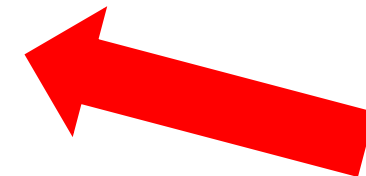


*includes PDF's of standards

Nothing New



*Does not include Overhead or BOD Council allocated costs (\$8.5MM in FY18-19)



Nothing New

- Overhead are costs that support the business but do not generate revenue
- ASHRAE has about \$8M US in overhead
- Overhead is assigned to Councils based upon staff assignment
- PEC has portions of an additional 17 staff assigned to the Council from support areas
 - Mail room
 - Accounting
 - Etc.
- Overhead is then assigned on the total staff, support staff included



OVERHEAD

Nothing New

Pub/Ed Council Surplus/Deficit Report

| | 2017 Thousands USD | 2018 Thousands USD | 2019 Thousands USD | Trend versus 2017 |
|---|-----------------------|-----------------------|-----------------------|----------------------|
| Total Revenue | 9,955.6 | 10,108.9 | 9,691.3 | ↓ |
| Total Expenses Incl OH & BOD | 12,484.2 | 13,361.7 | 13,234.8 | ↑ |
| Total (Deficit) after OH + BOD after | 2,528.6 | 3,252.8 | 3,543.5 | ↑ |

Note: All figures taken from Society Financial Reports.

Nothing New

Society Surplus/Deficit Reports

| Fiscal Year | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | AVE |
|------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| Budget Surplus/(Deficit) | \$ (158) | \$ (335) | \$ 674 | \$ (449) | \$ (283) | \$ (301) | \$ (13) | |
| Actual Surplus/(Deficit) | \$ 320 | \$ 404 | \$ 1,231 | \$ 702 | \$ 411 | \$ (175) | \$ 75 | |
| Positive/Negative Difference | + | + | + | + | + | + | + | |
| Difference (absolute) | \$ 478 | \$ 739 | \$ 558 | \$ 1,151 | \$ 694 | \$ 126 | \$ 88 | |
| % Error | 149% | 183% | 45% | 164% | 169% | 72% | 118% | 129% |

Nothing New

- What picture does this data paint for the Board?



And now for something completely different



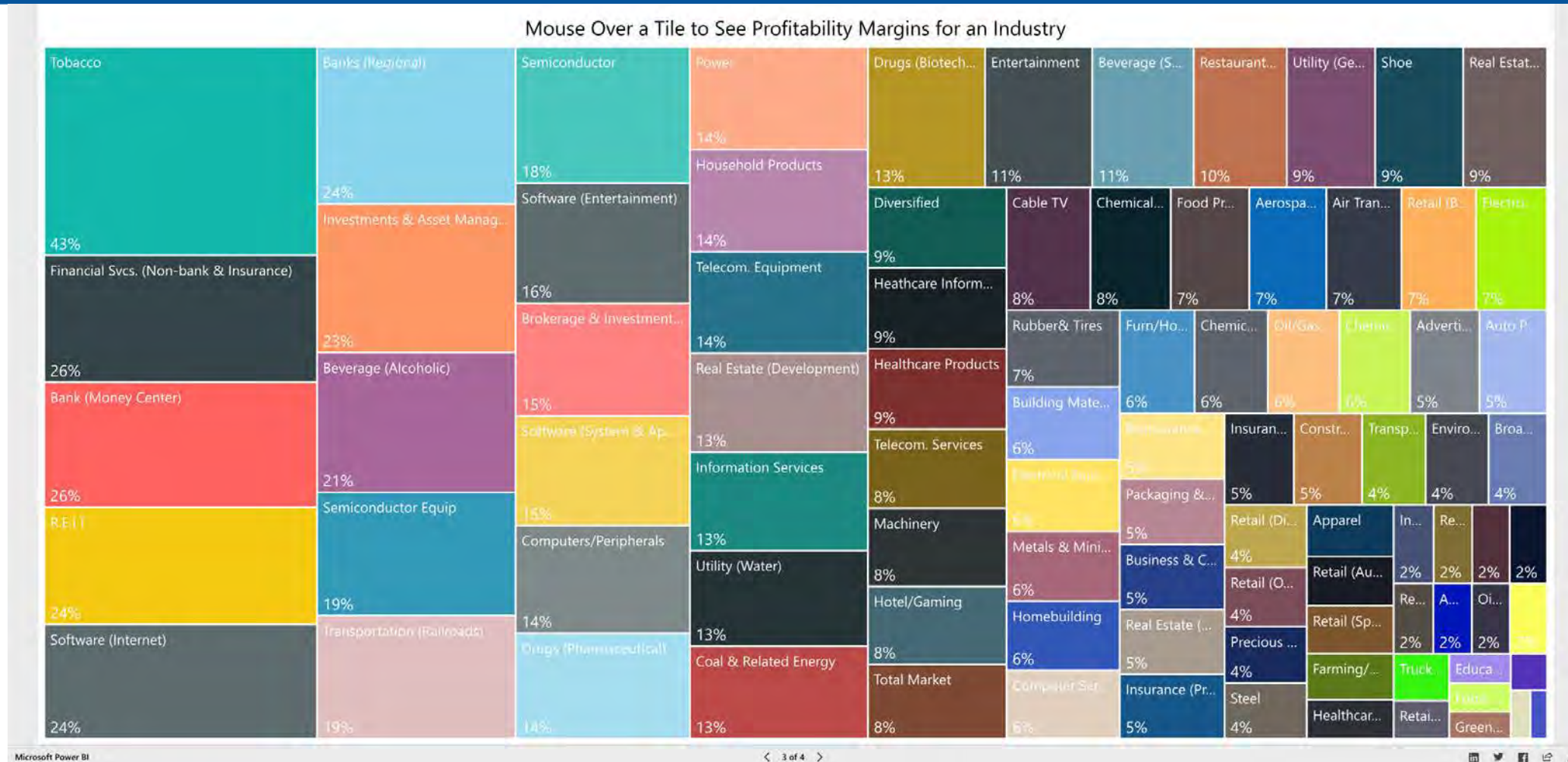
A Monty Python Moment

And now for something completely different

- ASHRAE has a very strong and robust accounting system
 - Accurately records revenue and expenses in a consistent manner in accordance with generally accepted accounting rules
- Significant difference between accounting and finance
 - Finance - Management discipline focusing on margins



The World of Margins



From Financial Rhythm by Phillip Campbell, based on data from
Prof. Aswath Damodaran, Stern School of Business, New York University, 2019



How the Picture Changes

- The language of finance

Revenue = Sales for a product or service (\$US)

Variable Margin = Revenue

-Direct costs of product/service that vary with volume

Gross Margin = Revenue

-Direct costs of product/service that vary with volume

- Staff labor directly associated with product/service



How the Picture Changes

| Revenue Source | Gross Margin | | |
|----------------------|--------------|-------|-------|
| | 16-17 | 17-18 | 18-19 |
| Dues | 16% | 20% | 18% |
| Publications | 40% | 30% | 32% |
| Advertising | 12% | 7% | 4% |
| Meetings/Conferences | -21% | -54% | -53% |
| Education | 9% | 14% | 8% |
| Certification | -87% | -52% | -63% |
| AHR Expo | 100% | 100% | 100% |

| Pub/Ed Council | | | | |
|-----------------------|----------------|-------------|-----------|---------------|
| SY 18-19 | Publications** | Advertising | Education | Certification |
| Revenue | \$3,041.8 | \$4,073.6 | \$1,870.2 | \$225.7 |
| Direct Expenses | | | | |
| Staff Labor | 869.5 | 1,567.5 | 464.6 | 162.8 |
| Promotion | 64.8 | 96.1 | 31.7 | 8.9 |
| Materials | 358.5 | 657.3 | 109.6 | - |
| Commissions | - | 742.5 | | |
| Shipping/Postage | 162.9 | 566.5 | 33.0 | 4.9 |
| Meeting/Training | | | | |
| Costs | 21.7 | 3.3 | 715.6 | - |
| Travel | 33.3 | 26.2 | 17.6 | 5.4 |
| Dev/Outside | | | | |
| Services | 510.1 | 124.2 | 267.2 | 178.6 |
| Credit Card | | | | |
| Charges | 44.4 | 1.4 | 53.5 | 6.1 |
| Bad Debt | 7.0 | 79.4 | | |
| Other/Misc. | 0.2 | 64.6 | 28.9 | 0.3 |
| Total Direct Expenses | 2,072.4 | 3,929.0 | 1,721.7 | 367.0 |
| Variable Margin \$ | 1,838.9 | 1,712.1 | 613.1 | 21.5 |
| Variable Margin % | 60% | 42% | 33% | 10% |
| Gross Margin \$ | \$969.4 | \$144.6 | \$148.5 | \$(141.3) |
| Gross Margin % | 32% | 4% | 8% | -63% |

How the Picture Changes

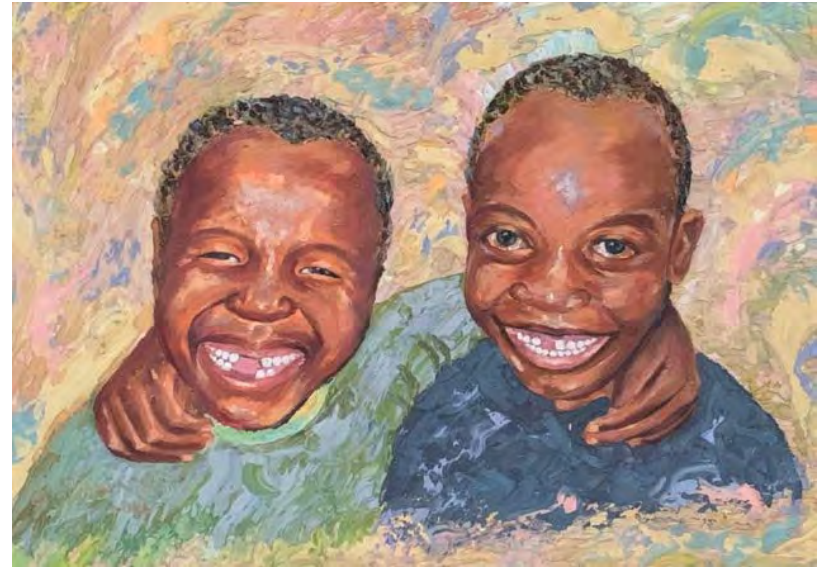
We can see clearly now (apologies to Johnny Nash):

- Publications operates at a strong gross margin
- Advertising operates at a low gross margin
 - This is OK, as advertising as ASHRAE is required to pay tax on “business unrelated to its primary business”.
- Education is operating at a low gross margin
- Certification is operating at a negative gross margin



How the Picture Changes

- Looking at ASHRAE's products through the lens of finance paints a much different picture



How the Picture Changes

- A focus on margins
 - Revenue is only important only in that it allows you to identify and analyze margins
 - Improves clarity and transparency – an ASHRAE core value
 - Better decision-making owing to deeper understanding of product contributions
 - Greater ability to identify and seize strategic opportunities
 - The path forward on product evaluation becomes much simpler



How the Picture Changes

- Future work of the ad hoc is cast in a completely new light
 - For products and services with low margins, make recommendation on how to lower cost or raise price (or both)
 - For products with good margins make recommendations on how to increase sales
 - Are we already high in market share or is there room to grow?
 - Look at other revenue streams (new products and services) based on what we see other organizations offering and emerging needs in the marketplace) and evaluate by margin



How the Picture Changes

Enhanced Goal Setting – Where We Want To Be

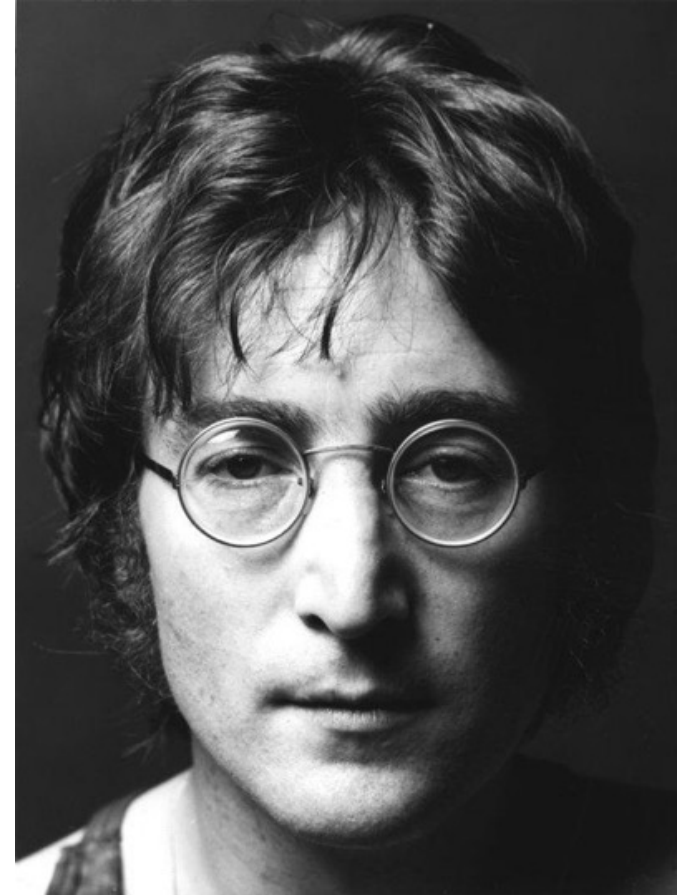
| | Publications | Advertising | Education | Certification | Goal | Current Value |
|------------------------------|--------------|-------------|-----------|---------------|----------|---------------|
| Proposed Revenue Goal | \$4,500 | \$4,300 | \$2,600 | \$600 | \$12,000 | \$9,211 |
| Proposed Gross Margin | \$1,440 | \$215 | \$625 | \$120 | \$2,400 | \$1,121 |
| Proposed Gross Margin | 32% | 5% | 24% | 20% | 20% | 12% |

*In \$1,000 US



How the Picture Changes

- Imagine an ASHRAE better focused on financial performance:
 - Expanded and enhanced revenue streams
 - Less reliance on expo income
 - More resilient to large economic swings
 - Faster, more agile in seizing opportunities
 - Better forecasting of financial position
 - Greatly enhanced decision-making



Questions



ASHRAE
Consolidated
12 Months ended June 30, 2019

REVENUES

| | |
|--|-----------|
| 31 Membership Dues Earned Income | \$7,779.9 |
| 32 Publication Sales Income | 3,447.6 |
| 34 Advertising Income - Display | 3,078.7 |
| 34 Advertising Income - Classified | 10.9 |
| 34 Advertising Income - On-line | 868.6 |
| 35.1 Meeting & Seminar Income | 1,548.2 |
| 35.2 Certification Registration | 218.7 |
| 35.3 Education Registration | 1,642.7 |
| 37 Special Project Income | 74.3 |
| 38 Contribution Income | 2,295.3 |
| 41.1 AHR Exposition Income | 5,741.8 |
| 41.2 Contributions and Matching Gifts | 109.5 |
| 41.3 Exposition Income - Other Countries | 234.0 |
| 44 Reserve Transfers | 890.0 |
| 46 Miscellaneous Income | 805.2 |

TOTAL REVENUES **28,745.4**

EXPENSES:

| | |
|--|---------|
| 51 Salary Expense | 9,616.2 |
| 52 Payroll Taxes, Benefits, Personnel Exp | 2,607.8 |
| 61 Publishing and Promotion Expense | 3,238.6 |
| 64 Meetings & Conferences Expense | 2,477.7 |
| 66 Travel Expense | 2,169.0 |
| 68 Awards, Certif, Logo Cost of Goods Sold | 232.6 |
| 71 Research Projects & Grants Expense | 2,226.6 |
| 73 Special Projects Expense | 111.4 |
| 76 Public Relations Expense | 70.5 |
| 78 Occupancy & Insurance | 768.3 |
| 82 Office Expense and Organizational Dues | 1,628.9 |
| 84 Outside Services Expense | 2,242.6 |
| 88 Other Expense | 798.0 |
| 88.1 Prepaid Expense (contra acct) | (46.3) |
| 89 Opportunity Fund | 150.0 |
| 90 Depreciation Expense | 379.1 |

TOTAL EXPENSES **28,671.0**

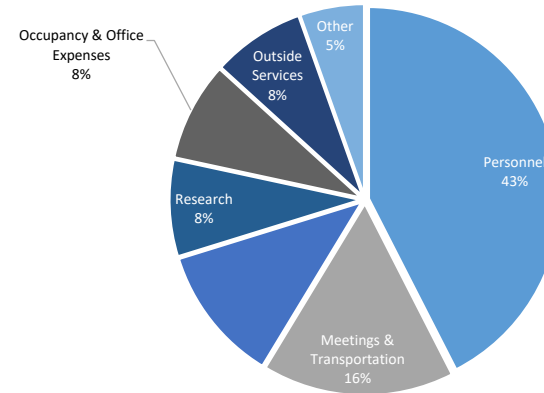
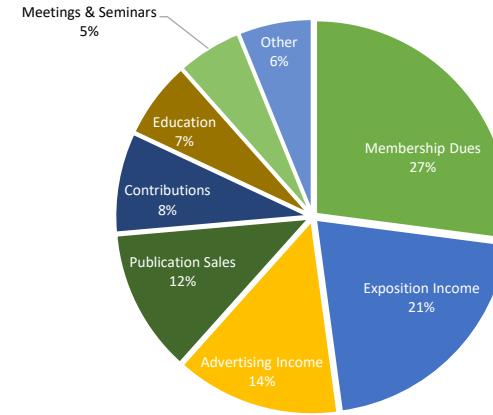
SURPLUS (DEFICIT) before reserve income 74.4

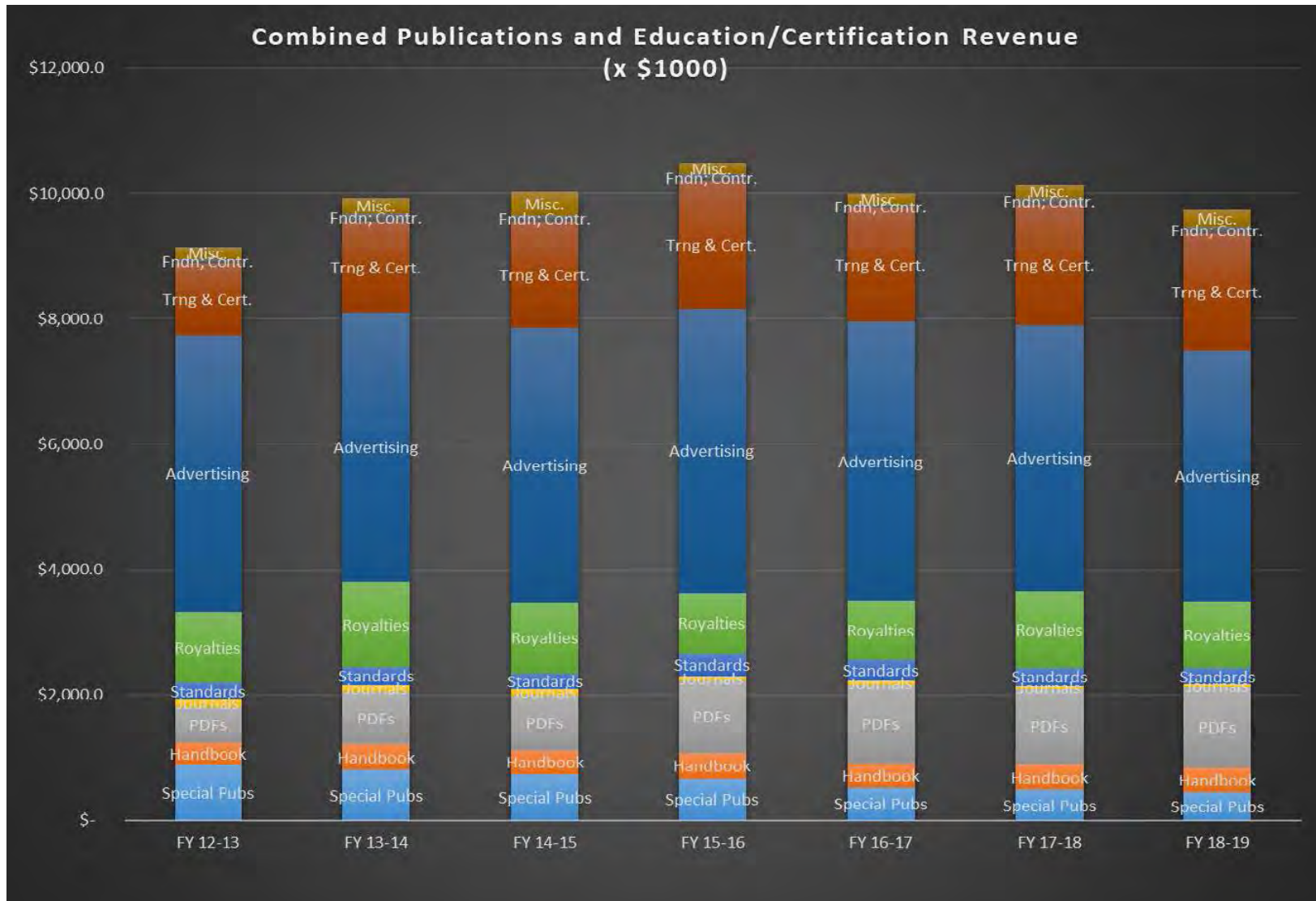
| | | |
|---------------------|-----------|------|
| Source of Funds | | |
| Membership Dues | \$7,779.9 | 27% |
| Exposition Income | 5,975.8 | 21% |
| Advertising Income | 3,958.2 | 14% |
| Publication Sales | 3,447.6 | 12% |
| Contributions | 2,404.8 | 8% |
| Education | 1,861.4 | 6% |
| Meetings & Seminars | 1,548.2 | 5% |
| Other | 1,769.5 | 6% |
| REVENUES | \$ 28,745 | 100% |

| | | |
|--------------------------------|-----------|------|
| Application of Funds | | |
| Personnel | 12,177.7 | 42% |
| Meetings & Transportation | 4,646.7 | 16% |
| Publications, Communications & | 3,309.1 | 12% |
| Research | 2,338.0 | 8% |
| Occupancy & Office Expenses | 2,397.2 | 8% |
| Outside Services | 2,242.6 | 8% |
| Other | 1,559.7 | 5% |
| EXPENSES | \$ 28,671 | 100% |

Attachment A

Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando





Definitions

Revenue

Sales for a product or service in \$US

Variable Margin

Revenue - direct costs to provide product/service that vary with volume e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship = \$45 Variable Margin or 45% Variable Margin

Gross Margin

Revenue - direct costs to provide product/service that vary with volume - staff labor directly associated with product of service e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship - \$25 Staff Labor = \$20 Gross Margin or 20% Gross Margin

Attachment A
Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

| SY 18-19 | Members Council | | Pub/Ed Council | | Corporate | |
|-----------------------|--------------------------|----------------------|----------------|-------------|------------|---------------|
| | Membership Dues/Handbook | Meetings/Conferences | Publications | Advertising | Education | Certification |
| Revenue | \$ 8,151.2 | \$ 1,589.2 | \$ 3,041.8 | \$ 4,073.6 | \$ 1,870.2 | \$ 225.7 |
| Direct Expenses | | | | | | |
| Staff Labor | 3,112.4 | 771.1 | 869.5 | 1,567.5 | 464.6 | 162.8 |
| Promotion | 435.6 | 34.7 | 64.8 | 96.1 | 31.7 | 8.9 |
| Materials | 769.2 | - | 358.5 | 657.3 | 109.6 | - |
| Commissions | - | 8.6 | - | 742.5 | - | - |
| Shipping/Postage | 376.9 | 0.6 | 162.9 | 566.5 | 33.0 | 4.9 |
| Meeting/Training Cost | 281.7 | 1,310.1 | 21.7 | 3.3 | 715.6 | - |
| Travel | 846.1 | 69.8 | 33.3 | 26.2 | 17.6 | 5.4 |
| Dev/Outside Services | 501.4 | 113.0 | 510.1 | 124.2 | 267.2 | 178.6 |
| Credit Card Charges | 221.0 | 44.9 | 44.4 | 1.4 | 53.5 | 6.1 |
| Bad Debt | - | - | 7.0 | 79.4 | - | - |
| Other/Misc. | 136.7 | 82.5 | 0.2 | 64.6 | 28.9 | 0.3 |
| Total Direct Expenses | 6,881.0 | 2,455.3 | 2,072.4 | 3,629.0 | 1,721.7 | 367.0 |
| Variable Margin \$ | 4,582.6 | (75.0) | 1,838.9 | 1,712.1 | 613.1 | 21.5 |
| Variable Margin % | 56% | -5% | 60% | 42% | 33% | 10% |
| Gross Margin \$ | 1,470.2 | (846.1) | 969.4 | 144.6 | 148.5 | (141.3) |
| Gross Margin % | 18% | -53% | 32% | 4% | 8% | -63% |

