Publishing and Education Council (PEC)

Tuesday, June 24, 2025
8:00 AM - 12:00 PM
Sheraton Phoenix Downtown – Phoenix, AZ

Minutes

Voting Members			Guests
Chandra Sekhar		Chair	Steve Comstock
Ken Fulk		Vice Chair	Kellie Huff
John Constantinide		Director/ExO HBC	Spencer Morasch
Jonathan Smith		Director/ExO Cert & Hist	Daniel Nall
Blake Ellis		Director/ExO Pubs	Billy Austin
Doug Cochrane		Director/ExO TEC	Tim Kline
Kimberly Cowman		Past Certification	Drew Champlin
Megan Tosh		Past Handbook & Publications Chair	Karen Murray
Adeeba S W Mehboob	absent	Past Publications	David Soltis
Jeremy T Smith		Past TEC	Andres J Sepulveda
Suz Ann M Arroyo		Certification Chair	Stephen Kujak
Joseph L Furman	absent	Handbook Chair	Randy C Schrecengost
Norman Grusnick	absent	Historical Chair	Nissun Feiner
Kimberly Pierson		TEC Chair	Christine Reinders-Caron

Non-Voting Members	
Badri Patel	Certification Vice Chair
Stephanie Mages	Handbook Vice Chair
Akinbowale Soluade	Historical Vice Chair
Kurt Monteiro	Publications Vice Chair
Tim Ashby	TEC Vice Chair-Operations
Ashley N Weekly	TEC Vice Chair-Planning
Mark Owen	Staff PEC Liaison

Additional Distribution: Jeff Littleton, Executive Vice President, Candace Denton, ASHRAE Staff Directors, Publications & Education Managers

Action Items
June 24, 2025

No.	Responsible	Action Item
1	Staff	Post approved February 11, 2025, Orlando Winter Meeting minutes to the PEC page of the ASHRAE website and update the PEC Basecamp. **Complete.**
2	Staff	Include on the PEC report to the BOD the following motion: That ASHRAE allocate $50,000 from general reserves to study appropriately conditioned space to maintain its world class library of ASHRAE and industry publications and archival items from the Society's history. **Complete.** (Secretary's Note: Motion was approved by the BOD.)
3	Staff	Post ASHRAE Roundtable reports on the PEC Basecamp. **Complete.**
4	Staff	Post Environmental Health Committee (EHC) Report to the PEC Basecamp. **Complete.**

Approved Motions
June 24, 2025

No.	Page	Motion
1	4	Approved the draft minutes as distributed for the February 11, 2025, Orlando Winter Meeting. Approved 9-0-0 CNV
2	6	Approved ASHRAE allocating $50,000 from general reserves to study appropriately conditioned space to maintain its world class library of ASHRAE and industry publications and archival items from the Society's history and send to ASHRAE BOD approval. Approved 9-0-0, CNV
3	8	Approved changes to the PEC ROB: 2.302.02 MEMBERSHIP 2.302.02.1 The members of this Council are as follows: A. Chair: A Vice President of the Society B. Vice-Chair: A Vice President of the Society C. Voting Members: Chair, Vice Chair, up to four (4) Directors, plus the following positions elected by the Board of Directors: 1. One past voting member from each of the following committees: Certification, Training and Education, Handbook, Publications., Historical. Approved 9-0-0, CNV

1. Call to Order

Mr. Sekhar called the meeting to order at 8:02 am.

2. ASHRAE Value Statement

Mr. Sekhar reviewed the ASHRAE Value Statement with PEC members.

In ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, inclusiveness and respect for others, which exemplify our core values of excellence, commitment, integrity, collaboration, volunteerism and diversity, and shall avoid all real or perceived conflicts of interest. Our culture is one of inclusiveness, acknowledging the inherent value and dignity of each individual. We celebrate diverse and inclusive communities, understanding that doing so fuels better, more creative and more thoughtful ideas, solutions and strategies for the Society and the communities our Society serves. We respect and welcome all.