NOTES

"Staff Labor" includes salary + bennies

"Staff Labor" includes salary + bennies

"Staff Labor" includes salary + bennies

"Staff Labor" includes salary + bennies

"Staff Labor" includes salary + bennies

"Staff Labor" includes salary + bennies

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

BOD/Respective Committees and Overhead costs not included in Margin Analysis

BOD/Respective Committees and Overhead costs not included in Margin Analysis

BOD/Respective Committees and Overhead costs not included in Margin Analysis

BOD/Respective Committees and Overhead costs not included in Margin Analysis

BOD/Respective Committees and Overhead costs not included in Margin Analysis

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There is \$8M in corp overhead. Cost is spread across all councils Corp overhead includes exec staff, BOD, marketing IT, Business Dev etc

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Corp Overhead is allocated based on salaries. For PEC the allocation drives it into a loss position

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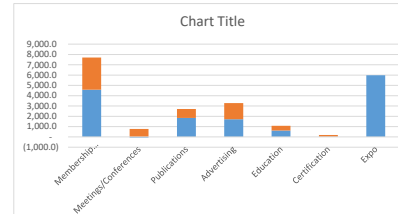
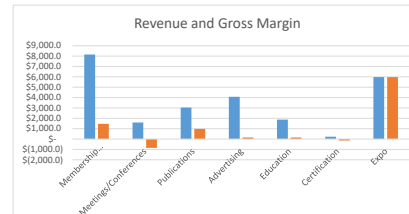
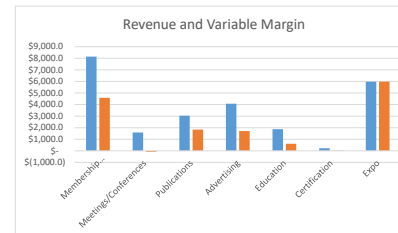
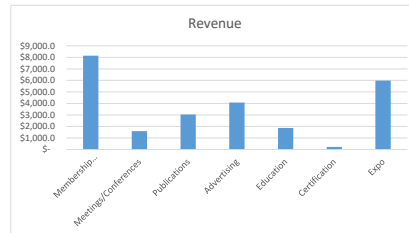
Membership labor is high because it includes MC staff, TC staff PEC staff associated with Handbook Handbook printing and frt cost included in MC as it is a member benefit

Publication Revenue include ~\$1M in royalties

The revenue for Advertising comes from advertising sales in Journal, HPB Cost of journal, Research Journal and HPB is in advertising (PEC) There is no revenue from the Journal issues given to members because it is considered a member benefit

Expo has no real direct costs (it's pure margin)

\$466k in Handbook revenue in MC (copies sold to non members)



Definitions

Revenue

Variable Margin

Gross Margin

PEC Revenue and Margin

Sales for a product or service in \$US

Revenue - direct costs to provide product/service that vary with volume e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship = \$45 Variable Margin or 45% Variable Margin

Revenue - direct costs to provide product/service that vary with volume - staff labor directly associated with product of service e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship - \$25 Staff Labor = \$20 Gross Margin or 20% Gross Margin

Attachment A
Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

| Current Situation | | Publications | | Advertising | | Education | | Certification | | TOTAL |
|-------------------|-------------------------------|--------------|-------|-------------|-------|-----------|-------|---------------|-------|----------|
| | Current Revenue | \$ | 3,042 | \$ | 4,074 | \$ | 1,870 | \$ | 226 | \$ 9,211 |
| | Current Gross margin (\$1000) | \$ | 969 | \$ | 145 | \$ | 149 | \$ | (141) | \$ 1,121 |
| | Current Gross Margin % | | 32% | | 4% | | 8% | | -63% | 12% |
| | | | | | | | | | | |

| Proposed Goals | | Publications | | Advertising | | Education | | Certification | | TOTAL |
|----------------|------------------------------------|--------------|-------|-------------|-------|-----------|-------|---------------|-----|-----------|
| | Proposed Revenue Goal | \$ | 4,000 | \$ | 4,100 | \$ | 2,500 | \$ | 500 | \$ 11,100 |
| | Proposed Gross Margin (\$1000) | \$ | 1,280 | \$ | 205 | \$ | 800 | \$ | 100 | \$ 2,385 |
| | Proposed Gross Margin (%) | | 32% | | 5% | | 32% | | 20% | 21% |
| | Proposed Revenue Goal - AY | \$ | 3,500 | \$ | 4,200 | \$ | 2,600 | \$ | 500 | \$ 10,800 |
| | Proposed Gross Margin (\$1000) -AY | \$ | 1,150 | \$ | 252 | \$ | 858 | \$ | 100 | \$ 2,360 |
| | Proposed Gross Margin (%) -AY | | 33% | | 6% | | 33% | | 20% | 22% |

Hugh

Alice

| | | | | | | |
|------------------|--|--|--|---|--|---|
| Hugh's Thoughts; | | Very good business model. Margins are good. Focus on growing revenue | Numbers paint bad picture but remember the Journal is given away as a member benefit. Change away from print makes advertising revenue more difficult. Work to maintain busies and have advertising cover cost of printing journal | Lots of upside on Revenue. Margin is disappointing. Need to understand and resolve our high cost. | Other organizations do not make much money with Certification but make it up with training. Certification cost is too high. Reconsider our business model and see if we can get cost out (i.e. do we really need to have "ANSI ready" tests? | PEC Generates \$1121k in margin dollars to operate ASHRAE. ASHRAE Corp allocations are based on Staff salary so PEC gets a large amount of corp cost which drives PEC to a loss position. This is just an allocation issue - what is important is margin Dollars which can fund programs. |
|------------------|--|--|--|---|--|---|

| | | | | | |
|-------------------|--|---|---|---|---|
| Alice's Thoughts: | | I'm less bullish than Hugh on publications because of potential revenue loss due to statutory changes (e.g., loss of copyright protection) and increasing access to no-cost publications; I do think revenues could grow by better targeting publications and NOT investing in publications unlikely to sell. | If advertising includes sponsorships, I believe we can do even better here. While there is downward pressure on print sales, sponsorship opportunities and online advertising present growth potential. | I here is tremendous potential with growing our education and training revenues, including through selling these courses to government entities, and partnering with other organizations to leverage our resources, and developing better (and more modern) online courses as there is a demand especially by young people for 365-24-7 access. We could also better leverage our certification program potentially through requiring an ASHRAE course or courses (e.g., this is done by the Association of Energy Engineers) | Possible opportunity to tie regulations to certification requirements. For example, as cities and states work to meet various carbon goals, they may choose to require facility managers to have training and/or certification, or building auditors to be certified. Another opportunity exists to work with DOE to better leverage their "Better Buildings Program" to generate more interest in ASHRAE certifications. |
|-------------------|--|---|---|---|---|

| | | | | | |
|-------------------|--|---|---|---|--|
| Steve's Thoughts: | | Agree good business model but not that easy. Will involve working with partners to execute this. Suggest a more modest goal than what Hugh suggested. The Steve goal is in two fiscal years. After that growth might be more aggressive. Objective is how to provide digital content in usable form to the individual member and not just corporate license holder. | Agree with Hugh's target. but could be higher. Emphasis shifts from selling space to giving branding opportunities and thought leadership exposure. This is tied to integrated marketing of online and print exposure. Both have to work hand in glove. If more electronic opportunities are offered (such as sponsored blogs) revenue can grow more quickly. Also development of regional market opportunities can further offer opportunities. We are weak in doing this now. | Too aggressive because of the member/volunteer nature of ASHRAE. What Hugh suggested is reasonable IF there was not concern for chapters in developing countries to offer training at ASHRAE prices and more decentralization of educational offerings. Also, we compete with ourselves with DL program and webinar program form CTTC. If all educational activities were centralized, Hugh's suggestion would work; but if not, I would go with my suggestion. | I think many organizations make money from certification and for sure it is attached to training. That is the number 1 opportunity for ASHRAE in my view. This is not just a fiscal comment but a comment that relates to the value proposition globally and contribution to the industry. |
|-------------------|--|---|---|---|--|

Society Level Revenue and Margin

| | Current Model | | | | | Proposed Model | | | | |
|------------|----------------|-------------|-------------------|------------------|--------|----------------|-------------|-------------------|------------------|--------|
| | Revenue (\$US) | Revenue (%) | Gross Margin (\$) | Gross Margin (%) | | Revenue (\$US) | Revenue (%) | Gross Margin (\$) | Gross Margin (%) | |
| Membership | \$ 9,740.40 | | 39.1% | \$ 624.1 | 8.1% | \$ 9,740.40 | | 36.3% | \$ 624.1 | 6.9% |
| Expo | \$ 5,975.8 | | 24.0% | \$ 5,975.8 | 77.4% | \$ 5,975.8 | | 22.3% | \$ 5,975.8 | 66.5% |
| PEC | \$ 9,211.30 | | 37.0% | \$ 1,121.20 | 14.5% | \$ 11,100.00 | | 41.4% | \$ 2,385.00 | 26.5% |
| Total | \$ 24,927.50 | | 100.0% | \$ 7,721.1 | 100.0% | \$ 26,816.20 | | 100.0% | \$ 8,984.9 | 100.0% |

ASHRAE
CONSOLIDATED (General and Research)
12 Months Ended June 30

Attachment A
Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

| | Actual | Actual | Actual | Actual | Actual | Budget | DRAFT Budget | DRAFT Budget | DRAFT Budget |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | FY 2015 | FY 2016 | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 |
| REVENUES | | | | | | | | | |
| 31 Membership Dues Earned Income | \$7,430.5 | \$7,634.5 | \$7,663.7 | \$7,772.8 | \$7,779.9 | \$8,151.3 | \$8,419.4 | \$8,650.9 | \$8,867.2 |
| 32 Publication Sales Income | 3,483.9 | 3,626.1 | 3,504.1 | 3,664.0 | 3,447.6 | 3,783.7 | 3,864.3 | 3,975.2 | 3,977.2 |
| 34 Advertising Income - Display | 3,710.8 | 3,779.4 | 3,577.7 | 3,294.3 | 3,078.7 | 3,103.1 | 3,008.8 | 2,956.8 | 2,956.8 |
| 34 Advertising Income - Classified | 32.0 | 19.3 | 18.0 | 14.0 | 10.9 | 10.0 | 12.0 | 15.0 | 15.0 |
| 34 Advertising Income - On-line | 595.6 | 715.8 | 821.2 | 899.2 | 868.6 | 1,070.0 | 1,115.0 | 1,160.0 | 1,160.0 |
| 35.1 Meetings/Conferences Income | 1,578.5 | 1,529.9 | 2,151.9 | 1,737.6 | 1,548.2 | 2,426.1 | 2,425.5 | 2,191.7 | 1,981.1 |
| 35.2 Certification Registration | 183.3 | 187.6 | 196.8 | 213.2 | 218.7 | 280.0 | 290.0 | 300.0 | 300.0 |
| 35.3 Education Registration | 1,504.5 | 1,844.8 | 1,611.1 | 1,700.6 | 1,642.7 | 1,960.0 | 2,078.3 | 2,200.5 | 2,200.5 |
| 37 Special Project Income | 316.6 | 3.2 | 14.3 | 62.9 | 74.3 | 98.0 | | | |
| 38 Contribution Income | 2,116.6 | 2,215.6 | 2,223.6 | 2,312.7 | 2,295.3 | 2,577.2 | 2,629.0 | 2,761.9 | 2,761.9 |
| 41.1 AHR Exposition Income | 5,146.6 | 5,168.0 | 5,623.7 | 6,085.7 | 5,741.8 | 6,300.0 | 6,450.0 | 6,500.0 | 6,500.0 |
| 41.2 Contributions and Matching Gifts | 115.0 | 57.0 | 100.0 | 74.5 | 109.5 | 171.3 | 121.5 | 122.1 | 122.1 |
| 41.3 Exposition Income - Other Countries | 145.9 | 34.0 | 162.3 | | 234.0 | | 175.0 | 100.0 | 250.0 |
| 44 Reserve Transfers | 885.7 | 655.3 | 1,089.7 | 1,199.3 | 890.0 | 1,278.7 | 760.0 | 770.0 | 770.0 |
| 46 Miscellaneous Income | 534.4 | 322.7 | 330.7 | 364.7 | 805.2 | 554.7 | 405.4 | 419.3 | 399.3 |
| TOTAL REVENUES | 27,779.9 | 27,793.2 | 29,088.8 | 29,395.5 | 28,745.4 | 31,764.1 | 31,754.2 | 32,123.4 | 32,261.1 |
| EXPENSES: | | | | | | | | | |
| 51 Salaries | 7,910.9 | 8,780.7 | 9,182.9 | 9,730.4 | 9,720.9 | 9,813.6 | 10,051.2 | 10,363.8 | 10,669.6 |
| 52 Payroll Taxes, Benefits, Personnel | 2,536.2 | 2,738.8 | 2,650.4 | 2,875.3 | 2,636.9 | 2,772.7 | 3,059.4 | 3,124.3 | 3,172.8 |
| 61 Publishing and Promotion | 3,776.9 | 3,827.9 | 3,606.9 | 3,411.8 | 3,238.6 | 3,660.5 | 3,585.9 | 3,658.4 | 3,664.4 |
| 64 Meetings/Conferences/Trainings | 2,199.2 | 2,362.8 | 2,657.9 | 2,871.1 | 2,477.7 | 3,156.3 | 3,143.6 | 2,995.8 | 2,791.4 |
| 66 Travel | 2,076.6 | 1,863.8 | 2,263.0 | 2,228.8 | 2,169.0 | 2,413.0 | 2,464.0 | 2,584.7 | 2,580.2 |
| 68 Awards, Certif, Logo Cost of Goods Sold | 164.6 | 158.5 | 212.2 | 175.2 | 232.6 | 173.7 | 177.3 | 186.2 | 186.2 |
| 71 Research Projects & Grants | 2,469.6 | 2,321.1 | 2,725.3 | 2,941.5 | 2,226.6 | 3,002.9 | 2,878.3 | 2,938.7 | 2,938.7 |
| 73 Special Projects | 72.5 | 101.3 | 157.4 | 107.7 | 111.4 | 198.0 | 240.0 | 70.0 | 70.0 |
| 76 Public Relations | 51.0 | 79.4 | 66.7 | 58.1 | 70.5 | 74.6 | 75.9 | 79.1 | 79.1 |
| 78 Occupancy & Insurance | 559.2 | 588.6 | 553.9 | 639.3 | 768.3 | 932.6 | 757.1 | 782.8 | 782.8 |
| 82 Office Expense and Organizational Dues | 1,840.2 | 1,862.7 | 1,778.9 | 1,633.0 | 1,631.3 | 1,816.9 | 1,892.1 | 1,954.9 | 1,954.9 |
| 84 Outside Services | 1,659.7 | 1,713.1 | 1,967.0 | 1,906.3 | 2,243.0 | 2,385.1 | 2,115.8 | 2,240.4 | 2,227.4 |
| 88 Other Expenses | 530.8 | 673.6 | 720.1 | 786.7 | 798.0 | 763.5 | 833.3 | 806.8 | 801.7 |
| 88.1 Prepaid Expenses (contra acct) | 33.8 | (560.5) | (535.1) | (491.5) | (182.9) | | | | |
| 89 Opportunity Fund | 35.5 | | 140.0 | 140.0 | 150.0 | 50.0 | 150.0 | 150.0 | 150.0 |
| 90 Depreciation | 631.9 | 579.3 | 529.5 | 556.9 | 379.1 | 360.0 | 785.0 | 921.9 | 921.9 |
| 91 Allocation of Overhead & BOD | | 0.0 | 0.3 | | | (0.1) | 0.0 | | |
| TOTAL EXPENSES | 26,548.6 | 27,091.1 | 28,677.3 | 29,570.6 | 28,671.0 | 31,573.3 | 32,208.9 | 32,857.8 | 32,991.1 |
| SURPLUS (DEFICIT) before reserve income | 1,231.3 | 702.1 | 411.5 | (175.1) | 74.4 | 190.8 | (454.7) | (734.4) | (730.0) |
| 91.2 Gain on Sale of HQ | | | | | 6,174.5 | | | | |
| 91.5 Headquarters Building Contributions | 153.9 | | | | 361.0 | | | | |
| 92 Non-recurring Expenses | 639.5 | 477.9 | 69.5 | 163.4 | 114.5 | 60.0 | | | |
| Reserve Investment Income: | | | | | | | | | |
| 95 Investmt Income - Reserves (net of exp) | 222.5 | (186.1) | 2,219.6 | 1,402.9 | 742.7 | 895.6 | 913.5 | 959.2 | 959.2 |
| 96 Transfer Reserves Portion Used Currently | (885.7) | (655.3) | (1,089.7) | (1,244.3) | (1,122.2) | (1,260.2) | (760.0) | (770.0) | (770.0) |
| Remaining Reserve Investment Income | (663.2) | (841.4) | 1,129.9 | 158.6 | (379.5) | (364.6) | 153.5 | 189.2 | 189.2 |
| OVERALL SURPLUS (DEFICIT) after reserve income | 82.5 | (617.2) | 1,471.9 | (179.9) | 6,115.9 | (233.8) | (301.2) | (545.2) | (540.8) |

Attachment A

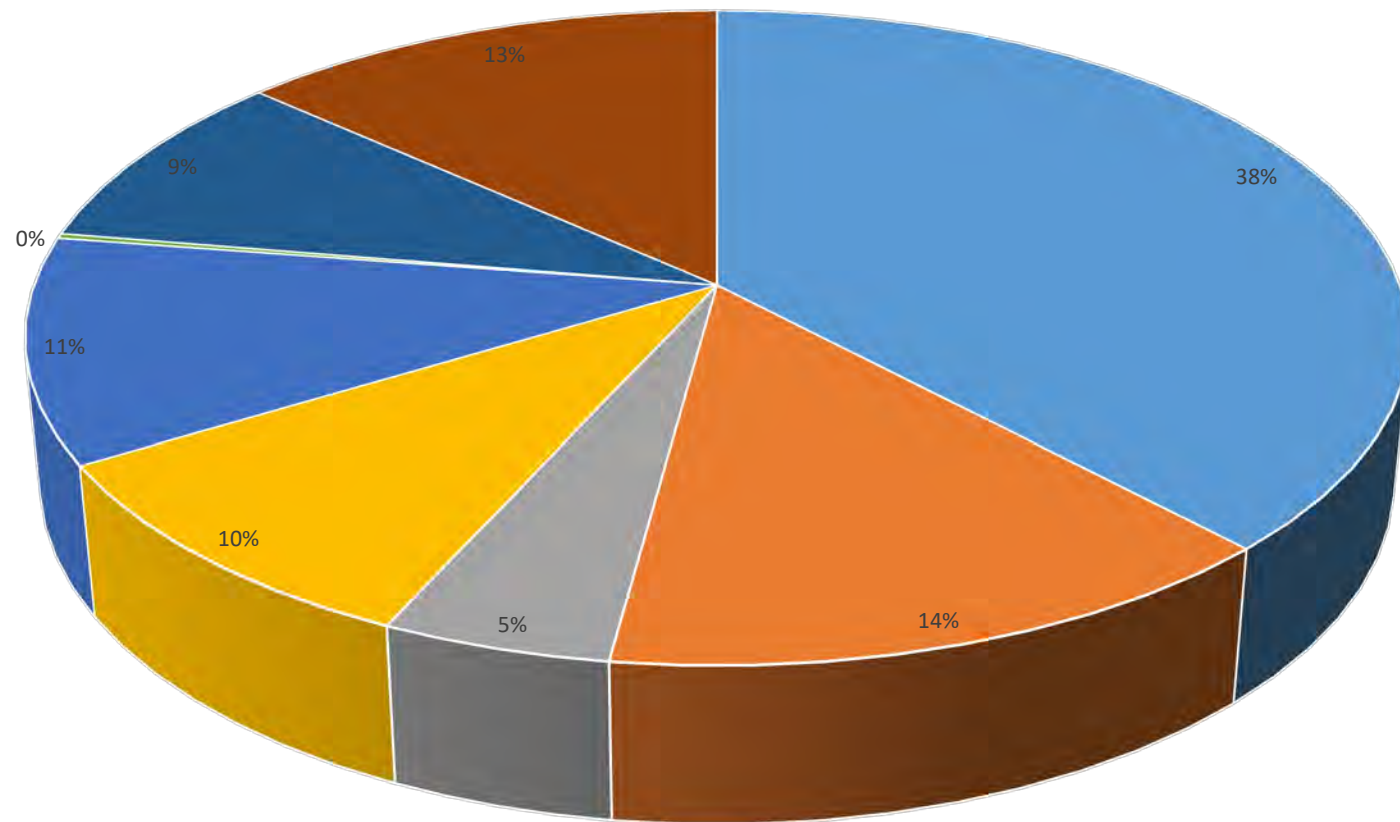
Strategic Business Development Ad Hoc Report to PEC

Margin Analysis - Compiled list for Orlando

| | | |
|---------------------------|-------|-------|
| 1 Consulting Engineer | 18445 | 32.9% |
| Student | 6226 | 11.1% |
| Manufacturer | 5057 | 9.0% |
| 1 Contractor | 4995 | 8.9% |
| 1 Manu. Rep | 3774 | 6.7% |
| Other | 3204 | 5.7% |
| Gov't | 3159 | 5.6% |
| 1 Design Build | 2923 | 5.2% |
| 1 Architect | 2874 | 5.1% |
| 1 Sales Engineer | 915 | 1.6% |
| 1 Commerical Facility | 759 | 1.4% |
| 1 Industrial Facility | 746 | 1.3% |
| 1 Property Manager | 723 | 1.3% |
| 1 Distributor | 663 | 1.2% |
| Utility | 575 | 1.0% |
| Association | 530 | 0.9% |
| 1 Educational Institution | 380 | 0.7% |
| 1 Research | 134 | 0.2% |
| Library | 11 | 0.0% |
| | 56093 | 100% |

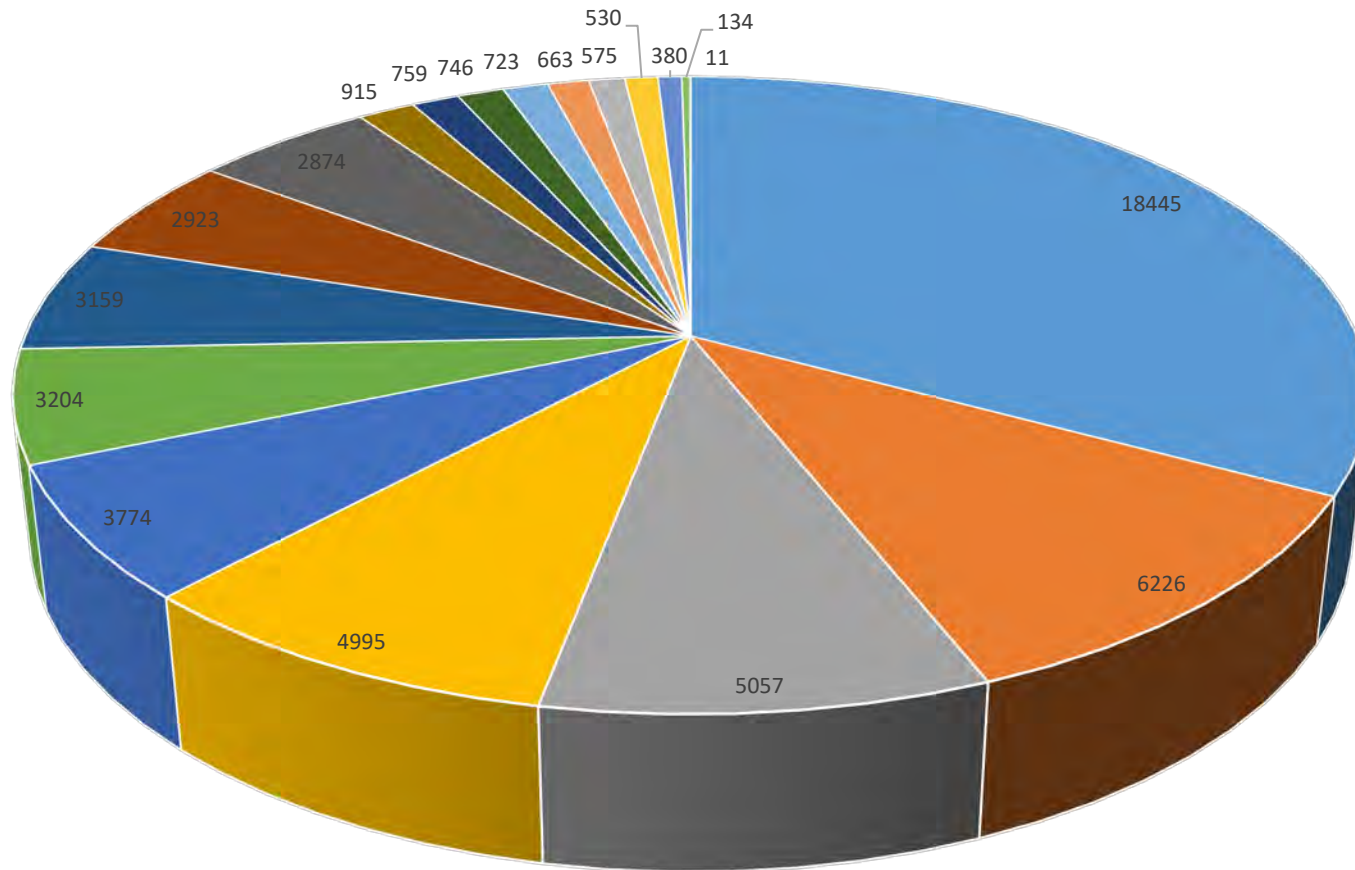
| | | |
|----------------------|-------|-----|
| Design | 21319 | 38% |
| Construction | 7918 | 14% |
| Operations and Maint | 2608 | 5% |
| Sales | 5352 | 10% |
| Student | 6226 | 11% |
| Research | 134 | 0% |
| Manufacturer | 5057 | 9% |
| Misc | 7479 | 13% |

Membership Percent



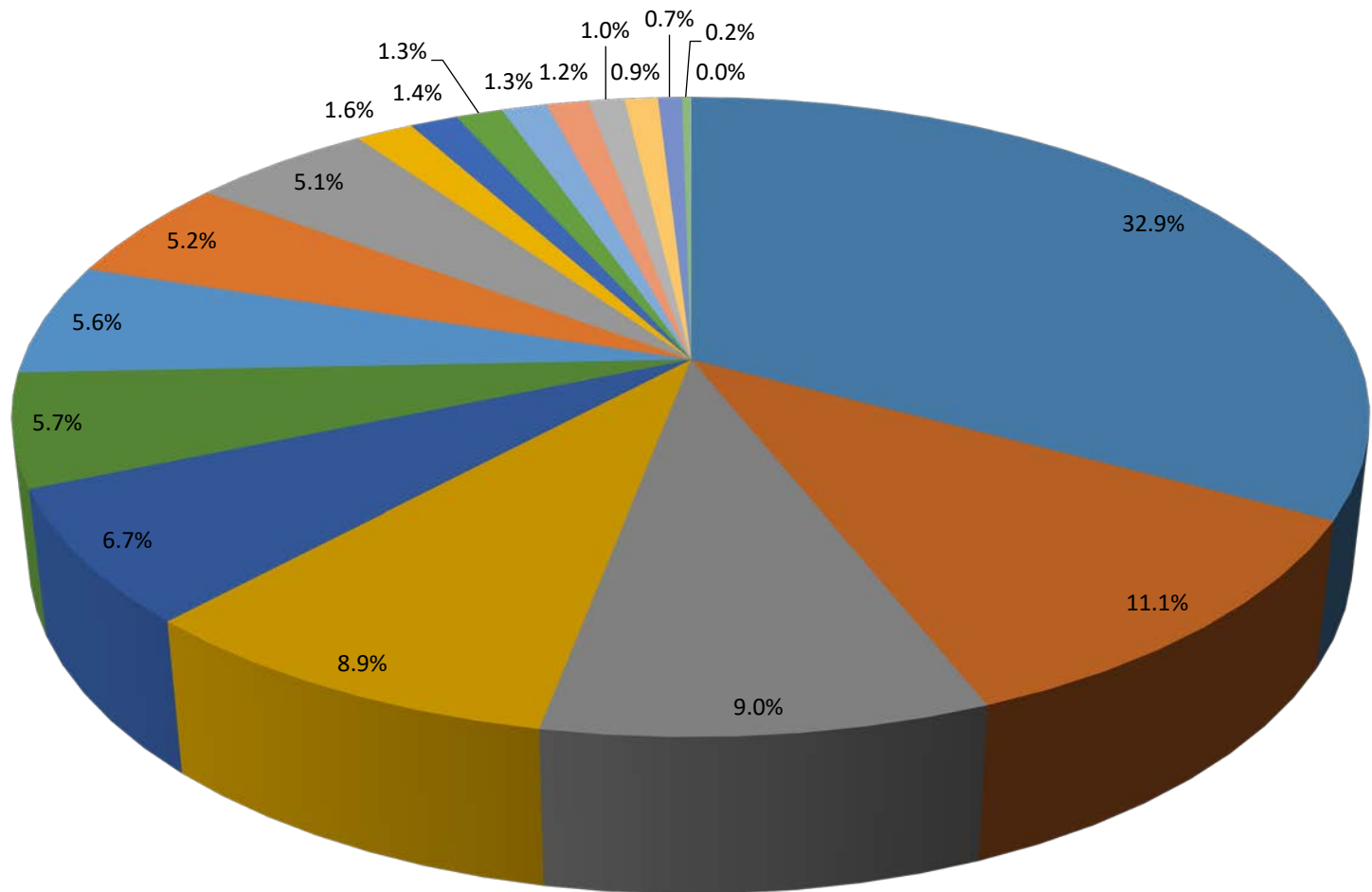
■ Design ■ Construction ■ Operations and Maint ■ Sales ■ Student ■ Research ■ Manufacturer ■ Misc

Membership headcount



- | | | | | |
|---------------------|-------------------------|------------------|-------------|----------------|
| Consulting Engineer | Student | Manufacturer | Contractor | Manu. Rep |
| Other | Gov't | Design Build | Architect | Sales Engineer |
| Commerical Facility | Industrial Facility | Property Manager | Distributor | Utility |
| Association | Educational Institution | Research | Library | |

Membership Percent



- | | | | | |
|-----------------------|---------------------------|--------------------|---------------|------------------|
| ■ Consulting Engineer | ■ Student | ■ Manufacturer | ■ Contractor | ■ Manu. Rep |
| ■ Other | ■ Gov't | ■ Design Build | ■ Architect | ■ Sales Engineer |
| ■ Commercial Facility | ■ Industrial Facility | ■ Property Manager | ■ Distributor | ■ Utility |
| ■ Association | ■ Educational Institution | ■ Research | ■ Library | |

CONFIDENTIAL

Global Training Center Report for the period 1 July 2019 – 31 December 2019

**Prepared for Global Training Center Volunteer Oversight Subcommittee
Publishing and Education Council
January 2020**

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CONFIDENTIAL

Global Training Center Report for the period 1 July 2019 – 31 December 2019

January 2020

1. Performance Summary for the period July – December 2019

July – December 2019: The GTC presented 10 courses and trained 206 people, achieving a fiscal net performance of **\$35,515.10**

This was achieved by further developing sales channels through the Global Training Center, hosts (ASHRAE chapters, local societies, conference organizers), commercial companies and host combinations.

Instructor performances were generally well received by attendees. It should also be noted that instructor flexibility, responsiveness and ability to adjust their schedules is crucial. Reinforce the sales dynamic making distinction between business commitment rather than internal chapter activities. Samir Traboulsi and Hassan Younes have been extremely accommodating in that regard.

The base instructor honorarium during the period was **\$850** per day.

The base registration fee per registrant during the period was (Fees charged when courses are organized in Dubai; from which all other discounted fees, etc. are derived from).

| | |
|--------------|----------------------------------|
| 1-day course | \$311 (\$405 Non-members) |
| 2-day course | \$524 (\$641 Non-members) |
| 3-day course | \$757 (\$948 Non-members) |

Average revenue per registrant ranged from **\$156** to **\$763**.

Average cost per registrant ranged from **\$46** to **\$566.73**.

Variations in average revenue and cost per registrant as a result of different registration fees is due to the following factors:

1. Member/Non-member pricing
2. Attendees from developing economies
3. Chapter/ developing economy chapter hosts
4. Group discounts
5. Multiple course registration

The following represents the cost breakdown for all courses during the period:

- Honorariums \$31,450.00
- Training venue \$6,817.68
- Printing \$1,906.96
- Airfare \$6,232.97
- Hotel \$5,360.69
- Visa \$2,305.00

2. Business Model

Basic premise of our strategy is to offer training specifically for the Middle East, Africa and parts of Asia markets that is customized, suitably priced, sold and valued.

The following shows what is currently being done and what will be changed based on what has been learned from experience.

1. During the past year, more training distributors (chapters/hosts) have been identified and used taking our training to 9 different cities in 7 countries.

Plan is to pursue more distributors (chapters/hosts) whom are more knowledgeable about their market trends and needs, to make ASHRAE courses accessible in more locations. Training organized by different hosts are offered reduced fees since a bulk of our costs are eliminated.

- A lot of potential in the Saudi market. Worth considering other hosts in addition to the Saudi Council of Engineers.
 - Engage more chapters to organize local training by continuously reminding them of the value of offering ASHRAE content in their countries. Efforts require chapter commitments which is not always present.
2. Identify more GTC instructors in different countries.
 - Reduces travel time and costs (flight, hotel, visa etc.)
 - Ensures we are more responsive to potential opportunities.
 3. Attachment A (page 11) shows the documents used to screen potential instructors. To be used as new instructors are added or re-confirmed.
 4. Organize courses based on market trends
 - Planned topics in 2020: Data Centres, Refrigerant Updates, District Cooling.
 5. Eliminate cost associated with paper-based course books and certificates during training organized in Dubai starting 2020.
 6. Ensure evaluation forms are completed by all training attendees by utilising online evaluations. Attendees will be required to complete the evaluation forms to receive their soft copy certificates. Attachment B (page 13) shows a sample of the evaluation forms used.
 7. Working with different hosts has presented some logistical challenges hence the following:
 - More control over content and secured certificates sent to chapters/hosts. Certificates will either need to be filled out by the Dubai office, secured then sent to the organizer. Or set a limit to how many times a certificate template can be filled.
 - General guidelines pertaining to facilities used by hosts/chapters for ASHRAE courses are needed.
Facilities Guidelines:
 - Attendees should be seated comfortably and not too close to each other.
 - Training room should have good indoor air quality with the ability to control the air temperature and air flow in the room.
 - Training room should be well lit.

- Data projector should be centred at the front, complete with suitable sound system (lavaliere microphone,
- Training room should be well insulated from any disruptions from neighbouring rooms.
- Restrooms, break, and lunch areas should be easily accessible by all attendees.
- Chapter organizers are encouraged to bring in training sponsors which is crucial to help further reduce fees for attendees and cover chapter related costs. To ensure compliance with ASHRAE commercial policies, the following is included in all chapter agreements.

Promotion & Sponsorship Conditions

- All course(s) promotions should include the ASHRAE chapter name and logo. (If a distributor is cooperating with an ASHRAE chapter to organize the course(s)).
 - Training room must be free from all commercial branding (i.e. corporate sponsors). All sponsor related marketing must be placed outside of the training room.
 - If courses are organized alongside a conference, the below conditions must be adhered to:
 - No logos, banners or any promotional materials relevant to sponsor(s) can be placed inside the ASHRAE training room.
 - Sponsor(s) promotional displays and materials (if any) can be placed outside of the ASHRAE training room.
 - Advertising sponsor(s) on any of the conference organizers websites must be in a separate section than the ASHRAE course(s).
 - Advertising sponsor(s) on chapter websites must be in a separate section of the web site and must comply with all requirements of the ASHRAE Policy for Chapter Websites.
8. To meet Region-At-Large's diverse needs, having a pricing structure to meet conditions of Minimum Advertised Price Policy (MAP) and Resale Price Maintenance (RPM) are being set to reduce price disparities offered by distributors (hosts/chapters) in different countries, encourage distributors to invest in promotion and customer-friendly experiences and to encourage global competition among potential distributors.

Pricing Structure:

Non-Developing Economies:

- Individual fees charged when courses are organized by the Dubai office (25% less than US fees)

- Chapter fees charged when any non-developing economy chapter organizes an ASHRAE course (50% less than base member fee)
- In-House fees (50% less than base non-member fee)

Developing Economies:

Determined based on the countries listed under “Low-income economies” and “Lower-Middle-Income economies” published by the World Bank.

- Individual DE fees charged when individuals from DE would like to attend courses organized in Dubai (50% less than US fees)
- Chapter fees charged when any developing economy chapter organizes an ASHRAE course (50% less than DE member fee)
- In-House fees (50% less than base non-member fee)

Distributors:

- Prices for different distributors in the region (hosts and/or chapters) are charged a flat fee based on a minimum number of attendees. Additional attendees are charged extra.

Pricing Conditions for Distributors:

The distributor whether host or chapter can determine the course fees charged per registrant provided the below conditions are met:

- The distributor cannot advertise the per registrant price of course(s) below what ASHRAE is charging the distributor per person.
- The distributor cannot charge each registrant below what ASHRAE is charging the distributor per person.
- If the distributor is a developing economy chapter, course(s) promotions should clearly include the term “developing economy price”.
- If a distributor is a chapter wanting to bring in a sponsor to the course(s) to help reduce the fee per person even further, course(s) promotions should clearly state that the fees have been reduced due to sponsor.

3. Metrics for the period (Training Summary July – December 2019)

| | Date | Training | Instructor(s) | Location | Final Reg. No. | Total Revenue | Total Cost | Net Profit | Comments |
|----|----------------|--|--|---------------------|----------------|---------------|-------------|--------------|------------------------------|
| 1 | 4-5 Sept 2019 | HVAC Design: Level I - Essentials (MENA) | Omar Abdelaziz & Hassan Younes | Cairo | 18 | \$ 6,300.00 | \$ 5,710.50 | \$ 589.50 | DE Chapter fees are charged |
| 2 | 13-15 Oct 2019 | HVAC Design: Level I - Essentials (MENA) | Samir Traboulsi & Hassan Younes | Riyadh, KSA | 19 | \$ 8,415.00 | \$ 6,458.95 | \$ 1,956.05 | Host: SCE* |
| 3 | 16-17 Oct 2019 | HVAC Design: Level II – Applications (MENA) | Samir Traboulsi & Hassan Younes | Riyadh, KSA | 17 | \$ 5,700.00 | \$ 4,114.39 | \$ 1,585.61 | Host: SCE* |
| 4 | 27-29 Oct 2019 | HVAC Design: Level I - Essentials (MENA) | Samir Traboulsi & Hassan Younes | Dubai, UAE | 29 | \$ 21,643.84 | \$11,353.32 | \$ 10,290.52 | GTC |
| 5 | 30-31 Oct 2019 | HVAC Design: Level II – Applications (MENA) | Samir Traboulsi | Dubai, UAE | 27 | \$ 11,039.56 | \$ 5,132.32 | \$ 5,907.24 | GTC |
| 6 | 3-5 Nov 2019 | HVAC Design: Level I - Essentials (MENA) | Alkis Triantafyllopoulos & Hesham Safwat | Jeddah, KSA | 12 | \$ 8,910.00 | \$ 6,800.77 | \$ 2,109.23 | Host: SCE* |
| 7 | 6-7 Nov 2019 | HVAC Design: Level II – Applications (MENA) | Alkis Triantafyllopoulos | Jeddah, KSA | 13 | \$ 5,400.00 | \$ 3,037.68 | \$ 2,362.32 | Host: SCE* |
| 8 | 16-18 Nov 2019 | HVAC Design: Level I - Essentials (MENA) | Samir Traboulsi & Hassan Younes | Kuwait City, Kuwait | 26 | \$ 9,828.00 | \$ 5,737.83 | \$ 4,090.17 | Host: KSE** & Kuwait Chapter |
| 9 | 18 Nov 2019 | Designing for IAQ: Complying with Standard 62.1 (MENA) | Samir Traboulsi & Hassan Younes | Kuwait City, Kuwait | 10 | \$ 3,900.00 | \$ 2,138.64 | \$ 1,761.36 | Host: KSE** & Kuwait Chapter |
| 10 | 21 Nov 2019 | Variable Refrigerant Flow Systems (MENA) | Hesham Safwat | Kuwait City, Kuwait | 35 | \$ 5,460.00 | \$ 1,596.90 | \$ 3,863.10 | Host: KSE** & Kuwait Chapter |

| | | | | |
|--------------|------------|---------------------|---------------------|---------------------|
| TOTAL | 206 | \$ 86,596.40 | \$ 52,081.30 | \$ 34,515.10 |
|--------------|------------|---------------------|---------------------|---------------------|

*Saudi Council of Engineers

** Kuwait Society of Engineers

5. Attachments

Attachment A: Instructor Application Form

ASHRAE Africa, Middle East & Southwest Asia Training Initiative Application to Be an ASHRAE Instructor

1. Biographical and Contact Information

- Name (as you wish it to appear in promotional materials):
- Credentials (that you wish listed in order of Doctorate Degree, Engineering License, ASHRAE Certifications, Accreditations, Other Certifications)
- Email address:
- Phone number:
- Grade of ASHRAE Membership:
- Year Joined ASHRAE
- Past and Current ASHRAE Technical Committee Memberships (This is not a requirement but membership is encouraged. Corresponding memberships are offered.):
- In what country do you work:
- In what other countries have you worked:
- Where did you attend university/college:
- What types of work positions have you held:
- Current employer:
- What types of employers have you worked for:

2. Professional Background Information

- In what fields do you feel qualified to instruct? (for example, psychrometrics, indoor environmental quality, system design, building performance, modeling, building automation, equipment selection, air distribution, refrigerant selection, refrigerant management, commissioning, engineering sales, project management, energy management).
- In what applications do you have experience? (for example, large buildings, hospitals, laboratories, manufacturing facilities, data centers, food handling and transportation, commercial refrigeration, district energy systems)
- Who You Are Paragraph (Using the sample below write a paragraph that describes your experience, phrased to emphasize your qualifications to be an ASHRAE Instructor. Don't worry about grammar or style; focus on why someone would want to register for a course that you instruct.)

Sample: Nathalie Smith has more than XX years experience in the HVAC&R industry. She holds an engineering degree from XXXX University and has received awards for her engineering accomplishments from XXXXX and XXXXXX. She specializes in XXXXXXX applications and is a recognized authority in the fields of XXXXXX. Ms Smith has XXXXX years of experience as an instructor teaching courses on XXXXXXX and XXXXXXX. She is

currently employed as XXXXXXX by a supplier of building automation solutions and resides in Belgium. Ms Smith believes the greatest challenge facing engineers in the field of building and environmental technologies is applying cloud-based management of building services equipment and using performance data to improve building design.

Your Paragraph:

3. Photograph

Return with a Photograph as a JPEG (Photo should be head and shoulders, either a portrait or in a professional setting. You should appear happy, encouraging someone to want to take your course).

Anything else a registrant should know about your background and experience?

CONFIDENTIAL

Attachment B: Sample Training Evaluation Form

Course Name
Training Location
Training Date

Strongly Agree

Undecided

Strongly Disagree

Instructor 1: xxx

- | | | | | | |
|---|---|---|---|---|---|
| 1. Instructor was knowledgeable in the subject. | 5 | 4 | 3 | 2 | 1 |
| 2. Instructor presented the concepts and principles clearly and understandably. | 5 | 4 | 3 | 2 | 1 |
| 3. Instructor related the material to practical applications. | 5 | 4 | 3 | 2 | 1 |

Instructor 2: xxx

- | | | | | | |
|---|---|---|---|---|---|
| 1. Instructor was knowledgeable in the subject. | 5 | 4 | 3 | 2 | 1 |
| 2. Instructor presented the concepts and principles clearly and understandably. | 5 | 4 | 3 | 2 | 1 |
| 3. Instructor related the material to practical applications. | 5 | 4 | 3 | 2 | 1 |

COURSE CONTENT

- | | | | | | |
|--|---|---|---|---|---|
| 1. Objectives of the training were clearly stated. | 5 | 4 | 3 | 2 | 1 |
| 2. Content quality and format make the course notes valuable for future reference. | 5 | 4 | 3 | 2 | 1 |
| 3. Quality and clarity of the audio visuals enhanced my ability to understand the course concepts. | 5 | 4 | 3 | 2 | 1 |
| 4. Organization and order of the presentation supported effective mastery of the training topic. | 5 | 4 | 3 | 2 | 1 |
| 5. Material presented will be of practical use in my work. | 5 | 4 | 3 | 2 | 1 |
| 6. Training level met my needs and expectations. | 5 | 4 | 3 | 2 | 1 |

GENERAL

1. Are you an individual ASHRAE member? ☐ YES ☐ NO

2. Which of the following best characterizes your primary job function?
- ☐ Consulting Engineer ☐ Facilities Engr/Mgr ☐ Sales Engineer ☐ Regulator
- ☐ Educator/Research ☐ Utility Representative ☐ Design Engineer ☐ Student
- ☐ Code Official ☐ Contractor/Installer ☐ Architect ☐ Other _____
3. What is the principal activity of your firm?
- ☐ Consulting (Engineering or Architectural) ☐ Manufacturing
- ☐ Contracting/Design-Build ☐ Manufacturing Representative
- ☐ Building Owner & Facility Management ☐ Other _____
4. Which describes your highest level of education?
- ☐ High School ☐ Associates Degree/Certificate Program ☐ Bachelor's Degree
- ☐ Masters Degree ☐ Doctoral Degree
5. Why did you attend? (Check one) ☐ Personal choice ☐ Employer recommendation
6. Would you prefer for Middle East/Northern Africa courses to start on Saturday or on Sunday? ☐ Saturday ☐ Sunday
7. How did you become aware of this training?
- ☐ Associate at work ☐ ASHRAE/Newsletter/Publication ☐ ASHRAE web site
- ☐ ASHRAE Chapter ☐ ASHRAE brochure mailing to members ☐ ASHRAE Social Media
- ☐ ASHRAE email ☐ Other _____
8. What was your primary reason to register for this training?
- ☐ New to HVAC&R industry ☐ Recent college graduate (1 year or less) ☐ Knowledge/CEUs/Credits
- ☐ New job or new job requirements ☐ Other _____
9. Was the course content suitable for the Middle East/Northern Africa region? ☐ YES ☐ NO
- Why or why not?
10. What changes would you make to this training?
11. What topics would you recommend for other ASHRAE courses or seminars?