Code of Ethics - https://www.ashrae.org/about/governance/code-of-ethics
Core Values - https://www.ashrae.org/about/ashrae-s-core-values
Diversity Statement - https://www.ashrae.org/about/diversity-equity-and-inclusion-dei

3. Self-introductions

Current PEC members, In-coming PEC members and guests introduced themselves. All subcommittee, committee and council rosters are posted to the PEC Basecamp.

4. Review of Agenda

Mr. Sekhar reviewed the agenda with council members. There were no changes or additions to the agenda.

5. Previous Meeting Minutes Review for Approval

The draft minutes have been posted to the PEC Basecamp account for review.

It was moved and seconded:

(1) Approved the draft minutes as distributed for the meeting of February 11, 2025.

MOTION (1) Approved 9-0-0, CNV

An action item was assigned to staff to post approved minutes to the PEC page of the ASHRAE website and update the PEC Basecamp. **(ACTION ITEM 1)**

6. Review of Motions at the last PEC Meeting in Orlando

Mr. Owen reviewed the motions from the PEC meeting on February 11, 2025, at the Winter Conference in Orlando.

No.	Motion
1	Approved the draft minutes as distributed for meeting of June 25, 2025, Indianapolis, Annual Meeting. **Approved 9-0-0, CNV**
2	Approved changes to the Publications Committee ROB reflecting changes to the ROB on feedback from PEC as well as guidance from the Society Rules Committee. **Approved 9-0-0, CNV**
3	Approved changes to the Publications Committee MOP reflecting changes to Section 1 that add the conditions the committee is subject to, which have been removed from the committee's ROB. **Approved 9-0-0, CNV**

7. Review of Action Items from last PEC Meeting in Orlando

Mr. Owen reviewed the action items from the PEC meeting on February 11, 2025, at the Winter Conference in Orlando.

No.	Responsible	Action Item
1	Staff	Post approved June 25, 2025, Indianapolis Annual Meeting minutes to the PEC page of the ASHRAE website and update the PEC Basecamp. **Complete.**
2	Staff	Include PEC approved Publications Committee ROB on the PEC Report to BOD to the BOD to approve. **Complete.**
3	Staff	Post all detailed Roundtable reports to the PEC Basecamp. **Complete**.

8. Review of PEC MBOs

Posted to PEC Basecamp account for review.

Mr. Sekhar reviewed the 2024-2025 PEC MBOs with council members and suggested consolidating some of the items as they carry over into the 2025-2026 Society Year MBOs. **(Attachment A)**

9. Subcommittee Reports

PEC Subcommittees *(Products, Professional Development, Research Journal)* and PEC Standing Committees *(Certification, Handbook, Historical, Publications, Training & Education)* report to PEC Fiscal and Planning Subcommittees.

9.1 Fiscal

Mr. Sekhar presented the Fiscal Subcommittee Report. **(Attachment B)**
(Fiscal Motions for PEC consideration from all PEC Subcommittees and Standing Committees)

(2) That ASHRAE allocate $50,000 from general reserves to study appropriately conditioned space to maintain its world class library of ASHRAE and industry publications and archival items from the Society's history

Background
The intent of the motion is to create:

- The physical space that can fully house ASHRAE's Library and Archives in a safe environment.
- Implement procedures to ensure the integrity of the collections moving forward.
- Develop a digitalization plan to expand access to the collections.
- Lay the groundwork for utilization of the collections in ways that promotes awareness of HVAC&R technology and benefits members.

Implementing this motion supports two objectives of ASHRAE's 2025-2028 Strategic Plan:

- Strategic Goal 1: Position ASHRAE as the **global leader** in advanced solutions to improve indoor environmental quality and address climate change.
- Strategic Goal 3: Increase the **accessibility** of ASHRAE content, resources and member opportunities.

ASHRAE retains the most extensive collection of HVAC&R literature in the world. ASHRAE's library and archives consist of from 3,000 to 5,000 books, proceedings, monographs and other media; 3,000 to 5,000 periodicals bound and unbound; and 5,000 to 10,000 historical records such as patents, correspondence, records, reports, biographies, and photographs.
The library and archives serve as resources for members to create histories about the technology and the Society's role in its development. For example, historical articles published in ASHRAE Journal regularly draw high readership scores are essential in celebrations of significant ASHRAE and industry milestones.