GENERAL COMMENTS:

ASHRAE
Consolidated
12 Months ended June 30, 2019

REVENUES

| | |
|--|-----------|
| 31 Membership Dues Earned Income | \$7,779.9 |
| 32 Publication Sales Income | 3,447.6 |
| 34 Advertising Income - Display | 3,078.7 |
| 34 Advertising Income - Classified | 10.9 |
| 34 Advertising Income - On-line | 868.6 |
| 35.1 Meeting & Seminar Income | 1,548.2 |
| 35.2 Certification Registration | 218.7 |
| 35.3 Education Registration | 1,642.7 |
| 37 Special Project Income | 74.3 |
| 38 Contribution Income | 2,295.3 |
| 41.1 AHR Exposition Income | 5,741.8 |
| 41.2 Contributions and Matching Gifts | 109.5 |
| 41.3 Exposition Income - Other Countries | 234.0 |
| 44 Reserve Transfers | 890.0 |
| 46 Miscellaneous Income | 805.2 |

TOTAL REVENUES **28,745.4**

EXPENSES:

| | |
|--|---------|
| 51 Salary Expense | 9,616.2 |
| 52 Payroll Taxes, Benefits, Personnel Exp | 2,607.8 |
| 61 Publishing and Promotion Expense | 3,238.6 |
| 64 Meetings & Conferences Expense | 2,477.7 |
| 66 Travel Expense | 2,169.0 |
| 68 Awards, Certif, Logo Cost of Goods Sold | 232.6 |
| 71 Research Projects & Grants Expense | 2,226.6 |
| 73 Special Projects Expense | 111.4 |
| 76 Public Relations Expense | 70.5 |
| 78 Occupancy & Insurance | 768.3 |
| 82 Office Expense and Organizational Dues | 1,628.9 |
| 84 Outside Services Expense | 2,242.6 |
| 88 Other Expense | 798.0 |
| 88.1 Prepaid Expense (contra acct) | (46.3) |
| 89 Opportunity Fund | 150.0 |
| 90 Depreciation Expense | 379.1 |

TOTAL EXPENSES **28,671.0**

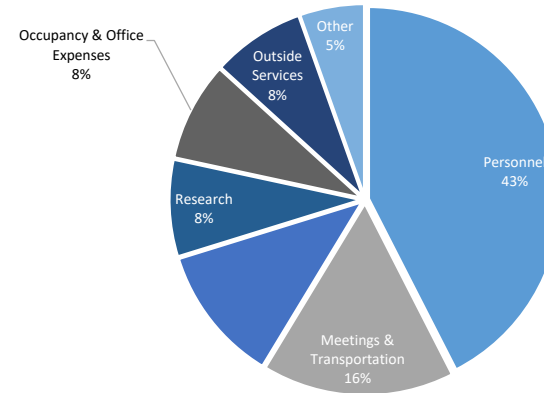
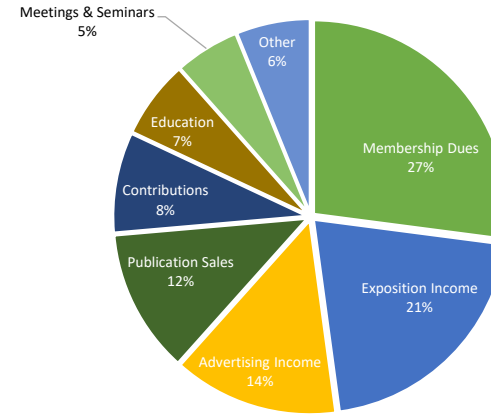
SURPLUS (DEFICIT) before reserve income 74.4

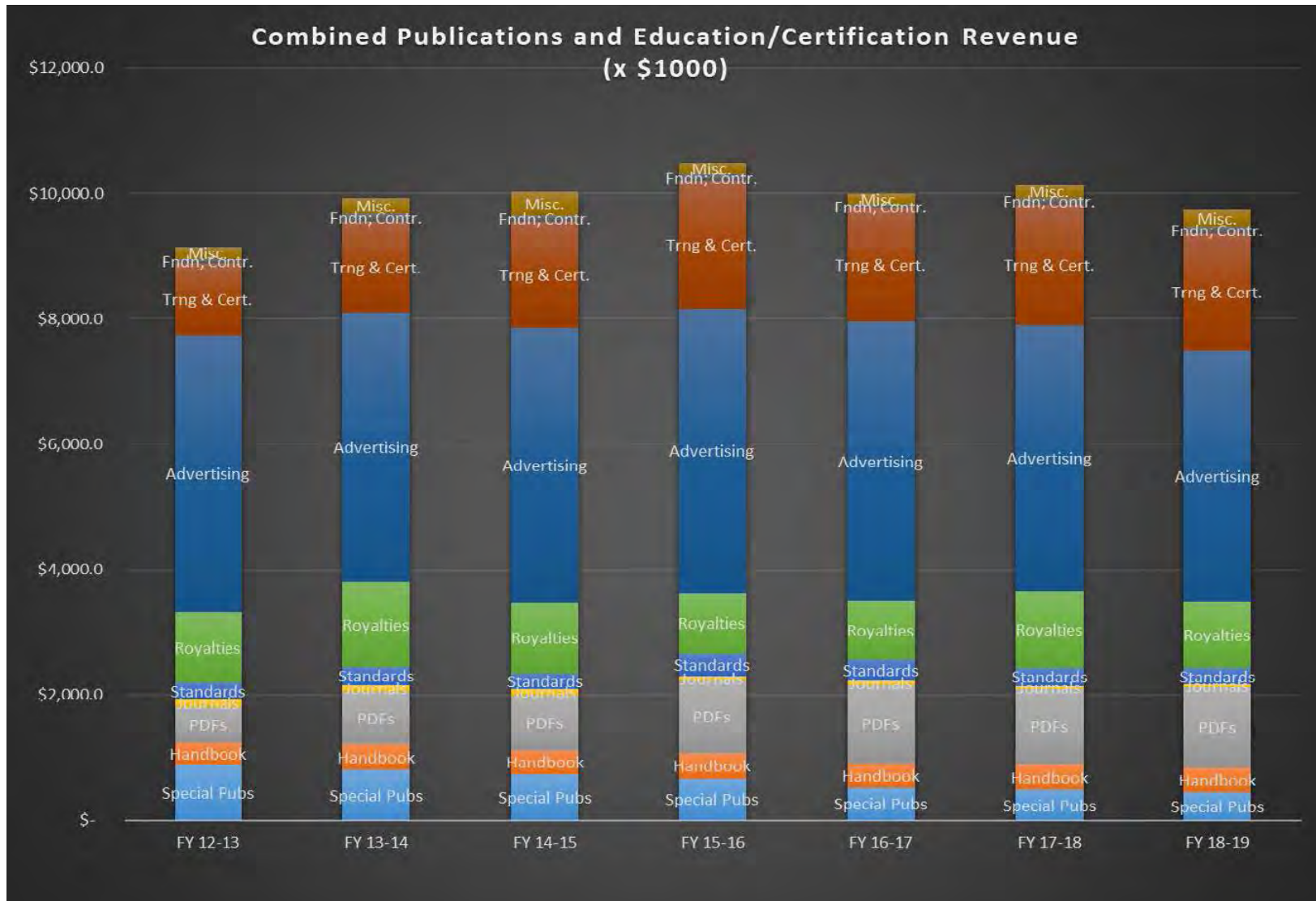
| | | |
|---------------------|-----------|------|
| Source of Funds | | |
| Membership Dues | \$7,779.9 | 27% |
| Exposition Income | 5,975.8 | 21% |
| Advertising Income | 3,958.2 | 14% |
| Publication Sales | 3,447.6 | 12% |
| Contributions | 2,404.8 | 8% |
| Education | 1,861.4 | 6% |
| Meetings & Seminars | 1,548.2 | 5% |
| Other | 1,769.5 | 6% |
| REVENUES | \$ 28,745 | 100% |

| | | |
|--------------------------------|-----------|------|
| Application of Funds | | |
| Personnel | 12,177.7 | 42% |
| Meetings & Transportation | 4,646.7 | 16% |
| Publications, Communications & | 3,309.1 | 12% |
| Research | 2,338.0 | 8% |
| Occupancy & Office Expenses | 2,397.2 | 8% |
| Outside Services | 2,242.6 | 8% |
| Other | 1,559.7 | 5% |
| EXPENSES | \$ 28,671 | 100% |

Attachment A

Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando





Definitions

Revenue

Sales for a product or service in \$US

Variable Margin

Revenue - direct costs to provide product/service that vary with volume e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship = \$45 Variable Margin or 45% Variable Margin

Gross Margin

Revenue - direct costs to provide product/service that vary with volume - staff labor directly associated with product of service e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship - \$25 Staff Labor = \$20 Gross Margin or 20% Gross Margin

Attachment A
Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

| SY 18-19 | Members Council | | Pub/Ed Council | | | | Corporate | |
|-----------------------|--------------------------|----------------------|----------------|-------------|------------|---------------|------------|--|
| | Membership Dues/Handbook | Meetings/Conferences | Publications | Advertising | Education | Certification | Expo | |
| Revenue | \$ 8,151.2 | \$ 1,589.2 | \$ 3,041.8 | \$ 4,073.6 | \$ 1,870.2 | \$ 225.7 | \$ 5,975.8 | |
| Direct Expenses | | | | | | | | |
| Staff Labor | 3,112.4 | 771.1 | 869.5 | 1,567.5 | 464.6 | 162.8 | | |
| Promotion | 435.6 | 34.7 | 64.8 | 96.1 | 31.7 | 8.9 | | |
| Materials | 769.2 | - | 358.5 | 657.3 | 109.6 | - | | |
| Commissions | - | 8.6 | - | 742.5 | | | | |
| Shipping/Postage | 376.9 | 0.6 | 162.9 | 566.5 | 33.0 | 4.9 | | |
| Meeting/Training Cost | 281.7 | 1,310.1 | 21.7 | 3.3 | 715.6 | - | | |
| Travel | 846.1 | 69.8 | 33.3 | 26.2 | 17.6 | 5.4 | | |
| Dev/Outside Services | 501.4 | 113.0 | 510.1 | 124.2 | 267.2 | 178.6 | | |
| Credit Card Charges | 221.0 | 44.9 | 44.4 | 1.4 | 53.5 | 6.1 | | |
| Bad Debt | - | - | 7.0 | 79.4 | | | | |
| Other/Misc. | 136.7 | 82.5 | 0.2 | 64.6 | 28.9 | 0.3 | | |
| Total Direct Expenses | 6,881.0 | 2,455.3 | 2,072.4 | 3,629.0 | 1,721.7 | 367.0 | - | |
| Variable Margin \$ | 4,582.6 | (75.0) | 1,838.9 | 1,712.1 | 613.1 | 21.5 | 5,975.8 | |
| Variable Margin % | 56% | -5% | 60% | 42% | 33% | 10% | 100% | |
| Gross Margin \$ | 1,470.2 | \$(846.1) | \$ 969.4 | \$ 144.6 | \$ 148.5 | \$(141.3) | \$ 5,975.8 | |
| Gross Margin % | 18% | -53% | 32% | 4% | 8% | -63% | 100% | |

NOTES

"Staff Labor" includes salary + bennies

"Staff Labor" includes salary + bennies

"Staff Labor" includes salary + bennies

"Staff Labor" includes salary + bennies

"Staff Labor" includes salary + bennies

"Staff Labor" includes salary + bennies

"Staff Labor" includes salary + bennies

BOD/Respective Committees and Overhead costs not included in Margin Analysis

BOD/Respective Committees and Overhead costs not included in Margin Analysis

BOD/Respective Committees and Overhead costs not included in Margin Analysis

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BOD/Respective Committees and Overhead costs not included in Margin Analysis

BOD/Respective Committees and Overhead costs not included in Margin Analysis

There is \$8M in corp overhead. Cost is spread across all councils Corp overhead includes exec staff, BOD, marketing IT, Business Dev etc

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Corp Overhead is allocated based on salaries. For PEC the allocation drives it into a loss position

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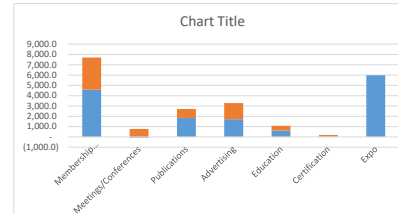
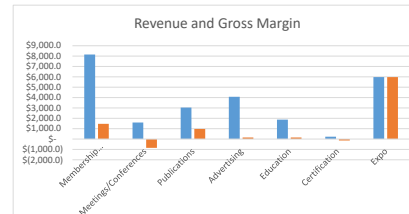
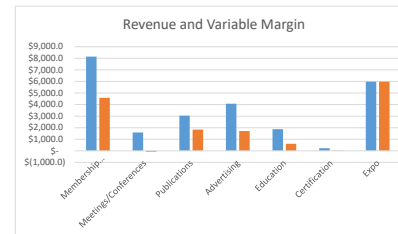
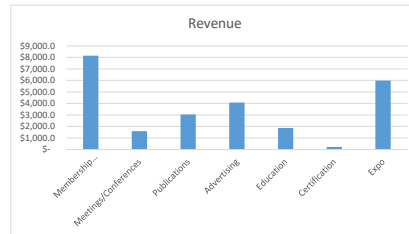
Membership labor is high because it includes MC staff, TC staff PEC staff associated with Handbook Handbook printing and frt cost included in MC as it is a member benefit

Publication Revenue include ~\$1M in royalties

The revenue for Advertising comes from advertising sales in Journal, HPB Cost of journal, Research Journal and HPB is in advertising (PEC) There is no revenue from the Journal issues given to members because it is considered a member benefit

Expo has no real direct costs (it's pure margin)

\$466k in Handbook revenue in MC (copies sold to non members)



Definitions
Revenue
Variable Margin
Gross Margin

Sales for a product or service in \$US
Revenue - direct costs to provide product/service that vary with volume e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship = \$45 Variable Margin or 45% Variable Margin
Revenue - direct costs to provide product/service that vary with volume - staff labor directly associated with product of service e.g. handbook revenues is \$100 - \$50 to print book - \$5 to ship - \$25 Staff Labor = \$20 Gross Margin or 20% Gross Margin

Attachment A
Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

PEC Revenue and Margin

| Current Situation | | Publications | | Advertising | | Education | | Certification | | TOTAL |
|-------------------|-------------------------------|--------------|-------|-------------|-------|-----------|-------|---------------|-------|----------|
| | Current Revenue | \$ | 3,042 | \$ | 4,074 | \$ | 1,870 | \$ | 226 | \$ 9,211 |
| | Current Gross margin (\$1000) | \$ | 969 | \$ | 145 | \$ | 149 | \$ | (141) | \$ 1,121 |
| | Current Gross Margin % | | 32% | | 4% | | 8% | | -63% | 12% |
| | | | | | | | | | | |

| Proposed Goals | | Publications | | Advertising | | Education | | Certification | | TOTAL |
|----------------|------------------------------------|--------------|-------|-------------|-------|-----------|-------|---------------|-----|-----------|
| | Proposed Revenue Goal | \$ | 4,000 | \$ | 4,100 | \$ | 2,500 | \$ | 500 | \$ 11,100 |
| | Proposed Gross Margin (\$1000) | \$ | 1,280 | \$ | 205 | \$ | 800 | \$ | 100 | \$ 2,385 |
| | Proposed Gross Margin (%) | | 32% | | 5% | | 32% | | 20% | 21% |
| | Proposed Revenue Goal - AY | \$ | 3,500 | \$ | 4,200 | \$ | 2,600 | \$ | 500 | \$ 10,800 |
| | Proposed Gross Margin (\$1000) -AY | \$ | 1,150 | \$ | 252 | \$ | 858 | \$ | 100 | \$ 2,360 |
| | Proposed Gross Margin (%) -AY | | 33% | | 6% | | 33% | | 20% | 22% |

Hugh

Alice

| | | | | | | |
|------------------|--|--|--|---|--|---|
| Hugh's Thoughts; | | Very good business model. Margins are good. Focus on growing revenue | Numbers paint bad picture but remember the Journal is given away as a member benefit. Change away from print makes advertising revenue more difficult. Work to maintain busies and have advertising cover cost of printing journal | Lots of upside on Revenue. Margin is disappointing. Need to understand and resolve our high cost. | Other organizations do not make much money with Certification but make it up with training. Certification cost is too high. Reconsider our business model and see if we can get cost out (i.e. do we really need to have "ANSI ready" tests? | PEC Generates \$1121k in margin dollars to operate ASHRAE. ASHRAE Corp allocations are based on Staff salary so PEC gets a large amount of corp cost which drives PEC to a loss position. This is just an allocation issue - what is important is margin Dollars which can fund programs. |
|------------------|--|--|--|---|--|---|

| | | | | | |
|-------------------|--|---|---|---|---|
| Alice's Thoughts: | | I'm less bullish than Hugh on publications because of potential revenue loss due to statutory changes (e.g., loss of copyright protection) and increasing access to no-cost publications; I do think revenues could grow by better targeting publications and NOT investing in publications unlikely to sell. | If advertising includes sponsorships, I believe we can do even better here. While there is downward pressure on print sales, sponsorship opportunities and online advertising present growth potential. | I here is tremendous potential with growing our education and training revenues, including through selling these courses to government entities, and partnering with other organizations to leverage our resources, and developing better (and more modern) online courses as there is a demand especially by young people for 365-24-7 access. We could also better leverage our certification program potentially through requiring an ASHRAE course or courses (e.g., this is done by the Association of Energy Engineers) | Possible opportunity to tie regulations to certification requirements. For example, as cities and states work to meet various carbon goals, they may choose to require facility managers to have training and/or certification, or building auditors to be certified. Another opportunity exists to work with DOE to better leverage their "Better Buildings Program" to generate more interest in ASHRAE certifications. |
|-------------------|--|---|---|---|---|

| | | | | | |
|-------------------|--|---|---|---|--|
| Steve's Thoughts: | | Agree good business model but not that easy. Will involve working with partners to execute this. Suggest a more modest goal than what Hugh suggested. The Steve goal is in two fiscal years. After that growth might be more aggressive. Objective is how to provide digital content in usable form to the individual member and not just corporate license holder. | Agree with Hugh's target. but could be higher. Emphasis shifts from selling space to giving branding opportunities and thought leadership exposure. This is tied to integrated marketing of online and print exposure. Both have to work hand in glove. If more electronic opportunities are offered (such as sponsored blogs) revenue can grow more quickly. Also development of regional market opportunities can further offer opportunities. We are weak in doing this now. | Too aggressive because of the member/volunteer nature of ASHRAE. What Hugh suggested is reasonable IF there was not concern for chapters in developing countries to offer training at ASHRAE prices and more decentralization of educational offerings. Also, we compete with ourselves with DL program and webinar program form CTTC. If all educational activities were centralized, Hugh's suggestion would work; but if not, I would go with my suggestion. | I think many organizations make money from certification and for sure it is attached to training. That is the number 1 opportunity for ASHRAE in my view. This is not just a fiscal comment but a comment that relates to the value proposition globally and contribution to the industry. |
|-------------------|--|---|---|---|--|

Society Level Revenue and Margin

| | Current Model | | | | | Proposed Model | | | | |
|------------|----------------|-------------|-------------------|------------------|--------|----------------|-------------|-------------------|------------------|--------|
| | Revenue (\$US) | Revenue (%) | Gross Margin (\$) | Gross Margin (%) | | Revenue (\$US) | Revenue (%) | Gross Margin (\$) | Gross Margin (%) | |
| Membership | \$ 9,740.40 | | 39.1% | \$ 624.1 | 8.1% | \$ 9,740.40 | | 36.3% | \$ 624.1 | 6.9% |
| Expo | \$ 5,975.8 | | 24.0% | \$ 5,975.8 | 77.4% | \$ 5,975.8 | | 22.3% | \$ 5,975.8 | 66.5% |
| PEC | \$ 9,211.30 | | 37.0% | \$ 1,121.20 | 14.5% | \$ 11,100.00 | | 41.4% | \$ 2,385.00 | 26.5% |
| Total | \$ 24,927.50 | | 100.0% | \$ 7,721.1 | 100.0% | \$ 26,816.20 | | 100.0% | \$ 8,984.9 | 100.0% |

ASHRAE
CONSOLIDATED (General and Research)
12 Months Ended June 30

Attachment A
Strategic Business Development Ad Hoc Report to PEC
Margin Analysis - Compiled list for Orlando

| | Actual | Actual | Actual | Actual | Actual | Budget | DRAFT Budget | DRAFT Budget | DRAFT Budget |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | FY 2015 | FY 2016 | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 |
| REVENUES | | | | | | | | | |
| 31 Membership Dues Earned Income | \$7,430.5 | \$7,634.5 | \$7,663.7 | \$7,772.8 | \$7,779.9 | \$8,151.3 | \$8,419.4 | \$8,650.9 | \$8,867.2 |
| 32 Publication Sales Income | 3,483.9 | 3,626.1 | 3,504.1 | 3,664.0 | 3,447.6 | 3,783.7 | 3,864.3 | 3,975.2 | 3,977.2 |
| 34 Advertising Income - Display | 3,710.8 | 3,779.4 | 3,577.7 | 3,294.3 | 3,078.7 | 3,103.1 | 3,008.8 | 2,956.8 | 2,956.8 |
| 34 Advertising Income - Classified | 32.0 | 19.3 | 18.0 | 14.0 | 10.9 | 10.0 | 12.0 | 15.0 | 15.0 |
| 34 Advertising Income - On-line | 595.6 | 715.8 | 821.2 | 899.2 | 868.6 | 1,070.0 | 1,115.0 | 1,160.0 | 1,160.0 |
| 35.1 Meetings/Conferences Income | 1,578.5 | 1,529.9 | 2,151.9 | 1,737.6 | 1,548.2 | 2,426.1 | 2,425.5 | 2,191.7 | 1,981.1 |
| 35.2 Certification Registration | 183.3 | 187.6 | 196.8 | 213.2 | 218.7 | 280.0 | 290.0 | 300.0 | 300.0 |
| 35.3 Education Registration | 1,504.5 | 1,844.8 | 1,611.1 | 1,700.6 | 1,642.7 | 1,960.0 | 2,078.3 | 2,200.5 | 2,200.5 |
| 37 Special Project Income | 316.6 | 3.2 | 14.3 | 62.9 | 74.3 | 98.0 | | | |
| 38 Contribution Income | 2,116.6 | 2,215.6 | 2,223.6 | 2,312.7 | 2,295.3 | 2,577.2 | 2,629.0 | 2,761.9 | 2,761.9 |
| 41.1 AHR Exposition Income | 5,146.6 | 5,168.0 | 5,623.7 | 6,085.7 | 5,741.8 | 6,300.0 | 6,450.0 | 6,500.0 | 6,500.0 |
| 41.2 Contributions and Matching Gifts | 115.0 | 57.0 | 100.0 | 74.5 | 109.5 | 171.3 | 121.5 | 122.1 | 122.1 |
| 41.3 Exposition Income - Other Countries | 145.9 | 34.0 | 162.3 | | 234.0 | | 175.0 | 100.0 | 250.0 |
| 44 Reserve Transfers | 885.7 | 655.3 | 1,089.7 | 1,199.3 | 890.0 | 1,278.7 | 760.0 | 770.0 | 770.0 |
| 46 Miscellaneous Income | 534.4 | 322.7 | 330.7 | 364.7 | 805.2 | 554.7 | 405.4 | 419.3 | 399.3 |
| TOTAL REVENUES | 27,779.9 | 27,793.2 | 29,088.8 | 29,395.5 | 28,745.4 | 31,764.1 | 31,754.2 | 32,123.4 | 32,261.1 |
| EXPENSES: | | | | | | | | | |
| 51 Salaries | 7,910.9 | 8,780.7 | 9,182.9 | 9,730.4 | 9,720.9 | 9,813.6 | 10,051.2 | 10,363.8 | 10,669.6 |
| 52 Payroll Taxes, Benefits, Personnel | 2,536.2 | 2,738.8 | 2,650.4 | 2,875.3 | 2,636.9 | 2,772.7 | 3,059.4 | 3,124.3 | 3,172.8 |
| 61 Publishing and Promotion | 3,776.9 | 3,827.9 | 3,606.9 | 3,411.8 | 3,238.6 | 3,660.5 | 3,585.9 | 3,658.4 | 3,664.4 |
| 64 Meetings/Conferences/Trainings | 2,199.2 | 2,362.8 | 2,657.9 | 2,871.1 | 2,477.7 | 3,156.3 | 3,143.6 | 2,995.8 | 2,791.4 |
| 66 Travel | 2,076.6 | 1,863.8 | 2,263.0 | 2,228.8 | 2,169.0 | 2,413.0 | 2,464.0 | 2,584.7 | 2,580.2 |
| 68 Awards, Certif, Logo Cost of Goods Sold | 164.6 | 158.5 | 212.2 | 175.2 | 232.6 | 173.7 | 177.3 | 186.2 | 186.2 |
| 71 Research Projects & Grants | 2,469.6 | 2,321.1 | 2,725.3 | 2,941.5 | 2,226.6 | 3,002.9 | 2,878.3 | 2,938.7 | 2,938.7 |
| 73 Special Projects | 72.5 | 101.3 | 157.4 | 107.7 | 111.4 | 198.0 | 240.0 | 70.0 | 70.0 |
| 76 Public Relations | 51.0 | 79.4 | 66.7 | 58.1 | 70.5 | 74.6 | 75.9 | 79.1 | 79.1 |
| 78 Occupancy & Insurance | 559.2 | 588.6 | 553.9 | 639.3 | 768.3 | 932.6 | 757.1 | 782.8 | 782.8 |
| 82 Office Expense and Organizational Dues | 1,840.2 | 1,862.7 | 1,778.9 | 1,633.0 | 1,631.3 | 1,816.9 | 1,892.1 | 1,954.9 | 1,954.9 |
| 84 Outside Services | 1,659.7 | 1,713.1 | 1,967.0 | 1,906.3 | 2,243.0 | 2,385.1 | 2,115.8 | 2,240.4 | 2,227.4 |
| 88 Other Expenses | 530.8 | 673.6 | 720.1 | 786.7 | 798.0 | 763.5 | 833.3 | 806.8 | 801.7 |
| 88.1 Prepaid Expenses (contra acct) | 33.8 | (560.5) | (535.1) | (491.5) | (182.9) | | | | |
| 89 Opportunity Fund | 35.5 | | 140.0 | 140.0 | 150.0 | 50.0 | 150.0 | 150.0 | 150.0 |
| 90 Depreciation | 631.9 | 579.3 | 529.5 | 556.9 | 379.1 | 360.0 | 785.0 | 921.9 | 921.9 |
| 91 Allocation of Overhead & BOD | | 0.0 | 0.3 | | | (0.1) | 0.0 | | |
| TOTAL EXPENSES | 26,548.6 | 27,091.1 | 28,677.3 | 29,570.6 | 28,671.0 | 31,573.3 | 32,208.9 | 32,857.8 | 32,991.1 |
| SURPLUS (DEFICIT) before reserve income | 1,231.3 | 702.1 | 411.5 | (175.1) | 74.4 | 190.8 | (454.7) | (734.4) | (730.0) |
| 91.2 Gain on Sale of HQ | | | | | 6,174.5 | | | | |
| 91.5 Headquarters Building Contributions | 153.9 | | | | 361.0 | | | | |
| 92 Non-recurring Expenses | 639.5 | 477.9 | 69.5 | 163.4 | 114.5 | 60.0 | | | |
| Reserve Investment Income: | | | | | | | | | |
| 95 Investmt Income - Reserves (net of exp) | 222.5 | (186.1) | 2,219.6 | 1,402.9 | 742.7 | 895.6 | 913.5 | 959.2 | 959.2 |
| 96 Transfer Reserves Portion Used Currently | (885.7) | (655.3) | (1,089.7) | (1,244.3) | (1,122.2) | (1,260.2) | (760.0) | (770.0) | (770.0) |
| Remaining Reserve Investment Income | (663.2) | (841.4) | 1,129.9 | 158.6 | (379.5) | (364.6) | 153.5 | 189.2 | 189.2 |
| OVERALL SURPLUS (DEFICIT) after reserve income | 82.5 | (617.2) | 1,471.9 | (179.9) | 6,115.9 | (233.8) | (301.2) | (545.2) | (540.8) |

Attachment A

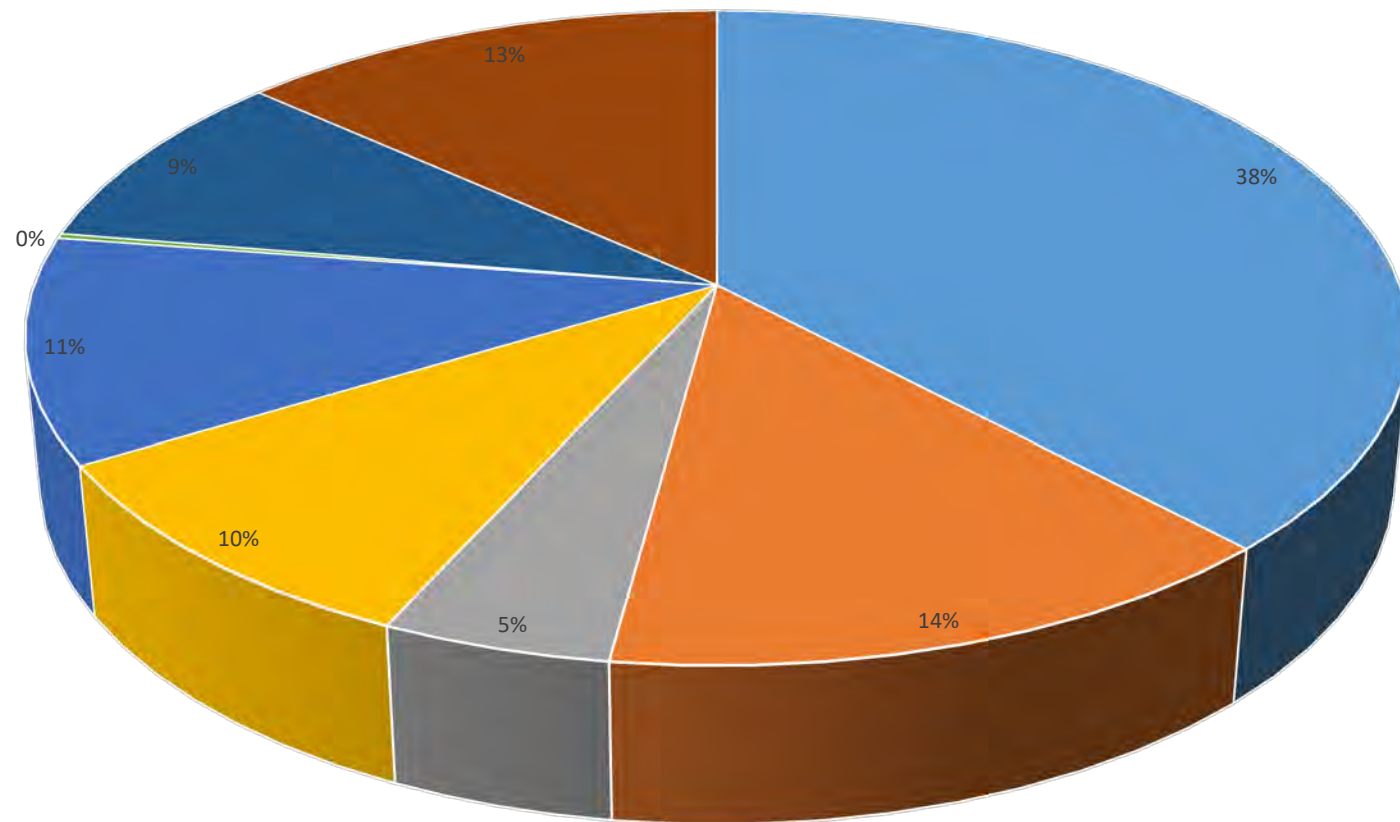
Strategic Business Development Ad Hoc Report to PEC

Margin Analysis - Compiled list for Orlando

| | | |
|---------------------------|-------|-------|
| 1 Consulting Engineer | 18445 | 32.9% |
| Student | 6226 | 11.1% |
| Manufacturer | 5057 | 9.0% |
| 1 Contractor | 4995 | 8.9% |
| 1 Manu. Rep | 3774 | 6.7% |
| Other | 3204 | 5.7% |
| Gov't | 3159 | 5.6% |
| 1 Design Build | 2923 | 5.2% |
| 1 Architect | 2874 | 5.1% |
| 1 Sales Engineer | 915 | 1.6% |
| 1 Commerical Facility | 759 | 1.4% |
| 1 Industrial Facility | 746 | 1.3% |
| 1 Property Manager | 723 | 1.3% |
| 1 Distributor | 663 | 1.2% |
| Utility | 575 | 1.0% |
| Association | 530 | 0.9% |
| 1 Educational Institution | 380 | 0.7% |
| 1 Research | 134 | 0.2% |
| Library | 11 | 0.0% |
| | 56093 | 100% |

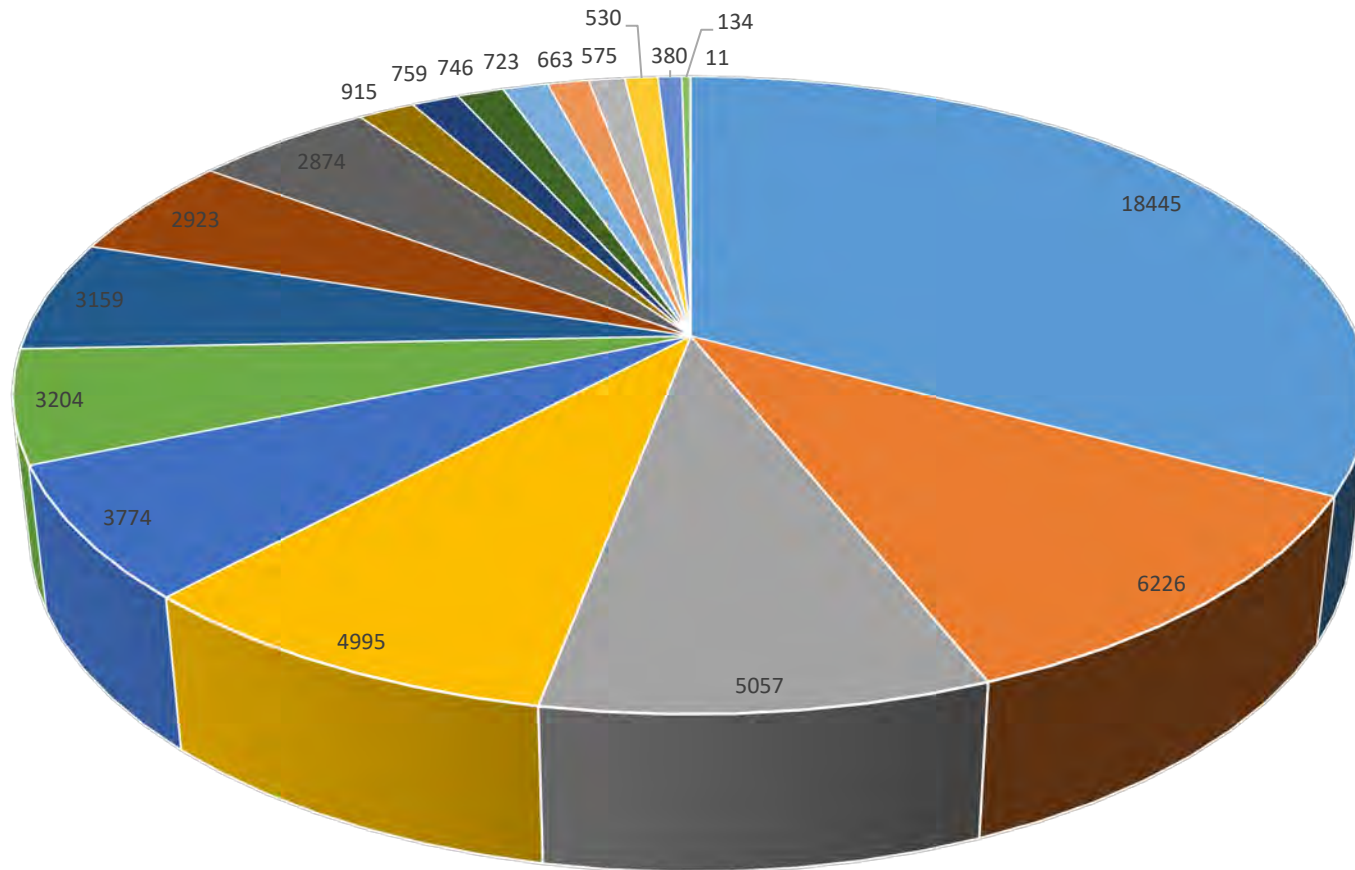
| | | |
|----------------------|-------|-----|
| Design | 21319 | 38% |
| Construction | 7918 | 14% |
| Operations and Maint | 2608 | 5% |
| Sales | 5352 | 10% |
| Student | 6226 | 11% |
| Research | 134 | 0% |
| Manufacturer | 5057 | 9% |
| Misc | 7479 | 13% |

Membership Percent



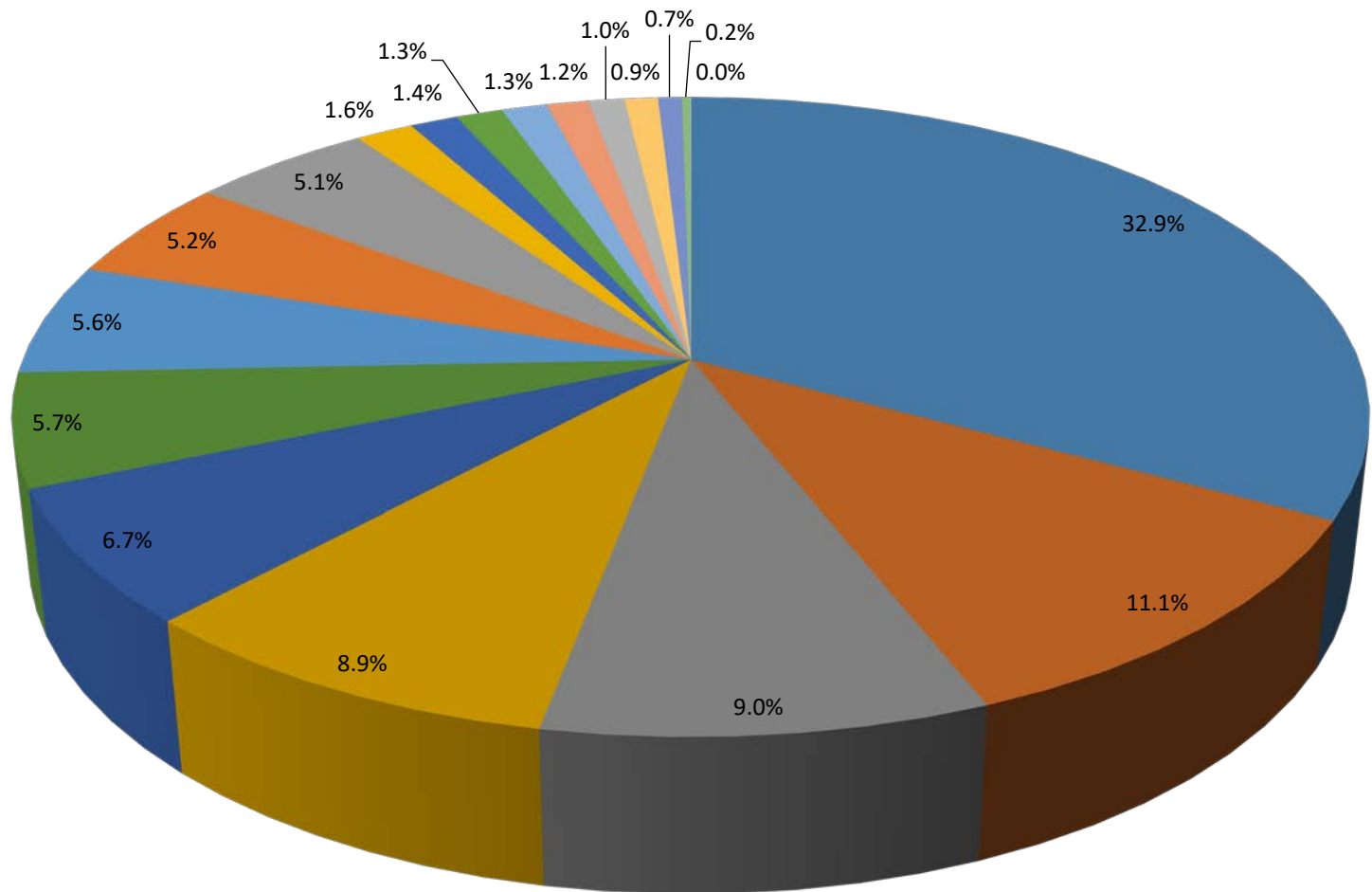
■ Design ■ Construction ■ Operations and Maint ■ Sales ■ Student ■ Research ■ Manufacturer ■ Misc

Membership headcount



- | | | | | |
|---------------------|-------------------------|------------------|-------------|----------------|
| Consulting Engineer | Student | Manufacturer | Contractor | Manu. Rep |
| Other | Gov't | Design Build | Architect | Sales Engineer |
| Commerical Facility | Industrial Facility | Property Manager | Distributor | Utility |
| Association | Educational Institution | Research | Library | |

Membership Percent



- | | | | | |
|---------------------|-------------------------|------------------|-------------|----------------|
| Consulting Engineer | Student | Manufacturer | Contractor | Manu. Rep |
| Other | Gov't | Design Build | Architect | Sales Engineer |
| Commercial Facility | Industrial Facility | Property Manager | Distributor | Utility |
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Report to Pub/Ed Council

Winter Meeting
Orlando, Florida

Presenter: Timothy G. Wentz, PE, HBDP | Fellow/ Presidential Member ASHRAE

Charge to the Ad Hoc

- Review the current business models and operating practices to determine how revenues/profits could be enhanced.
- Survey members and customers to establish if a demand exists for products and services that ASHRAE may be able to provide
- Study products and services being provided by bodies similar to ASHRAE both in North America and internationally which ASHRAE can provide
- Recommend an outline of potential new offerings with ballpark costs and revenue projections.
- Ensure alignment with the Strategic Plan, particularly Goals 1a, 1b and 3a

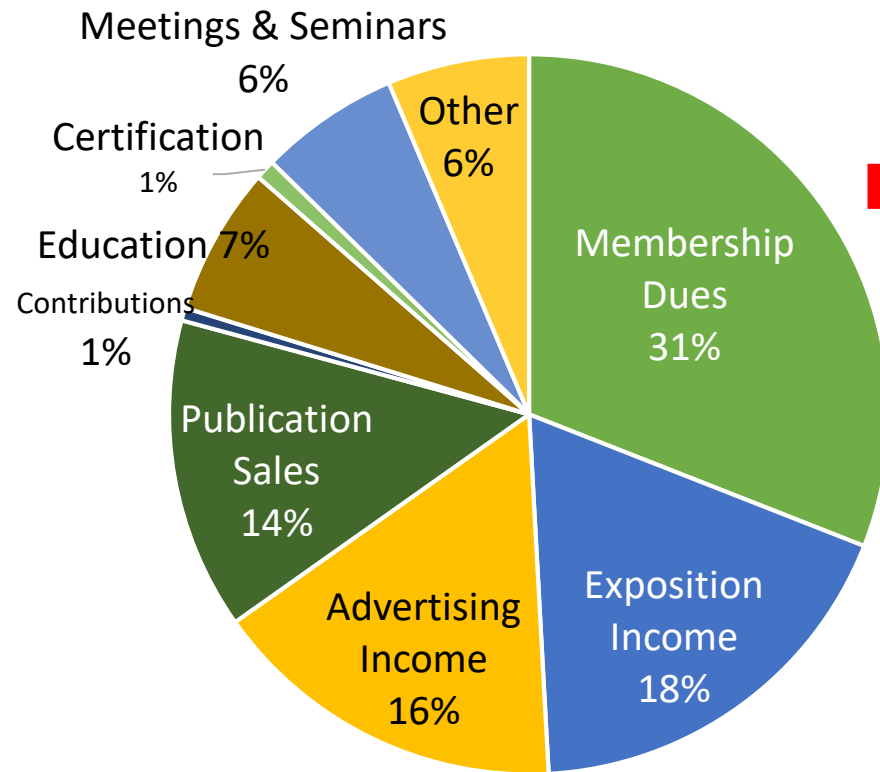


Charge to the Ad Hoc

- Determine where we are today
- Ascertain where we want to be
- Develop a plan to attain our goal



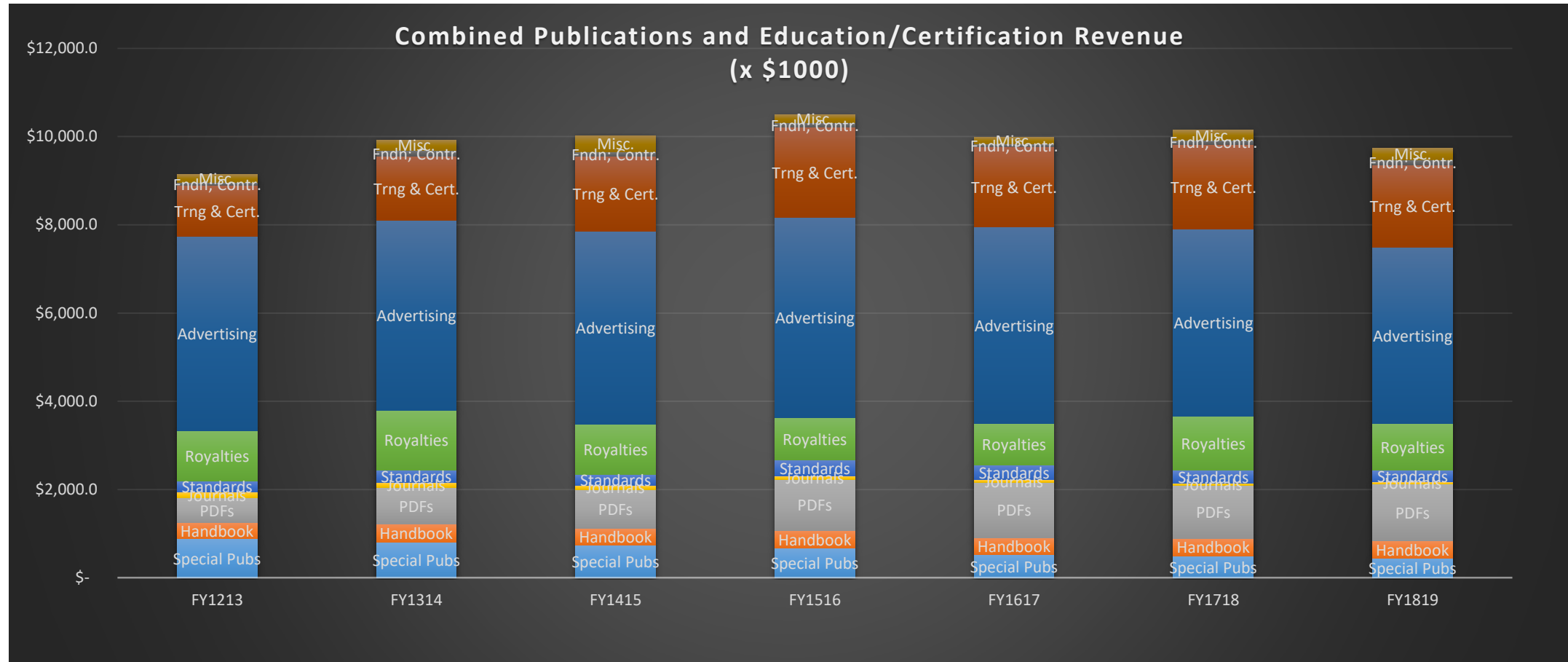
Nothing New



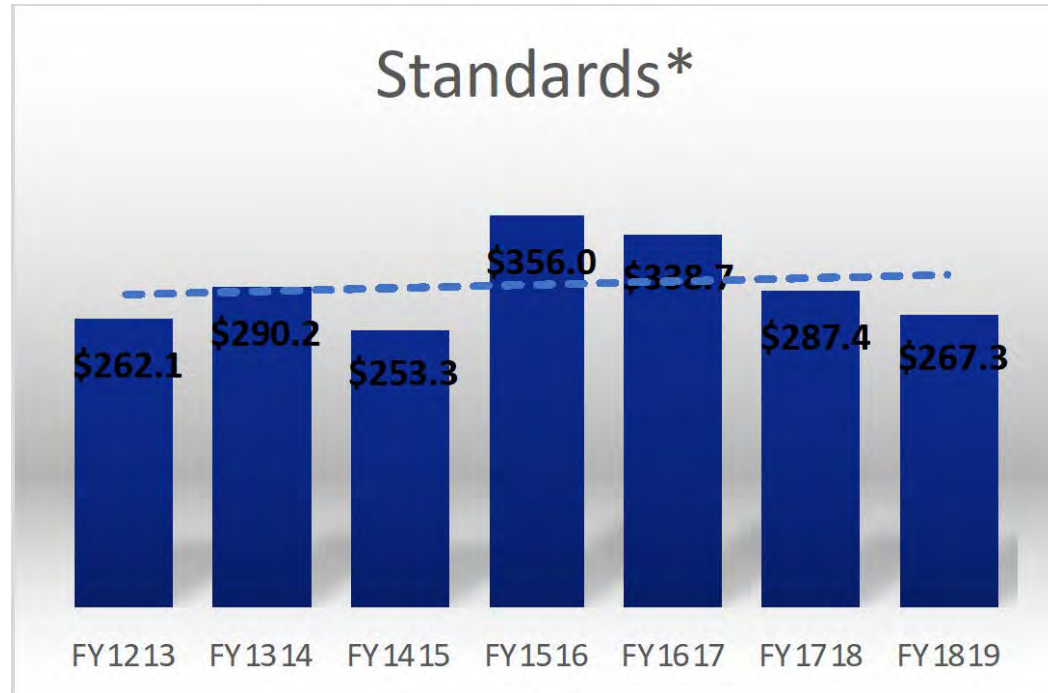
Source of Funds

| | | |
|---------------------|-----------|------|
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| Publication Sales | 3,447.6 | 14% |
| Certification | 218.7 | 1% |
| Education | 1,642.7 | 7% |
| Contributions | 141.8 | 1% |
| Meetings & Seminars | 1,548.2 | 6% |
| Other | 1,569.5 | 6% |
| REVENUES | \$ 24,627 | 100% |