A long list of publications results from library holdings, such as Heat and Cold, 20th Century Air Conditioning, Pioneers of HVAC&R, Proclaiming the Truth, etc. The library and archives can also be a center for academics and researchers to advance research through bibliographic searches and to create works which increase the public's understanding of the contributions to human wellbeing made by HVACR technology.

Action to ensure this asset's viability is required, however. Current library and archives dedicated space is not adequate to accommodate new ASHRAE works as they are published. Not all of the

items displayed at the Tullie Circle building were accommodated in the space allotted in the Peachtree Corner building. Plus, approximately 75 boxes of library and archives content held in offsite storage have been retrieved, requiring immediate action be taken to accommodate these publications, artifacts, and records of historical interest. Until the space issue is resolved, new ASHRAE publications and acceptance of historical items cannot be catalogued and shelved. And the more time that elapses without a solution, the more difficult the job will be to restore the library and archive's value.

The shelfing and display of historical items runs parallel to digitalization efforts to make the holdings more broadly available to the membership. Digitalization is underway through cooperation with the IEEE historical center, digital assets used to create ASHRAE publications in recent years are being identified and re-purposing as library content. Still, the process of digitization begins with cataloging the print content. While some items can exist in digital format only, other works have value if kept in original hard copy form along with digital representation.

In addition to staff, ASHRAE needs to enable access to library science expertise for cataloging and assisting in the digitalization effort. ASHRAE's long time librarian has recently retired. This support will update catalog of holdings to reflect current holding status and outline how holdings may be accesses – onsite and electronically.

When the space allocation and staffing resources are in place, the Historical Committee will identify and work with individuals to prepare a schedule of historically theme articles for ASHRAE Journal, organize conference sessions and create displays so that the entire membership can benefit from ASHRAE's historical intellectual property.

Library items and archive items have already been identified by a subcommittee of the Historical Committee. Items were discarded which did meet standards of historical significance or duplication. The report of the subcommittee is attached for reference.

Staff impact: Minimal—less than 40 hours.

Fiscal Impact: A total fiscal impact of a maximum $50,000.

Council members discussed current and future needs of the library including ventilation needs for library material. Mr. Owen commented that a motion with this amount of Fiscal Impact would need to be approved by the council and then by the BOD.

Approved 9-0-0, CNV

An action item was assigned to staff to include this motion the PEC report to the BOD.
(ACTION ITEM 2) *Complete.*

(Secretary's note: This motion was approved by the BOD)

9.2 Planning

Mr. Fulk presented the Planning Subcommittee Report. **(Attachment C)**

(3) PEC Planning Subcommittee recommends that PEC approve and forward to the BOD for approval changes to the PEC ROB as shown:

2.302 PUBLISHING AND EDUCATION COUNCIL

2.302.01 SCOPE AND PURPOSE (19-06-26-13)

This council is responsible for the manufacturing, delivery, and fiscal impact of all ASHRAE publications and professional development products with consideration given to (1) recognized need, (2) potential for sales income, (3) budget constraints, and (4) joint funding agreements. Using established guidelines and procedures, this council shall work with managing groups of publications at project inception, during execution, and upon completion to ensure a balance of the above considerations is achieved.

2.302.02 MEMBERSHIP

2.302.02.1 The members of this Council are as follows:

A. Chair: A Vice President of the Society

B. Vice-Chair: A Vice President of the Society

C. Voting Members: Chair, Vice Chair, up to four (4) Directors, plus the following positions elected by the Board of Directors:

1. One past voting member from each of the following committees: Certification, Training and Education, Handbook, Publications~~.~~, Historical.

2. Current Chair of the following committees: Certification, Training and Education, Handbook and Publications.

D. Non-Voting Members: Vice Chairs of each committee reporting to this council.

2.302.003 OPERATIONS (13/06-26-19)

A. The council shall review and recommend changes, when appropriate, to any ASHRAE publications or professional development products.

B. This council is responsible for reviewing, recommending changes and interpreting the following: Rights and Responsibilities and General Guidelines for Co-Sponsoring Organizations for ASHRAE Public Sessions.

C. This council shall facilitate communication and planning between all things related to ASHRAE publications and education.