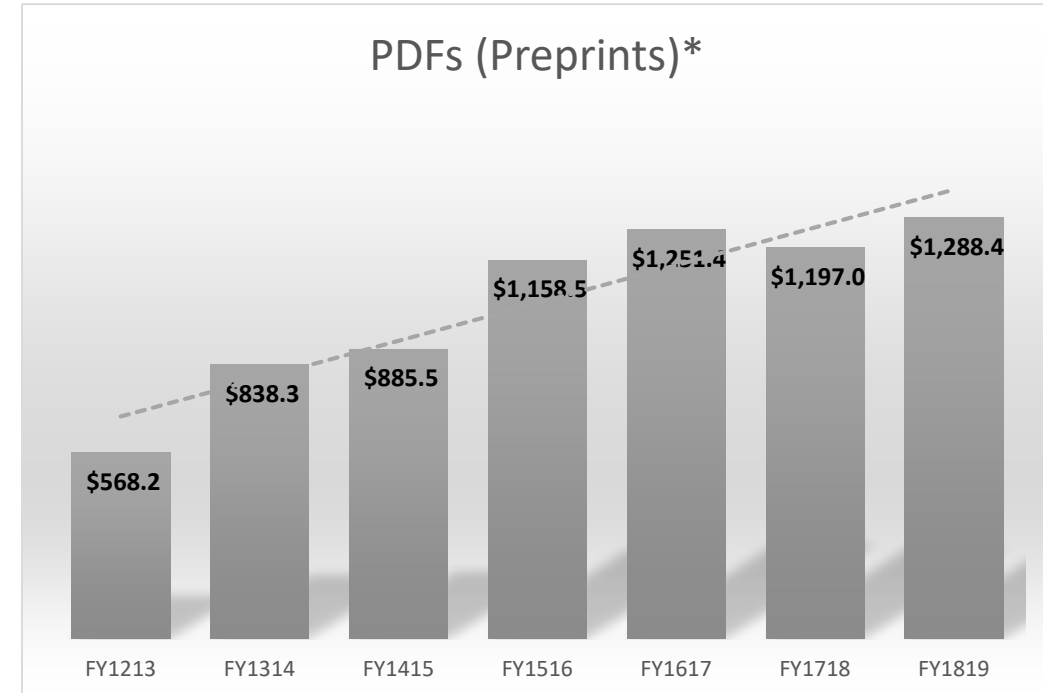
Nothing New



Nothing New

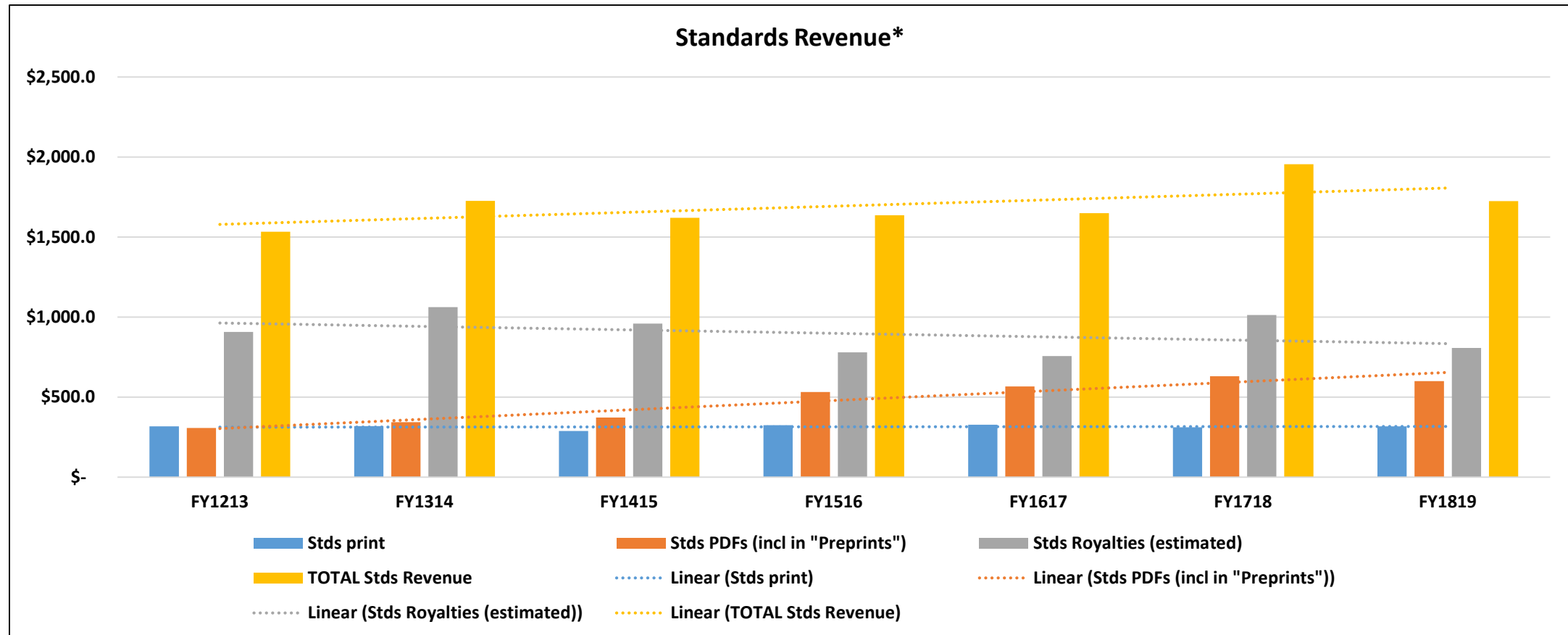


*Print only. PDF's are in Preprints

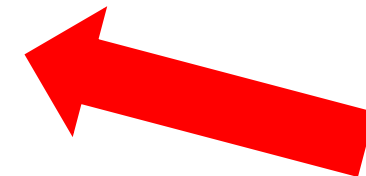


*includes PDF's of standards

Nothing New



*Does not include Overhead or BOD Council allocated costs (\$8.5MM in FY18-19)



Nothing New

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- ASHRAE has about \$8M US in overhead
- Overhead is assigned to Councils based upon staff assignment
- PEC has portions of an additional 17 staff assigned to the Council from support areas
 - Mail room
 - Accounting
 - Etc.
- Overhead is then assigned on the total staff, support staff included



OVERHEAD

Nothing New

Pub/Ed Council Surplus/Deficit Report

| | 2017 Thousands USD | 2018 Thousands USD | 2019 Thousands USD | Trend versus 2017 |
|---|-----------------------|-----------------------|-----------------------|----------------------|
| Total Revenue | 9,955.6 | 10,108.9 | 9,691.3 | ↓ |
| Total Expenses Incl OH & BOD | 12,484.2 | 13,361.7 | 13,234.8 | ↑ |
| Total (Deficit) after OH + BOD after | 2,528.6 | 3,252.8 | 3,543.5 | ↑ |

Note: All figures taken from Society Financial Reports.

Nothing New

Society Surplus/Deficit Reports

| Fiscal Year | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | AVE |
|------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------|
| Budget Surplus/(Deficit) | \$ (158) | \$ (335) | \$ 674 | \$ (449) | \$ (283) | \$ (301) | \$ (13) | |
| Actual Surplus/(Deficit) | \$ 320 | \$ 404 | \$ 1,231 | \$ 702 | \$ 411 | \$ (175) | \$ 75 | |
| Positive/Negative Difference | + | + | + | + | + | + | + | |
| Difference (absolute) | \$ 478 | \$ 739 | \$ 558 | \$ 1,151 | \$ 694 | \$ 126 | \$ 88 | |
| % Error | 149% | 183% | 45% | 164% | 169% | 72% | 118% | 129% |

Nothing New

- What picture does this data paint for the Board?



And now for something completely different



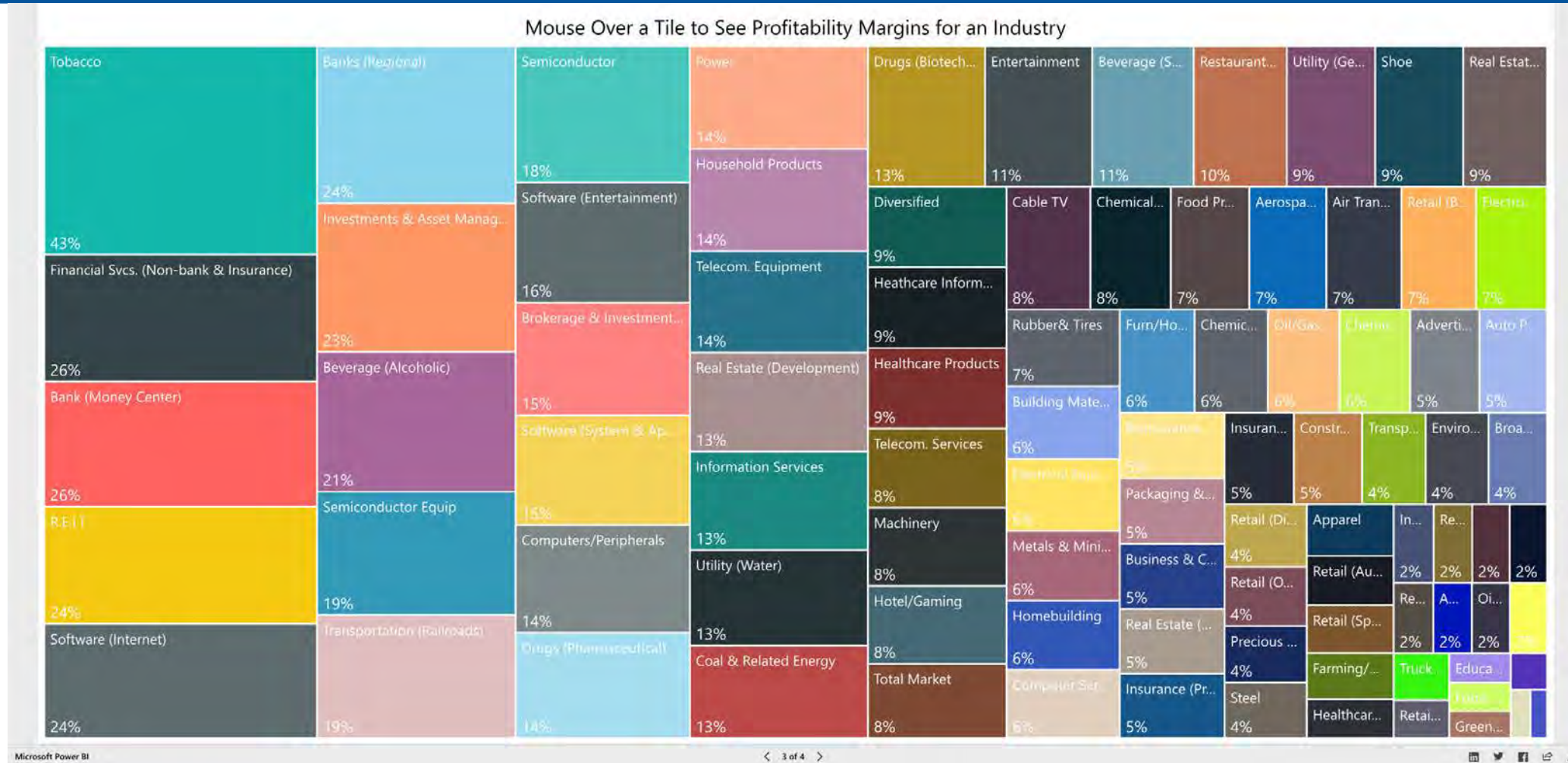
A Monty Python Moment

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- ASHRAE has a very strong and robust accounting system
 - Accurately records revenue and expenses in a consistent manner in accordance with generally accepted accounting rules
- Significant difference between accounting and finance
 - Finance - Management discipline focusing on margins



The World of Margins



From Financial Rhythm by Phillip Campbell, based on data from
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How the Picture Changes

- The language of finance

Revenue = Sales for a product or service (\$US)

Variable Margin = Revenue

-Direct costs of product/service that vary with volume

Gross Margin = Revenue

-Direct costs of product/service that vary with volume

- Staff labor directly associated with product/service



How the Picture Changes

| Revenue Source | Gross Margin | | |
|----------------------|--------------|-------|-------|
| | 16-17 | 17-18 | 18-19 |
| Dues | 16% | 20% | 18% |
| Publications | 40% | 30% | 32% |
| Advertising | 12% | 7% | 4% |
| Meetings/Conferences | -21% | -54% | -53% |
| Education | 9% | 14% | 8% |
| Certification | -87% | -52% | -63% |
| AHR Expo | 100% | 100% | 100% |

| Pub/Ed Council | | | | |
|-----------------------|----------------|-------------|-----------|---------------|
| SY 18-19 | Publications** | Advertising | Education | Certification |
| Revenue | \$3,041.8 | \$4,073.6 | \$1,870.2 | \$225.7 |
| Direct Expenses | | | | |
| Staff Labor | 869.5 | 1,567.5 | 464.6 | 162.8 |
| Promotion | 64.8 | 96.1 | 31.7 | 8.9 |
| Materials | 358.5 | 657.3 | 109.6 | - |
| Commissions | - | 742.5 | | |
| Shipping/Postage | 162.9 | 566.5 | 33.0 | 4.9 |
| Meeting/Training | | | | |
| Costs | 21.7 | 3.3 | 715.6 | - |
| Travel | 33.3 | 26.2 | 17.6 | 5.4 |
| Dev/Outside | | | | |
| Services | 510.1 | 124.2 | 267.2 | 178.6 |
| Credit Card | | | | |
| Charges | 44.4 | 1.4 | 53.5 | 6.1 |
| Bad Debt | 7.0 | 79.4 | | |
| Other/Misc. | 0.2 | 64.6 | 28.9 | 0.3 |
| Total Direct Expenses | 2,072.4 | 3,929.0 | 1,721.7 | 367.0 |
| Variable Margin \$ | 1,838.9 | 1,712.1 | 613.1 | 21.5 |
| Variable Margin % | 60% | 42% | 33% | 10% |
| Gross Margin \$ | \$969.4 | \$144.6 | \$148.5 | \$(141.3) |
| Gross Margin % | 32% | 4% | 8% | -63% |

How the Picture Changes

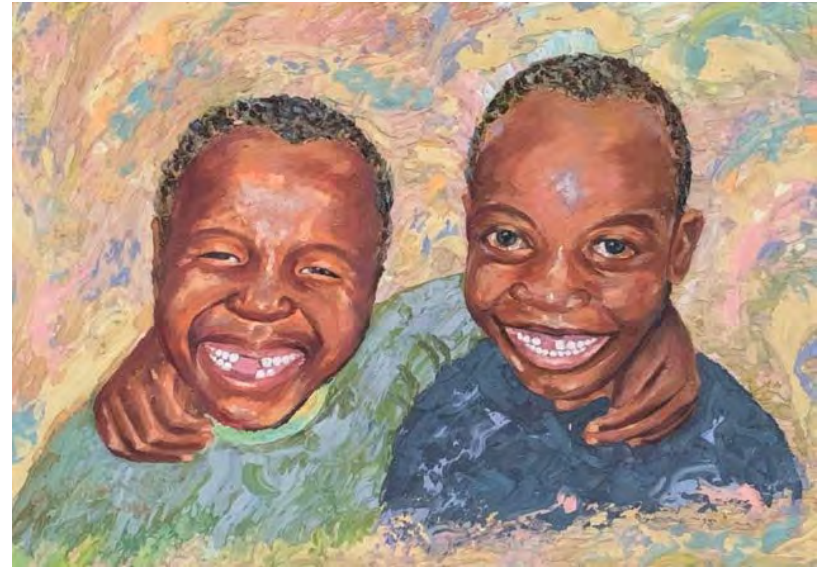
We can see clearly now (apologies to Johnny Nash):

- Publications operates at a strong gross margin
- Advertising operates at a low gross margin
 - This is OK, as advertising as ASHRAE is required to pay tax on “business unrelated to its primary business”.
- Education is operating at a low gross margin
- Certification is operating at a negative gross margin



How the Picture Changes

- Looking at ASHRAE's products through the lens of finance paints a much different picture



How the Picture Changes

- A focus on margins
 - Revenue is only important only in that it allows you to identify and analyze margins
 - Improves clarity and transparency – an ASHRAE core value
 - Better decision-making owing to deeper understanding of product contributions
 - Greater ability to identify and seize strategic opportunities
 - The path forward on product evaluation becomes much simpler



How the Picture Changes

- Future work of the ad hoc is cast in a completely new light
 - For products and services with low margins, make recommendation on how to lower cost or raise price (or both)
 - For products with good margins make recommendations on how to increase sales
 - Are we already high in market share or is there room to grow?
 - Look at other revenue streams (new products and services) based on what we see other organizations offering and emerging needs in the marketplace) and evaluate by margin



How the Picture Changes

Enhanced Goal Setting – Where We Want To Be

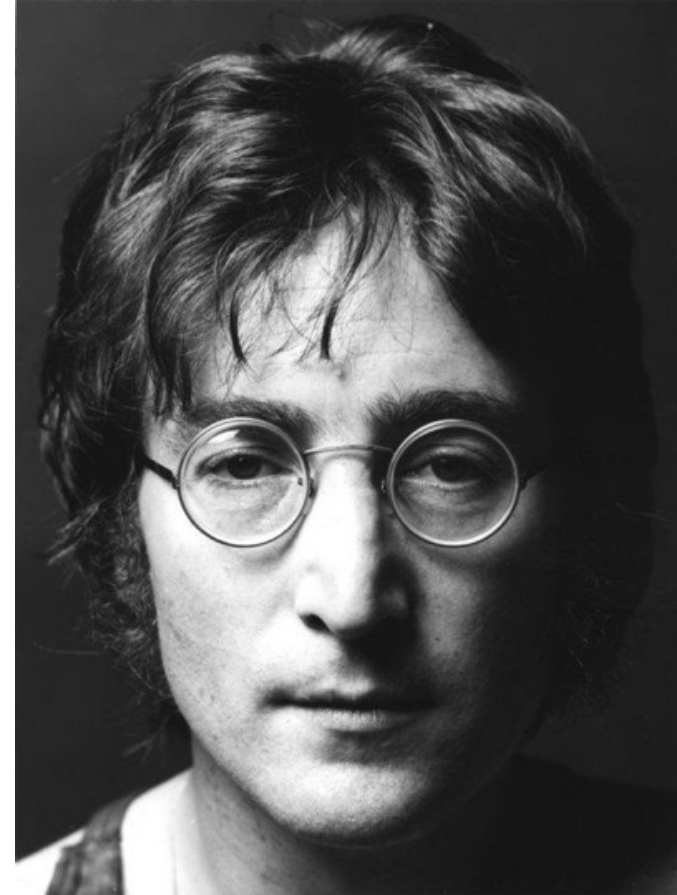
| | Publications | Advertising | Education | Certification | Goal | Current Value |
|------------------------------|--------------|-------------|-----------|---------------|----------|---------------|
| Proposed Revenue Goal | \$4,500 | \$4,300 | \$2,600 | \$600 | \$12,000 | \$9,211 |
| Proposed Gross Margin | \$1,440 | \$215 | \$625 | \$120 | \$2,400 | \$1,121 |
| Proposed Gross Margin | 32% | 5% | 24% | 20% | 20% | 12% |

*In \$1,000 US



How the Picture Changes

- Imagine an ASHRAE better focused on financial performance:
 - Expanded and enhanced revenue streams
 - Less reliance on expo income
 - More resilient to large economic swings
 - Faster, more agile in seizing opportunities
 - Better forecasting of financial position
 - Greatly enhanced decision-making



Questions





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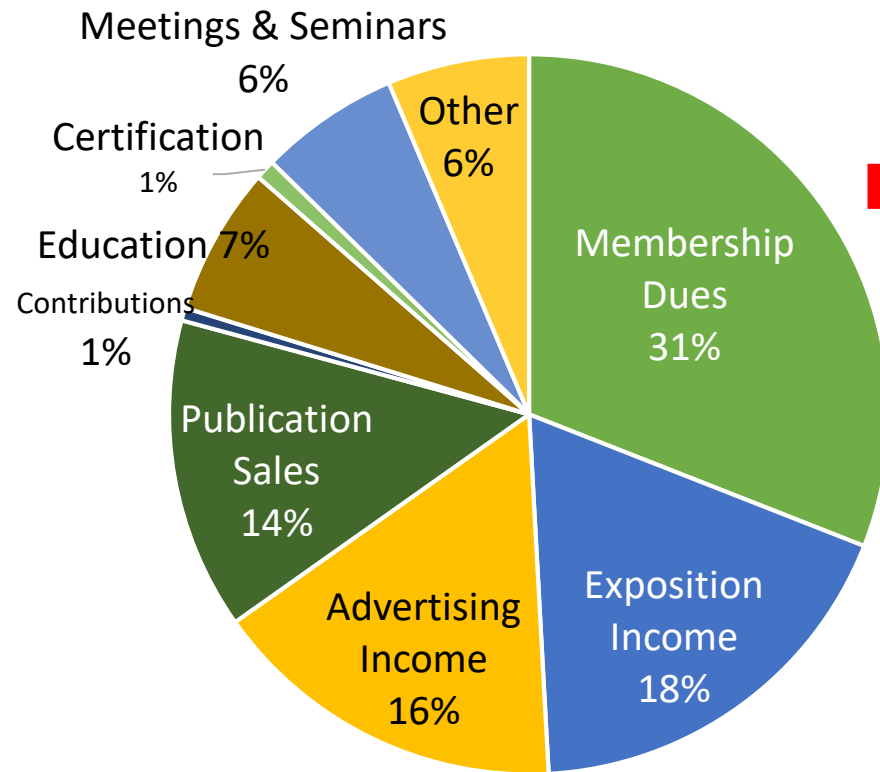


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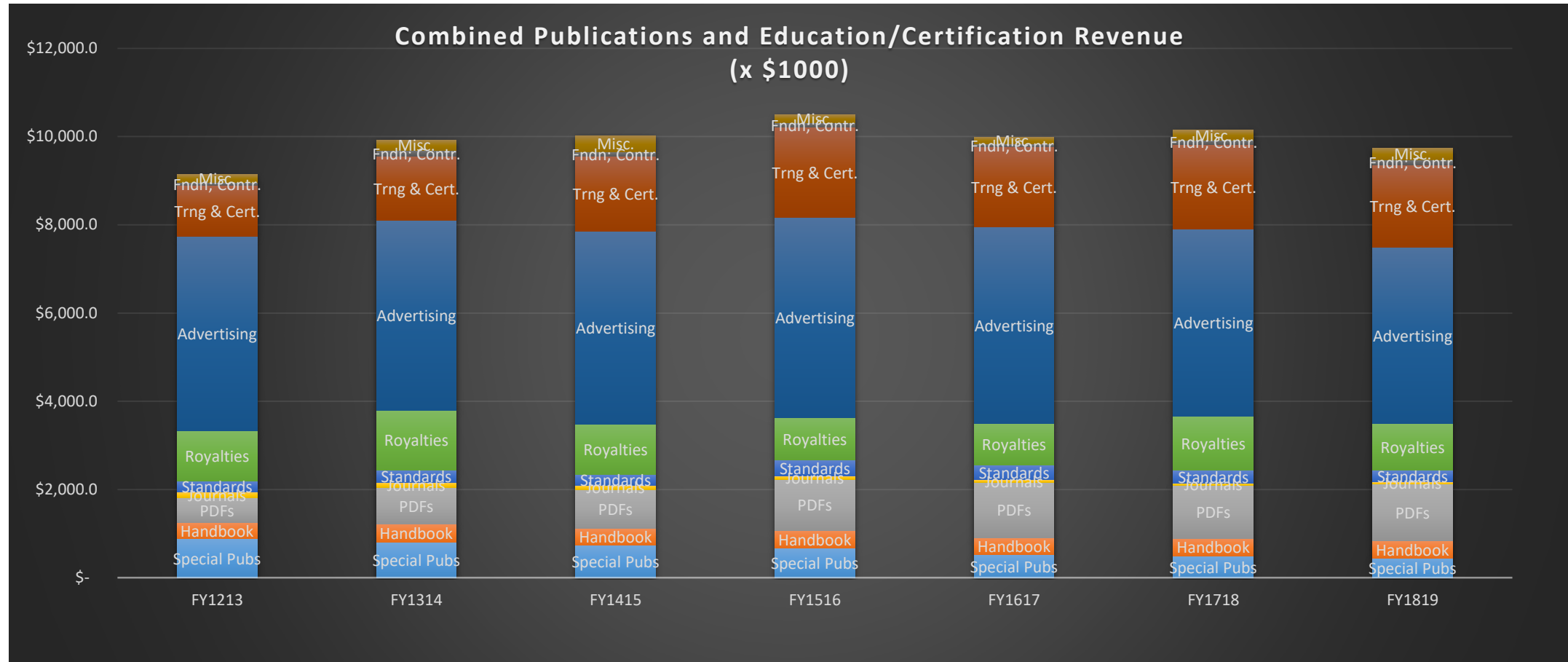
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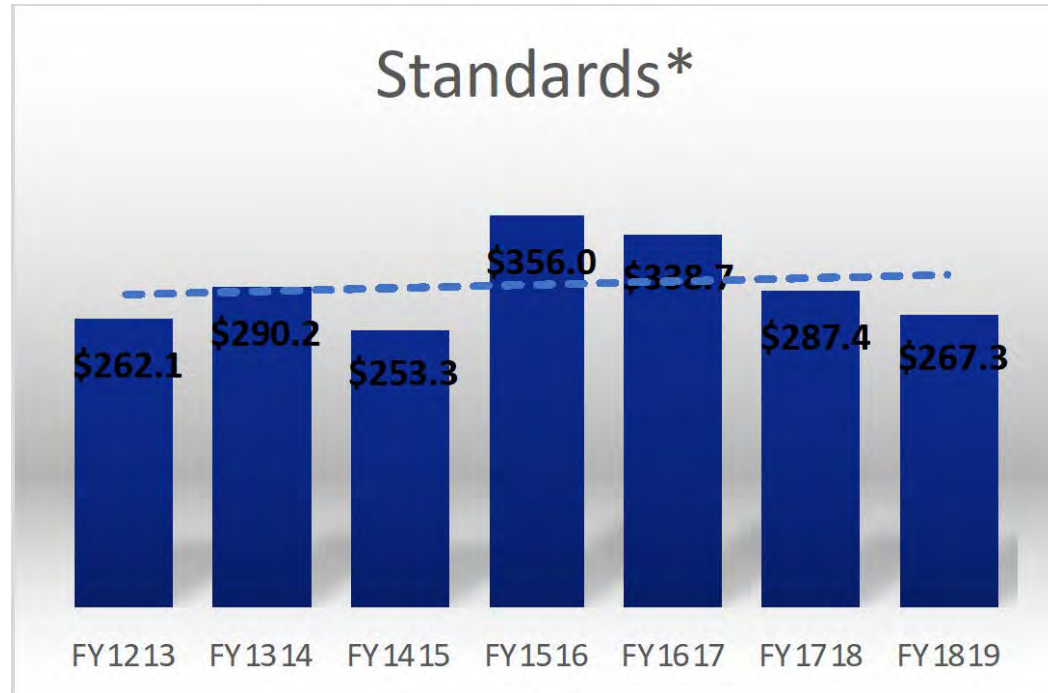
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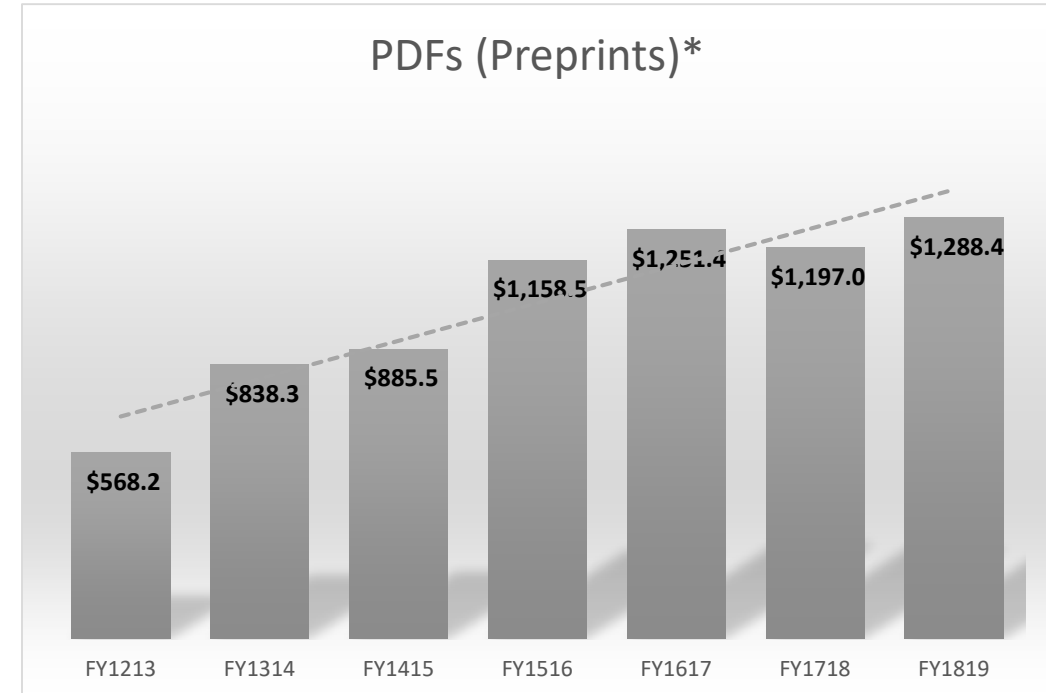
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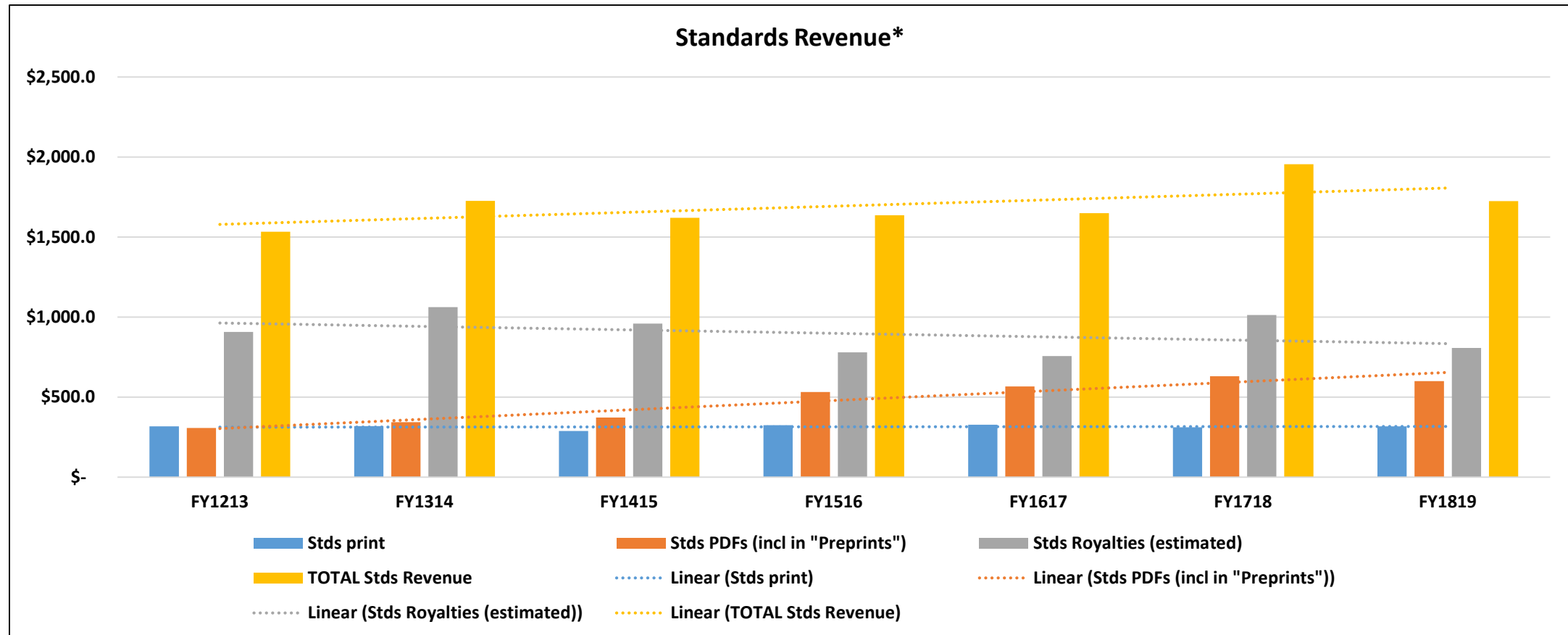


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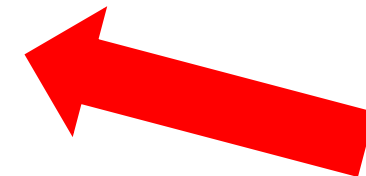


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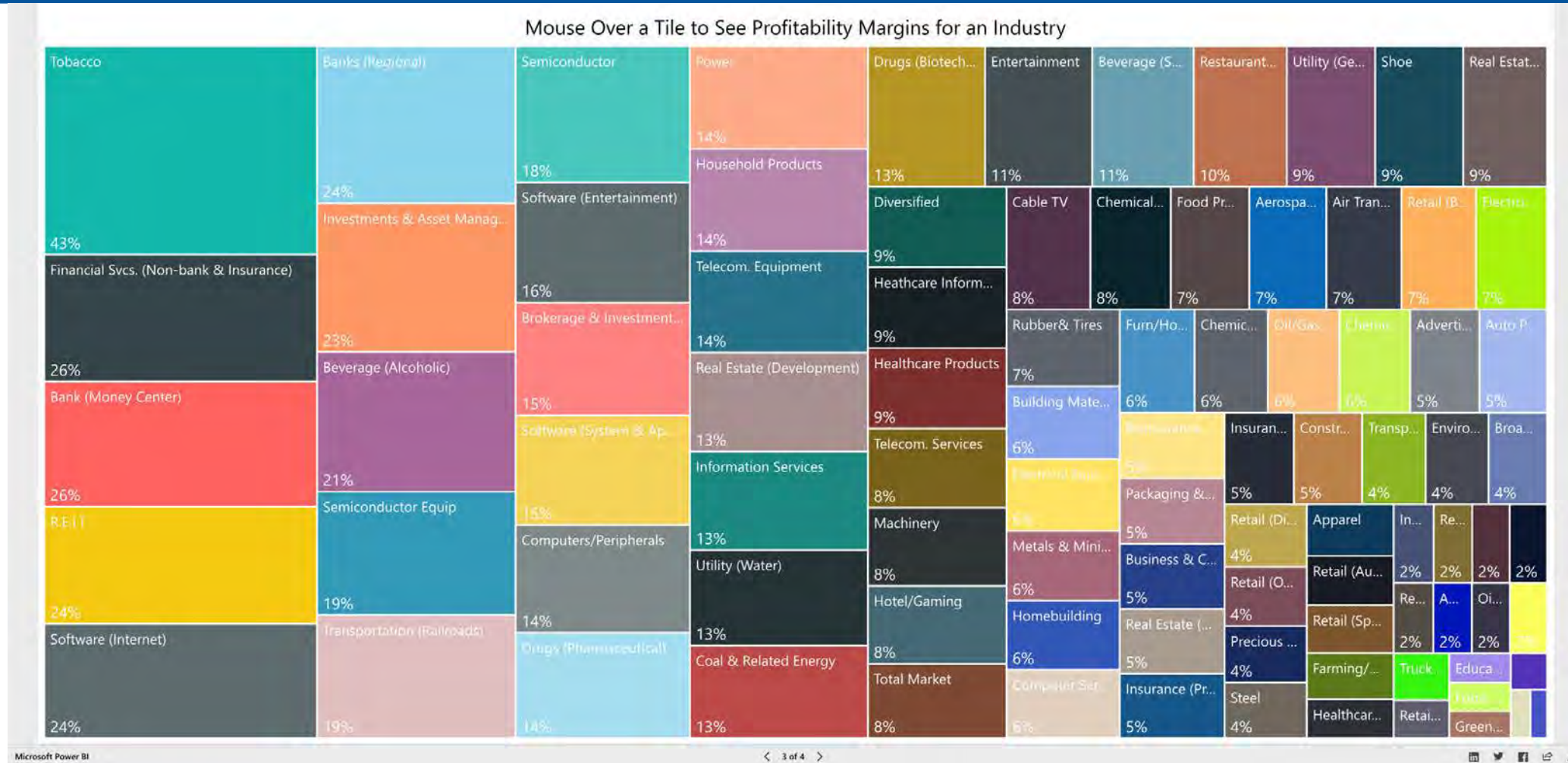
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| Meeting/Training | | | | |
| Costs | 21.7 | 3.3 | 715.6 | - |
| Travel | 33.3 | 26.2 | 17.6 | 5.4 |
| Dev/Outside | | | | |
| Services | 510.1 | 124.2 | 267.2 | 178.6 |
| Credit Card | | | | |
| Charges | 44.4 | 1.4 | 53.5 | 6.1 |
| Bad Debt | 7.0 | 79.4 | | |
| Other/Misc. | 0.2 | 64.6 | 28.9 | 0.3 |
| Total Direct Expenses | 2,072.4 | 3,929.0 | 1,721.7 | 367.0 |
| Variable Margin \$ | 1,838.9 | 1,712.1 | 613.1 | 21.5 |
| Variable Margin % | 60% | 42% | 33% | 10% |
| Gross Margin \$ | \$969.4 | \$144.6 | \$148.5 | \$(141.3) |
| Gross Margin % | 32% | 4% | 8% | -63% |

How the Picture Changes

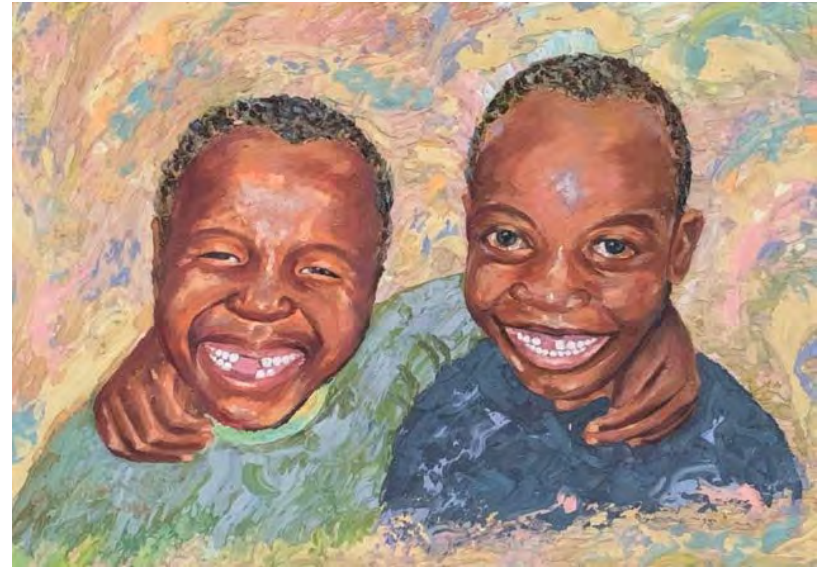
We can see clearly now (apologies to Johnny Nash):

- Publications operates at a strong gross margin
- Advertising operates at a low gross margin
 - This is OK, as advertising as ASHRAE is required to pay tax on “business unrelated to its primary business”.
- Education is operating at a low gross margin
- Certification is operating at a negative gross margin



How the Picture Changes

- Looking at ASHRAE's products through the lens of finance paints a much different picture



How the Picture Changes

- A focus on margins
 - Revenue is only important only in that it allows you to identify and analyze margins
 - Improves clarity and transparency – an ASHRAE core value
 - Better decision-making owing to deeper understanding of product contributions
 - Greater ability to identify and seize strategic opportunities
 - The path forward on product evaluation becomes much simpler



How the Picture Changes

- Future work of the ad hoc is cast in a completely new light
 - For products and services with low margins, make recommendation on how to lower cost or raise price (or both)
 - For products with good margins make recommendations on how to increase sales
 - Are we already high in market share or is there room to grow?
 - Look at other revenue streams (new products and services) based on what we see other organizations offering and emerging needs in the marketplace) and evaluate by margin



How the Picture Changes

Enhanced Goal Setting – Where We Want To Be

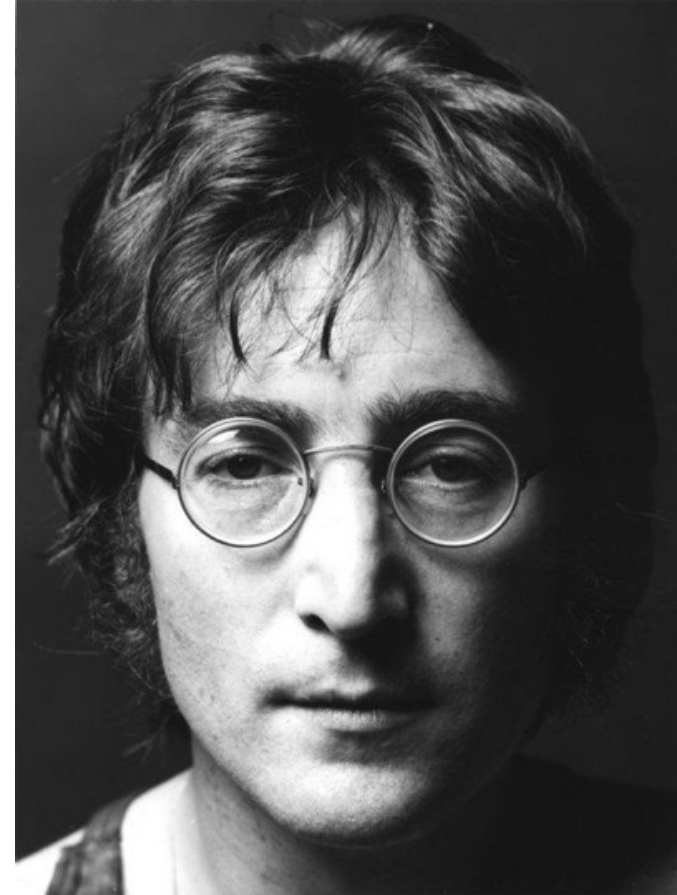
| | Publications | Advertising | Education | Certification | Goal | Current Value |
|------------------------------|--------------|-------------|-----------|---------------|----------|---------------|
| Proposed Revenue Goal | \$4,500 | \$4,300 | \$2,600 | \$600 | \$12,000 | \$9,211 |
| Proposed Gross Margin | \$1,440 | \$215 | \$625 | \$120 | \$2,400 | \$1,121 |
| Proposed Gross Margin | 32% | 5% | 24% | 20% | 20% | 12% |

*In \$1,000 US



How the Picture Changes

- Imagine an ASHRAE better focused on financial performance:
 - Expanded and enhanced revenue streams
 - Less reliance on expo income
 - More resilient to large economic swings
 - Faster, more agile in seizing opportunities
 - Better forecasting of financial position
 - Greatly enhanced decision-making



Questions



| Initiatives | Attachment R - PEC Minutes - Orlando Jan 2020 Goals |
|--|--|
| <p>Initiative Area: Built Environment Of The Future</p>  <p>The cycle of building development, design and construction is moving more rapidly than ever. Key stakeholders in the design and construction process face new challenges of responding to a range of environmental, market and consumer-driven pressures. Increasingly, it is being recognized that “smart” buildings and integrated systems are central to successfully addressing challenges posed by climate change, natural disasters, accidents, disease and terrorism. ASHRAE must stimulate innovation and exploration related to these challenges, and promote best practices that enable adaptability, resilience and recovery of buildings and communities.</p> | <p>1a - Utilize a holistic approach to ASHRAE's offerings and activities to drive positive economic, environmental and social impact through innovation in building design and operations.</p> <p>1b - Expand capabilities globally to create, aggregate and disseminate essential information and knowledge focusing on emerging market trends and transformative approaches.</p> <p>2b - Expand the impact of collaboration and partnerships with industry organizations, universities and government agencies.</p> <p>3a - Prototype and launch new approaches that will increase ASHRAE's relevance and speed to market for key offerings.</p> |
|  <p>The indoor environment is increasingly recognized as the leading priority for built environment, with implications extending beyond simple acceptability of indoor conditions to its influence on productivity, learning and health. The indoor environment of the future identifies and optimizes interactions between air quality, thermal comfort, lighting and acoustics, based on a firm understanding of implications for occupants' health and wellness. ASHRAE convenes and collaborates with experts and stakeholders across the industry to engage in discussion and exploration of this topic to accelerate collective knowledge in the field. This initiative aims to elevate ASHRAE's role in facilitating this discussion, generating thought leadership and promoting understanding of indoor environmental quality (IEQ) among practitioners.</p> | <p>1a - Utilize a holistic approach to ASHRAE's offerings and activities to drive positive economic, environmental and social impact through innovation in building design and operations.</p> <p>1b - Expand capabilities globally to create, aggregate and disseminate essential information and knowledge focusing on emerging market trends and transformative approaches.</p> <p>2b - Expand the impact of collaboration and partnerships with industry organizations, universities and government agencies.</p> <p>3c - Cultivate industry and member philanthropy to extend ASHRAE's impact and reach.</p> |

Initiative Area: Future of ASHRAE

3

ORGANIZATIONAL STREAMLINING



ASHRAE is a large and complex organization with hundreds of technical standards and managerial committees, supported by a rich network of leaders and subject matter experts. ASHRAE will reach its potential for leadership and influence through an organizational structure that eliminates redundancy, has flexibility to adapt to regional differences, and allocates valued time and resources to the most impactful pursuits. This initiative intends to improve internal governance, volunteer, and staffing structures to ensure a strong connection across the societal organization and its chapters around the globe.

1a - Utilize a holistic approach to ASHRAE's offerings and activities to drive positive economic, environmental and social impact through innovation in building design and operations.

2c - Leverage technology to increase member engagement, awareness and value.

3a - Prototype and launch new approaches that will increase ASHRAE's relevance and speed to market for key offerings.

3b - Optimize ASHRAE's organizational systems and structures to increase capacity, efficiency and effectiveness.

4

IMPROVE CHAPTER ENGAGEMENT, CAPACITY AND SUPPORT



ASHRAE must evaluate and develop methods to better engage chapters, regions and the members they serve in an integrated way. A more supportive and proactive strategy for chapter and regional oversight will minimize variability and ensure that all ASHRAE members experience a strong and valuable connection to the local and societal components.

2a - Infuse enthusiasm, vitality and diversity throughout ASHRAE events and services

2b - Expand the impact of collaboration and partnerships with industry organizations, universities and government agencies.

2c - Leverage technology to increase member engagement, awareness and value.

3a - Prototype and launch new approaches that will increase ASHRAE's relevance and speed to market for key offerings.

3b - Optimize ASHRAE's organizational systems and structures to increase capacity, efficiency and effectiveness.