2.302.03 STRATEGIC PLAN

This council shall develop procedures for recommending updates to the strategic plan on a continuous basis. The council as a minimum shall at the Annual Meeting submit a report to the BOD which includes the current status of each activity which supports the fulfillment of their assignments under the strategic plan. The council shall solicit and report recommendations for changes to the strategic plan as reported by the committees reporting to the council at the Annual Meeting.

Background: These changes correct an oversight in leaving off one of the standing committee chairs as a voting member and aligning PEC membership more closely to Members Council voting/non-voting membership makeup.

Fiscal Impact: None.

Planning Subcommittee did not have quorum and therefore could only discuss motion. Members recommend that PEC approve the motion as shown and forward to the BOD for approval.

Approved 9-0-0, CNV

10. Liaisons with Other Groups

10.1 Planning Committee (PLC) **(Attachment D)**

Planning Committee Liaison Ms. Huff showed PEC members a presentation concerning the Planning Committee initiatives in conjunction with the new strategic plan.

10.2 GTIC

Mr. Sekhar reviewed the Global Technical Interaction Committee (GTIC) Presentation with PEC members shown in **Attachment E**.

Council members were reminded to consider a global perspective when developing technical resources to facilitate engagement with ASHRAE members around the world including ASHRAE Standards and TEC training courses. An important ASHRAE strategic goal is to increase ASHRAE's global relevance.

10.3 GAC

Ms. Tosh reported that the Government Affairs Committee (GAC) has approved their Public Policy Priorities 2025-26 and they were then approved by ExCom and the BOD.

GAC set a goal of 100 government outreach events to be held during 2023-2024 and 153 events have been conducted. These involve 375 ASHRAE members and 638 government officials and their staff. A year in review video of this year's events can be seen on the ASHRAE website. The full report is shown in **Attachment F**.

11. Items Referred to PEC from Other Groups

Mr. Owen reported on one referral to PEC. **(Attachment G)**

11.1 Region XI 2025 CRC

Motion #4 - Regina Chapter - Seconded by Saskatoon Chapter

Motion: To move the Historical committee from Publishing and Education Council to Members Council

Background: The historical Committee is currently under Publishing and Education Council and the committee sponsors, encourages and conducts research into the history of heating, ventilation, air conditioning and refrigeration; encourages authorship and publication of historical articles locates, identifies and determines location for display or availability of items of historical significance; and encourages regional and chapter historians to gather historical information and artifacts. If this committee was under Members Council, the committee would also focus on the grassroots side of Society.

There is a vast divide between the work and objectives of the Historical Committee and the expectations of the Regional and Chapter Historians, to the point that replies to Regional and Chapter inquiries of the Historical Committee are delayed or go completely unanswered. Further, this disconnect between the Historical Committee and the grassroots (e.g. Regions and Chapters) is made publicly obvious by the resources on the Society Historical Committee's webpage being so old and out of date. In at least one case, the PowerPoint presentation is so outdated as to have the previous ASHRAE logo from nearly a decade ago still on it.

Grassroots involvement in this committee would keep the Historical Committee much more in tune and in contact with the Grassroots and would likely result in a better historical archive and more participation in the Gold Ribbon and Lou Flagg awards programs. This would in turn incentive Chapters to appoint active Chapter Historians. PASSED 11-0-0, CNV

Fiscal impact: None

Staff impact: Change in roles for staff members and possibly adding extra time at the Annual and Winter Conferences.

2025-2028 Strategic Plan relevance: Emerging Technologies

Council Members discussed the motion. Mr. Owen gave a brief history of the Historical Committee and the reasoning behind placing it within the PEC structure. Originally Historical Committee was created for the ASHRAE Anniversary and the develop of a book and other future products about ASHRAE history to be sold in the bookstore.
Historical Committee has since grown to include assistance with the Leadership Recall videos, approval of the Lou Flagg Award, and encouraging Regional and Chapter Histories to be written.

Moving or eliminating the Historical Committee has been proposed in the past and it has been decided to maintain the committee as it is currently constituted and moving the committee

would need to be approved by Members Council. This referral will be sent to Members Council for their input and consideration.

12. Items Referred from PEC to Other Groups

Mr. Owen reported there were no items referred by PEC to other groups from the last ASHRAE conference.

13. Old Business

13.1 Roundtable Executive Summary

Mr. Sekhar discussed with the PEC members the BOD Executive Summary for the CRC roundtables. **(Attachment H)** Committee chairs are reminded to look through the document for any projects or
comments that should be considered by their committees.

An action item was signed to staff to post all the detailed Roundtable reports to the PEC Basecamp from the BOD Basecamp for PEC members to review. **(ACTION ITEM 3)** *Complete.*

14. New Business

14.1 2025-28 Strategic Plan

Mr. Sekhar reviewed the 2025-28 Strategic Plan with council members. **(Attachment I)**

14.2 Environmental Health Committee (EHC) Report

Mr. Sekhar reviewed the Environmental Health Committee (EHC) Report with council members. **(Attachment J)** The EHC has identified current and evolving issues that will have global impacts including microplastics, planetary heat stress and wildfires, new viruses and fugal pathogens.

An action item was signed to staff to post Environmental Health Committee (EHC) Report to the PEC Basecamp from the BOD Basecamp for PEC members to review. **(ACTION ITEM 4)** *Complete.*

14.3 Recognition of Standing Committee Chairs

Mr. Shekhar asked that the council recognize the out-going chairs of PEC standing committees for their hard work: Suz Ann Arroyo, Certification Chair; Joseph Furman, Handbook Chair; Norman Grusnick, Historical Chair; Megan Tosh, Publications Chair; Kimberly Pierson, TEC Chair. Digital certificates for each chair are also located the PEC Basecamp. **(Attachment K)**

15. In-Coming PEC Chair

Mr. Sekhar introduced Mr. Fulk as the incoming PEC Chair. Mr. Fulk reported that he is working on PEC Subcommittee assignments.

16. Adjourn

Mr. Fulk Adjourned the meeting 12:01pm.

MBO Submission to Planning **DATE:** 7/1/2024

Council: Publishing and Education **Chair:** Chandra Sekhar

Committee: **Vice-chair:** Ken Fulk

#	Description	Metric	Initiative #	Goal #	Completion % /Date	Financial Assist Req'd?	MBO Comments	Strategic Plan Tally												Committees					Subcommitte				Other		
								Initiative #				Goal 1		Goal 2			Goal 3			Certification	Handbook	Historical	Publications	TEC	Products	Prof Deve	Planning	Fiscal	PEC V Chair	PEC Chair	Staff
		(how do we determine success?)						1	2	3	4	a	b	a	b	c	a	b	c												
1	Develop an strategy for using artificial intelligence (AI).	Completion of strategy development	1,2	1b, 2c	6/30/2025	No	Ongoing	x	x				x			x				x	x	x	x	x	x	x	x	x	x	x	x
2	Develop at least one AI-empowered product.	Completion and launch of product	1,2	1b, 2c	6/30/2025	Yes	Ongoing	x	x				x			x				x	x	x	x	x	x	x		x	x	x	x
3	Translate high-demand products and services into languages other than English.	Completion of at least one translation of a high-demand product or service	4	1b, 2a	6/30/2025	TBD	Ongoing				x		x	x						x	x		x	x	x	x		x	x	x	x
4	Review and assign input from Industry Roundtables to PEC committees.	Receive reports from each of the CRC roundtables; brainstorm at PEC meeting to prioritize suggestions; make recommendations to the PEC and PEC standing Committees new products and services that align with ASHRAE's strategic initiatives.	4	1a, 2b	6/30/2025	TBD	Pending consolidated Roundtables report				x	x			x					x	x	x	x	x	x	x	x	x	x	x	x
5	Coordinate with the Strategic Planning Subcommittee of Planning Committee (PLC).	Receive guidance from Planning Committee on new Strategic Plan. Use information to guide development of new products and services.	1,2,3,4	1a, 1b, 3b	6/30/2025	TBD	Ongoing	x	x	x	x	x	x					x		x	x	x	x	x	x	x	x	x	x	x	x
6	Coordinate with the new Global Technical Interaction Committee (GTIC).	Receive feedback and reports from the GTIC and prioritize action items. Use information to guide development of new products and services.	4	1a, 1b, 2a, 2b	6/30/2025	TBD	Ongoing				x	x	x	x	x					x	x	x	x	x	x	x	x	x	x	x	x
								3	3	1	4	3	5	2	2	2	0	1	0												