Members Council

Pub/Ed Council

Tech Council

Presidential Ad Hoc

PEAC - Gulledge

TRAC - Schwendler

Council MBOs

| | | | | | | | | |
|--------------------------------|--------------------------------|-------------------------------|-----------------------------|-----------------------------|-------------------------------|-------------------------------|-------------------------------|----------------------------|
| PEC - MBO 3 | RBC - MBO 2.1 | | | | | | | |
| REF - MBO 5 | RBC - MBO 2.2 | | | | | | | |
| EHC - MBO 9 | RBC - MBO 2.3 | | | | | | | |
| RBC - MBO 1.1 | | | | | | | | |
| PEC - MBO 2 | REF - MBO 5 | EHC - MBO 4 | | | | | | |
| STDS - MBO 1.1 | EHC - MBO 1 | EHC - MBO 9 | | | | | | |
| STDS - MBO 1.2 | EHC - MBO 2 | | | | | | | |
| RAC - MBO 2 | RBC - MBO 1.1 | | | | | | | |
| RAC - MBO 2 | REF - MBO 5 | RBC - MBO 1.1 | | | | | | |
| MC - MBO 1 | EHC - MBO 4 | RBC - MBO 1.2 | | | | | | |
| RAC - MBO 4 | EHC - MBO 5 | RBC - MBO 1.3 | | | | | | |
| PEC - MBO 3 | STDS - MBO 1.2 | RAC - MBO 3 | TAC - MBO 3 | REF - MBO 1 | REF - MBO 4 | RBC - MBO 1.3 | RBC - MBO 2.3 | MC - MBO 2 |
| PEC - MBO 1 | STDS - MBO 2.1 | TAC - MBO 1 | TAC - MBO 4 | REF - MBO 2 | RBC - MBO 1.1 | RBC - MBO 2.1 | RBC - MBO 2.4 | |
| STDS - MBO 1.1 | STDS - MBO 2.2 | TAC - MBO 2 | TAC - MBO 5 | REF - MBO 3 | RBC - MBO 1.2 | RBC - MBO 2.2 | RBC - MBO 3.1 | |
| | | | | | | | | |
| PEC - MBO 3 | RBC - MBO 2.1 | | | | | | | |
| REF - MBO 5 | RBC - MBO 2.2 | | | | | | | |
| EHC - MBO 9 | RBC - MBO 2.3 | | | | | | | |
| RBC - MBO 1.1 | | | | | | | | |
| STDS - MBO 1.1 | REF - MBO 5 | EHC - MBO 4 | | | | | | |
| PEC - MBO 2 | EHC - MBO 1 | EHC - MBO 9 | | | | | | |
| STDS - MBO 1.2 | EHC - MBO 2 | RBC - MBO 1.1 | | | | | | |
| RAC - MBO 2 | RBC - MBO 1.1 | | | | | | | |
| RAC - MBO 2 | REF - MBO 5 | RBC - MBO 1.1 | | | | | | |
| MC - MBO 1 | EHC - MBO 4 | RBC - MBO 1.2 | | | | | | |
| RAC - MBO 4 | EHC - MBO 5 | RBC - MBO 1.3 | | | | | | |
| STDS - MBO 1.1 | REF - MBO 2 | | | | | | | |
| STDS - MBO 1.2 | REF - MBO 3 | | | | | | | |
| RAC - MBO 4 | REF - MBO 4 | | | | | | | |
| REF - MBO 1 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

| | | | | | | | | |
|--------------------------------|--------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--|
| PEC - MBO 3 | RBC - MBO 2.1 | | | | | | | |
| REF - MBO 5 | RBC - MBO 2.2 | | | | | | | |
| EHC - MBO 9 | RBC - MBO 2.3 | | | | | | | |
| RBC - MBO 1.1 | | | | | | | | |
| STDS - MBO 2.1 | STDS - MBO 2.3 | REF - MBO 3 | | | | | | |
| STDS - MBO 2.2 | RAC - MBO 5 | MC - MBO 1 | | | | | | |
| PEC - MBO 4 | STDS - MBO 2.1 | TAC - MBO 2 | REF - MBO 1 | RBC - MBO 1.1 | RBC - MBO 2.3 | | | |
| STDS - MBO 1.1 | STDS - MBO 2.3 | TAC - MBO 3 | REF - MBO 2 | RBC - MBO 1.2 | RBC - MBO 2.4 | | | |
| STDS - MBO 1.2 | RAC - MBO 3 | TAC - MBO 4 | REF - MBO 3 | RBC - MBO 1.3 | RBC - MBO 3.1 | | | |
| STDS - MBO 2.2 | TAC - MBO 1 | TAC - MBO 5 | REF - MBO 4 | RBC - MBO 2.1 | MC - MBO 2 | | | |
| PEC - MBO 5 | RAC - MBO 5 | TAC - MBO 5 | REF - MBO 4 | RBC - MBO 2.2 | RBC - MBO 3.1 | | | |
| STDS - MBO 2.1 | TAC - MBO 1 | REF - MBO 1 | EHC - MBO 3 | RBC - MBO 2.2 | | | | |
| STDS - MBO 2.2 | TAC - MBO 2 | REF - MBO 2 | EHC - MBO 7 | RBC - MBO 2.3 | | | | |
| STDS - MBO 2.3 | TAC - MBO 3 | REF - MBO 3 | EHC - MBO 8 | RBC - MBO 2.4 | | | | |
| RAC - MBO 1 | TAC - MBO 4 | EHC - MBO 6 | RBC - MBO 2.1 | MC - MBO 2 | | | | |
| MC - MBO 1 | | | | | | | | |
| RBC - MBO 2.4 | | | | | | | | |
| MC - MBO 1 | REF - MBO 5 | RBC - MBO 1.1 | | | | | | |
| RAC - MBO 2 | EHC - MBO 4 | RBC - MBO 1.2 | | | | | | |
| RAC - MBO 4 | EHC - MBO 5 | RBC - MBO 1.3 | | | | | | |
| MC - MBO 1 | STDS - MBO 2.3 | REF - MBO 3 | | | | | | |
| STDS - MBO 2.2 | RAC - MBO 5 | | | | | | | |
| MC - MBO 2 | STDS - MBO 2.1 | RAC - MBO 3 | TAC - MBO 3 | REF - MBO 1 | REF - MBO 4 | RBC - MBO 1.3 | RBC - MBO 2.3 | |
| STDS - MBO 1.1 | STDS - MBO 2.2 | TAC - MBO 1 | TAC - MBO 4 | REF - MBO 2 | RBC - MBO 1.1 | RBC - MBO 2.1 | RBC - MBO 2.4 | |
| STDS - MBO 1.2 | STDS - MBO 2.3 | TAC - MBO 2 | TAC - MBO 5 | REF - MBO 3 | RBC - MBO 1.2 | RBC - MBO 2.2 | RBC - MBO 3.1 | |
| MC - MBO 2 | RAC - MBO 1 | TAC - MBO 3 | REF - MBO 2 | REF - MBO 4 | RBC - MBO 2.2 | | | |
| STDS - MBO 2.1 | RAC - MBO 5 | TAC - MBO 4 | REF - MBO 3 | EHC - MBO 7 | RBC - MBO 2.3 | | | |
| STDS - MBO 2.2 | TAC - MBO 1 | TAC - MBO 5 | EHC - MBO 3 | EHC - MBO 8 | RBC - MBO 2.4 | | | |
| STDS - MBO 2.3 | TAC - MBO 2 | REF - MBO 1 | EHC - MBO 6 | RBC - MBO 2.1 | RBC - MBO 3.1 | | | |



| Council MBO | Description | Timeline | Metric | Progress | Financial Support for Initiative |
|----------------|---|----------|--------|----------|----------------------------------|
| MC - MBO 1 | Maximize Member Value and Engagement within the Scope of Members Council and its Reporting Committees | | | | |
| MC - MBO 2 | Optimize ASHRAE's organizational structure to maximize performance within the scope of Members Council and its reporting committees. | | | | |
| PEC - MBO 1 | Appoint PEC Ad Hoc to address Strategic Business Development for potential new revenue streams | | | | |
| PEC - MBO 2 | Develop strategy for expanding ALI instructor core and establish procedures and criteria for instructor appointment and remuneration. | | | | |
| PEC - MBO 3 | Analyze Certification Program and develop metrics for evaluating potential for new certifications for evaluating potential for new certifications aligned with Strategic Plan initiatives 1 & 2 after surveying members to establish interest and demand. | | | | |
| REF - MBO 1 | Reorganize subcommittee structure within REF | | | | |
| REF - MBO 2 | Appoint a voting Representative and Alternate member to the new MTG.RAC - RAC Plant Assessment Guide | | | | |
| REF - MBO 3 | Take ownership of the new "R" in ASHRAE webpage for further implementation and on-going maintenance. Promote the new REF committee organization and name throughout society; put together the plan for a bi-annual report on refrigeration technology (last year's MBO) | | | | |
| REF - MBO 4 | Update REF MOP and Reference Manual and secure TechC approval on update to REF MOP. | | | | |
| REF - MBO 5 | Work with partnership organizations to identify and implement collaboration opportunities to promote HVAC&R | | | | |
| RBC - MBO 1.1 | Determine residential gaps/needs/obstacles through engagement with priority stakeholders | | | | |
| RBC - MBO 1.2 | Develop value proposition to ASHRAE for participation in industry trade shows/conferences | | | | |
| RBC - MBO 1.3 | Work with GAC to promote ASHRAE standards and publications for residential buildings. | | | | |
| RBC - MBO 2.1 | Identify/coordinate, review, and monitor residential themed research projects. | | | | |
| RBC - MBO 2.2 | Assist with coordination of residential programs and quarterly ASHRAE Journal Residential Applications columns | | | | |
| RBC - MBO 2.3 | Work with Handbook Committee and TCs to create an approach to identify residential content. | | | | |
| RBC - MBO 2.4 | Work with CTTC to coordinate information flow to chapters. | | | | |
| RBC - MBO 3.1 | Establish liaison system with ASHRAE committees with residential interest | | | | |
| TAC - MBO 1 | Develop a Document - Best Practices for Section Heads | | | | |
| TAC - MBO 2 | Establish expectations for notification regarding Interim TC/TG/TRG/MTG conference calls so that all interested personnel receive notification of the call. | | | | |
| TAC - MBO 3 | Clarify the process for MTGs to transition to TC, TG, or TRG | | | | |
| TAC - MBO 4 | Revisit the MTG expectations - temporary v permanent | | | | |
| TAC - MBO 5 | Clarify procedures for combining and/or dissolving FG's | | | | |
| EHC - MBO 1 | Review currently published EIB and determine if they need to be retired, reaffirmed, or have a PD created | | | | |
| EHC - MBO 2 | Draft a report to Tech Council summarizing significant events and relevant trends relating to environmental health and the built environment relevant to environmental health. | | | | |
| EHC - MBO 4 | Document the interaction plan with IEQ-GA for future IAQ meetings | | | | |
| EHC - MBO 5 | Develop a draft plan to establish a liaison with a medical organization, an architectural organizations that relates to environmental health | | | | |
| EHC - MBO 9 | Complete update to Chapter 10 | | | | |
| STDs - MBO 1.1 | Continue to implement recommendations of the Presidential ad hoc Committee report on ASHRAE's Role in the Globalization of Standards | | | | |
| STDs - MBO 1.2 | Formalize methodology that allows PC access to ISO standards. | | | | |
| STDs - MBO 2.1 | Develop tools for PC chairs to assist Std. C in evaluating procedural compliance with respect to conflict duplication and harmonization of ANSI and ASHRAE standards. | | | | |
| STDs - MBO 2.2 | Develop tools for PC chairs to assist Std. C in evaluating if sufficient consideration was afforded unresolved objections and to demonstrate sufficient efforts were made in attempt to resolve unresolved objections. | | | | |
| RAC - MBO 2 | Complete the development of a new process to fund and oversee projects that produce publications to more efficiently transfer technology developed from ASHRAE research | | | | |
| RAC - MBO 3 | Start up the Research Advisory Panel to develop the next Research Strategic Plan for the society | | | | |
| RAC - MBO 4 | Establish and implement a process to coordinate efforts between RAC and Research Promotion | | | | |

2

INDOOR ENVIRONMENTAL QUALITY



The indoor environment is increasingly recognized as the leading priority for built environment, with implications extending beyond simple acceptability of indoor conditions to its influence on productivity, learning and health. The indoor environment of the future identifies and optimizes interactions between air quality, thermal comfort, lighting and acoustics, based on a firm understanding of implications for occupants' health and wellness. ASHRAE convenes and collaborates with experts and stakeholders across the industry to engage in discussion and exploration of this topic to accelerate collective knowledge in the field. This initiative aims to elevate ASHRAE's role in facilitating this discussion, generating thought leadership and promoting understanding of indoor environmental quality (IEQ) among practitioners.

Council MBO

MC - MBO 1

PEC - MBO 2

PEC - MBO 3

REF - MBO 1

REF - MBO 2

REF - MBO 3

REF - MBO 4

REF - MBO 5

RBC - MBO 1.1

RBC - MBO 1.2

RBC - MBO 1.3

RBC - MBO 2.1

RBC - MBO 2.2

RBC - MBO 2.3

EHC - MBO 1

EHC - MBO 2

EHC - MBO 4

EHC - MBO 5

| |
|----------------|
| EHC - MBO 9 |
| STDS - MBO 1.1 |
| STDS - MBO 1.2 |
| RAC - MBO 2 |
| RAC - MBO 4 |

| Description | Timeline | Metric | Progress | Financial Support for Initiative |
|---|----------|--------|----------|----------------------------------|
| Maximize Member Value and Engagement within the Scope of Members Council and its Reporting Committees | | | | |
| Develop strategy for expanding ALI instructor core and establish procedures and criteria for instructor appointment and remuneration. | | | | |
| Analyse Certification Program and develop metrics for evaluating potential for new certifications for evaluating potential for new certifications aligned with Strategic Plan initiatives 1 & 2 after surveying members to establish interest and demand. | | | | |
| Reorganize subcommittee structure within REF | | | | |
| Appoint a voting Representative and Alternate member to the new MTG.RAC - RAC Plant Assessment Guide | | | | |
| Take ownership of the new "R" in ASHRAE webpage for further implementation and on-going maintenance. Promote the new REF committee organization and name throughout society; put together the plan for a bi-annual report on refrigeration technology (last year's MBO) | | | | |
| Update REF MOP and Reference Manual and secure TechC approval on update to REF MOP. | | | | |
| Work with partnership organizations to identify and implement collaboration opportunities to promote HVAC&R | | | | |
| Determine residential gaps/needs/obstacles through engagement with priority stakeholders | | | | |
| Develop value proposition to ASHRAE for participation in industry trade shows/conferences | | | | |
| Work with GAC to promote ASHRAE standards and publications for residential buildings. | | | | |
| Identify/coordinate, review, and monitor residential themed research projects. | | | | |
| Assist with coordination of residential programs and quarterly ASHRAE Journal Residential Applications columns | | | | |
| Work with Handbook Committee and TCs to create an approach to identify residential content. | | | | |
| Review currently published EIB and determine if they need to be retired, reaffirmed, or have a PD created | | | | |
| Draft a report to Tech Council summarizing significant events and relevant trends relating to environmental health and the built environment relevant to environmental health | | | | |
| Document the interaction plan with IEQ-GA for future IAQ meetings | | | | |
| Develop a draft plan to establish liaison with a medical organization, an architectural organization that relates to environmental health | | | | |

[illegible]

Initiative Area: Future of ASHRAE

3

ORGANIZATIONAL STREAMLINING



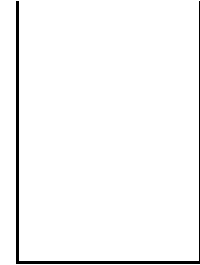
ASHRAE is a large and complex organization with hundreds of technical standards and managerial committees, supported by a rich network of leaders and subject matter experts. ASHRAE will reach its potential for leadership and influence through an organizational structure that eliminates redundancy, has flexibility to adapt to regional differences, and allocates valued time and resources to the most impactful pursuits. This initiative intends to improve internal governance, volunteer, and staffing structures to ensure a strong connection across the societal organization and its chapters around the globe.

| Council MBO | Description | Timeline | Metric | Progress | Financial Support for Initiative |
|---------------|---|----------|--------|----------|----------------------------------|
| MC - MBO 1 | Maximize Member Value and Engagement within the Scope of Members Council and its Reporting Committees | | | | |
| MC - MBO 2 | Optimize ASHRAE's Organizational Structure to Maximize Performance within the Scope of Members Council and its Reporting Committees | | | | |
| PEC - MBO 3 | Analyse Certification Program and develop metrics for evaluating potential for new certifications for evaluating potential for new certifications aligned with Strategic Plan initiatives 1 & 2 after surveying members to establish interest and demand. | | | | |
| PEC - MBO 4 | Analyse performance of special publications over the past three years and develop criteria for evaluating and approving special publication requests on a business case basis aligned with strategic plan initiative 3. | | | | |
| PEC - MBO 5 | Develop PEC 'Dashboard' showing relevant data pertaining to operations of PEC committees. This aligns with strategic plan initiative 3. | | | | |
| REF - MBO 1 | Reorganize subcommittee structure within REF | | | | |
| REF - MBO 2 | Appoint a voting Representative and Alternate member to the new MTG.RAC - RAC Plant Assessment Guide | | | | |
| REF - MBO 3 | Take ownership of the new "R" in ASHRAE webpage for further implementation and on-going maintenance. Promote the new REF committee organization and name throughout society; put together the plan for a bi-annual report on refrigeration technology (last year's MBO) | | | | |
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| REF - MBO 5 | Work with partnership organizations to identify and implement collaboration opportunities to promote HVAC&R | | | | |
| RBC - MBO 1.1 | Determine residential gaps/needs/obstacles through engagement with priority stakeholders | | | | |
| RBC - MBO 1.2 | Develop value proposition to ASHRAE for participation in industry trade shows/conferences | | | | |
| RBC - MBO 1.3 | Work with GAC to promote ASHRAE standards and publications for residential buildings. | | | | |
| RBC - MBO 2.1 | Identify/coordinate, review, and monitor residential themed research projects. | | | | |
| RBC - MBO 2.2 | Assist with coordination of residential programs and quarterly ASHRAE Journal Residential Applications columns | | | | |
| RBC - MBO 2.3 | Work with Handbook Committee and TCs to create an approach to identify residential content. | | | | |

| | | | | |
|----------------|---|--|--|--|
| RBC - MBO 2.4 | Work with CTTC to coordinate information flow to chapters. | | | |
| RBC - MBO 3.1 | Establish liaison system with ASHRAE committees with residential interest | | | |
| TAC - MBO 1 | Develop a Document - Best Practices for Section Heads | | | |
| TAC - MBO 2 | Establish expectations for notification regarding interim TC/TG/TRG/MTG conference calls so that all interested personnel receive notification of the call. | | | |
| TAC - MBO 3 | Clarify the process for MTGs to transition to TC, TG, or TRG | | | |
| TAC - MBO 4 | Revisit the MTG expectations - temporary v permanent | | | |
| TAC - MBO 5 | Clarify procedures for combining and/or dissolving FG's | | | |
| EHC - MBO 3 | Re-name the Research Subcommittee to something more broad that fits the TPS of EHC | | | |
| EHC - MBO 6 | Recommend a slate of committees within ASHRAE for which there should be an official liaison | | | |
| EHC - MBO 7 | Reduce in-person sub-committee meeting time for Orlando and re-evaluate for Austin | | | |
| EHC - MBO 8 | EHC Outreach and Awareness - have a plan in place to follow through | | | |
| EHC - MBO 9 | Complete update to Chapter 10 | | | |
| STDS - MBO 1.1 | Continue to implement recommendations of the Presidential ad hoc Committee report on ASHRAE's Role in the Globalization of Standards | | | |
| STDS - MBO 1.2 | Formalize methodology that allows PC access to ISO standards. | | | |
| STDS - MBO 2.1 | Develop tools for PC chairs to assist Std. C in evaluating procedural compliance with respect to conflict duplication and harmonization of ANSI and ASHRAE standards. | | | |
| STDS - MBO 2.2 | Develop tools for PC chairs to assist Std. C in evaluating if sufficient consideration was afforded unresolved objections and to demonstrate sufficient efforts were made in attempt to resolve unresolved objectors. | | | |
| STDS - MBO 2.3 | Develop tools for PC chairs to assist Std. C in evaluating any other procedural items that arise during standards/guidelines development. | | | |
| RAC - MBO 1 | Develop and institutionalize regular training of Proposal Evaluation Subcommittee (PES) members. | | | |
| RAC - MBO 3 | Start up the Research Advisory Panel to develop the next Research Strategic Plan for the society | | | |
| RAC - MBO 5 | Determine requirements and establish a framework for forms and a web-based process that could be used to submit and track research projects start to finish | | | |

Ad Hoc

New Presidential Ad Hoc Formed – Darryl has this week formed Presidential Ad Hoc Committee on Society Streamlining and Lean Assessment. That is of course a core tenant of the new strategic plan, and PLC recommended a Presidential Ad Hoc take on this task. Members are: Robin Bryant (Chair), Costas Balaras, Dennis Knight, Russell Lavitt, Doug Zentz, and Tim McGinn with staff support provided by Vanita Gupta. Other Board groups working now include the Brussels Staff Presence Task Group and the Code/Standard Jurisdictional Support Services Presidential Ad Hoc.



4

IMPROVE CHAPTER ENGAGEMENT, CAPACITY AND SUPPORT



ASHRAE must evaluate and develop methods to better engage chapters, regions and the members they serve in an integrated way. A more supportive and proactive strategy for chapter and regional oversight will minimize variability and ensure that all ASHRAE members experience a strong and valuable connection to the local and societal components.

Council MBO

MC - MBO 1

MC - MBO 2

REF - MBO 1

REF - MBO 2

REF - MBO 3

REF - MBO 4

REF - MBO 5

RBC - MBO 1.1

RBC - MBO 1.2

RBC - MBO 1.3

RBC - MBO 2.1

RBC - MBO 2.2

RBC - MBO 2.3

RBC - MBO 2.4

RBC - MBO 3.1

TAC - MBO 1

TAC - MBO 2

TAC - MBO 3

TAC - MBO 4

TAC - MBO 5

EHC - MBO 1

EHC - MBO 3

EHC - MBO 4

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| EHC - MBO 5 |
| EHC - MBO 6 |
| EHC - MBO 7 |
| EHC - MBO 8 |
| STDS - MBO 1.1 |
| STDS - MBO 1.2 |
| STDS - MBO 2.1 |
| STDS - MBO 2.2 |
| STDS - MBO 2.3 |
| RAC - MBO 1 |
| RAC - MBO 2 |
| RAC - MBO 3 |
| RAC - MBO 5 |

| Description | Timeline | Metric | Progress | Financial Support for Initiative |
|---|----------|--------|----------|----------------------------------|
| Maximize Member Value and Engagement within the Scope of Members Council and its Reporting Committees | | | | |
| Optimize ASHRAE's organizational structure to maximize performance within the scope of Members Council and its reporting committees. | | | | |
| Reorganize subcommittee structure within REF | | | | |
| Appoint a voting Representative and Alternate member to the new MTG.RAC - RAC Plant Assessment Guide | | | | |
| Take ownership of the new "R" in ASHRAE webpage for further implementation and on-going maintenance. Promote the new REF committee organization and name throughout society; put together the plan for a bi-annual report on refrigeration technology (last year's MBO) | | | | |
| Update REF MOP and Reference Manual and secure TechC approval on update to REF MOP. | | | | |
| Work with partnership organizations to identify and implement collaboration opportunities to promote HVAC&R | | | | |
| Determine residential gaps/needs/obstacles through engagement with priority stakeholders | | | | |
| Develop value proposition to ASHRAE for participation in industry trade shows/conferences | | | | |
| Work with GAC to promote ASHRAE standards and publications for residential buildings. | | | | |
| Identify/coordinate, review, and monitor residential themed research projects. | | | | |
| Assist with coordination of residential programs and quarterly ASHRAE Journal Residential Applications columns | | | | |
| Work with Handbook Committee and TCs to create an approach to identify residential content. | | | | |
| Work with CTTC to coordinate information flow to chapters. | | | | |
| Establish liaison system with ASHRAE committees with residential interest | | | | |
| Develop a Document - Best Practices for Section Heads | | | | |
| Establish expectations for notification regarding interim TC/TG/TRG/MTG conference calls so that all interested personnel receive notification of the call. | | | | |
| Clarify the process for MTGs to transition to TC, TG, or TRG | | | | |
| Revisit the MTG expectations - temporary v permanent | | | | |
| Clarify procedures for combining and/or dissolving FG's | | | | |
| Review currently published EIB and determine if they need to be retired, reaffirmed, or have a PD created | | | | |
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| Document the interaction plan with IEQ-GA for future IAQ meetings | | | | |

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| Develop a draft plan to establish a liaison with a medical organization, an architectural organizations that relates to environmental health | | | |
| Recommend a slate of committees within ASHRAE for which there should be an official liaison | | | |
| Reduce in-person sub-committee meeting time for Orlando and re-evaluate for Austin | | | |
| EHC Outreach and Awareness - have a plan in place to follow through | | | |
| Continue to implement recommendations of the Presidential ad hoc Committee report on ASHRAE's Role in the Globalization of Standards | | | |
| Formalize methodology that allows PC access to ISO standards. | | | |
| Develop tools for PC chairs to assist Std. C in evaluating procedural compliance with respect to conflict duplication and harmonization of ANSI and ASHRAE standards. | | | |
| Develop tools for PC chairs to assist Std. C in evaluating if sufficient consideration was afforded unresolved objections and to demonstrate sufficient efforts were made in attempt to resolve unresolved objectors. | | | |
| Develop tools for PC chairs to assist Std. C in evaluating any other procedural items that arise during standards/guidelines development. | | | |
| Develop and institutionalize regular training of Proposal Evaluation Subcommittee (PES) members. | | | |
| Complete the development of a new process to fund and oversee projects that produce publications to more efficiently transfer technology developed from ASHRAE research | | | |
| Start up the Research Advisory Panel to develop the next Research Strategic Plan for the society | | | |
| Determine requirements and establish a framework for forms and a web-based process that could be used to submit and track research projects start to finish | | | |