PEC – Fiscal Subcommittee
Report to PEC

Tuesday, June 24, 2025

Motion

1. **That ASHRAE allocate $50,000 from general reserves to study appropriately conditioned space to maintain its world class library of ASHRAE and industry publications and archival items from the Society's history**

Background

The intent of the motion is to create:

- The physical space that can fully house ASHRAE's Library and Archives in a safe environment.
- Implement procedures to ensure the integrity of the collections moving forward.
- Develop a digitalization plan to expand access to the collections.
- Lay the groundwork for utilization of the collections in ways that promotes awareness of HVAC&R technology and benefits members.

Implementing this motion supports two objectives of ASHRAE's 2025-2028 Strategic Plan:

- Strategic Goal 1: Position ASHRAE as the **global leader** in advanced solutions to improve indoor environmental quality and address climate change.
- Strategic Goal 3: Increase the **accessibility** of ASHRAE content, resources and member opportunities.

ASHRAE retains the most extensive collection of HVAC&R literature in the world. ASHRAE's library and archives consist of from 3,000 to 5,000 books, proceedings, monographs and other media; 3,000 to 5,000 periodicals bound and unbound; and 5,000 to 10,000 historical records such as patents, correspondence, records, reports, biographies, and photographs.
The library and archives serve as resources for members to create histories about the technology and the Society's role in its development. For example, historical articles published in ASHRAE Journal regularly draw high readership scores are essential in celebrations of significant ASHRAE and industry milestones.

A long list of publications result from library holdings, such as Heat and Cold, 20th Century Air Conditioning, Pioneers of HVAC&R, Proclaiming the Truth, etc. The library and archives can also be a center for academics and researchers to advance research through bibliographic searches and to create works which increase the public's understanding of the contributions to human wellbeing made by HVACR technology.

Action to ensure this asset's viability is required, however. Current library and archives dedicated space is not adequate to accommodate new ASHRAE works as they are published. Not all of the items displayed at the Tullie Circle building were accommodated in the space allotted in the Peachtree Corner building. Plus, approximately 75 boxes of library and archives content held in offsite storage have been retrieved, requiring immediate action be taken to accommodate these publications, artifacts, and records of historical interest. Until the space issue is resolved, new ASHRAE publications and acceptance of historical items cannot be catalogued and shelved. And the more time that elapses without a solution, the more difficult the job will be to restore the library and archive's value.

The shelfing and display of historical items runs parallel to digitalization efforts to make the holdings more broadly available to the membership. Digitalization is underway through cooperation with the IEEE historical center, digital assets used to create ASHRAE publications in recent years are being identified and re-purposing as library content. Still, the process of digitization begins with cataloging the print content. While some items can exist in digital format only, other works have value if kept in original hard copy form along with digital representation.

In addition to staff, ASHRAE needs to enable access to library science expertise for cataloging and assisting in the digitalization effort. ASHRAE's long time librarian has recently retired. This support will update catalog of holdings to reflect current holding status and outline how holdings may be accesses – onsite and electronically.

When the space allocation and staffing resources are in place, the Historical Committee will identify and work with individuals to prepare a schedule of historically theme articles for ASHRAE Journal, organize conference sessions and create displays so that the entire membership can benefit from ASHRAE's historical intellectual property.

Library items and archive items have already been identified by a subcommittee of the Historical Committee. Items were discarded which did meet standards of historical significance or duplication. The report of the subcommittee is attached for reference.

Staff impact: Minimal—less than 40 hours.

Fiscal Impact: A total fiscal impact of a maximum $50,000.

PASSED 4-0-0, CNV

Information Items

1. Products Subcommittee report to Fiscal Subcommittee shown in **Attachment A**.

   This report includes:

   - Handbook Committee Report - *Attachment A of the Fiscal Subcommittee Report to PEC.*
   - Historical Report - *Attachment B of the Fiscal Subcommittee Report to PEC.*
   - Publications Report - *Attachment C of the Fiscal Subcommittee Report to PEC.*
   - Research Journal Subcommittee - *Attachment D of the Fiscal Subcommittee Report to PEC.*

2. Professional Development Subcommittee report to Fiscal Subcommittee shown in **Attachment B**.

This report includes:

- Certification Committee Report – *Attachment A of the Fiscal Subcommittee Report to PEC.*
- Training and Education Committee Report - *Attachment B of the Fiscal Subcommittee Report to PEC.*

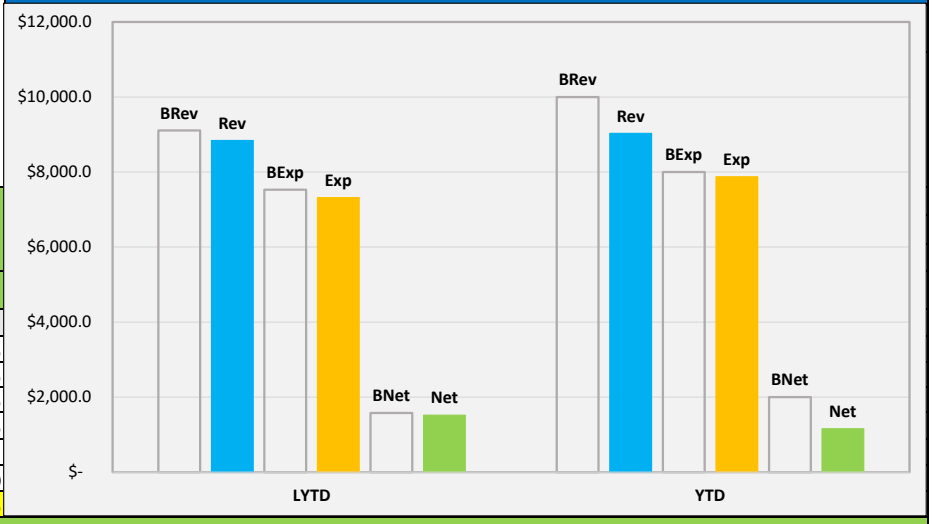
Respectfully Submitted,

Chandra Sekhar, Chair

Pub/Ed DASHBOARD

end May 2025

Pub/Ed Council TOTAL

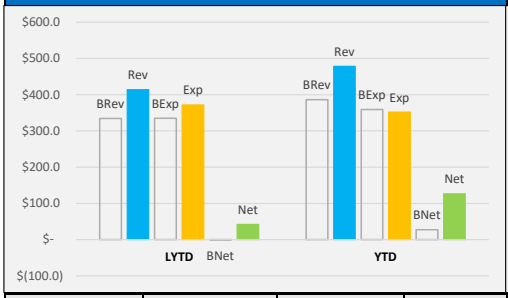


Item	LYTD	YTD	Diff v LY
BRev	$ 9,108.2	$ 9,998.4	10%
Rev	$ 8,839.7	$ 9,032.2	2%
BExp	$ 7,529.5	$ 8,000.6	6%
Exp	$ 7,321.4	$ 7,875.6	8%
BNet	$ 1,578.7	$ 1,997.8	$ 419.1
Net	$ 1,518.3	$ 1,156.6	$ (361.7)
Margin	17.2%	12.8%	-4.4%

NOTES:

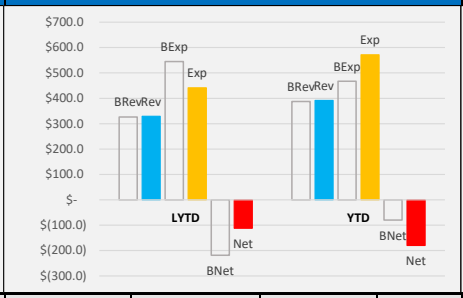
BRev = Budgeted revenue; **Rev** = Actual revenue; **BExp** = Budgeted expense before OH&BOD; **Exp** = Actual expense before OH&BOD; **BNet** = Budgeted net; **Net** = Actual net; **LYTD** = last fiscal year to date; **YTD** = current fiscal year to date; **Diff** = Difference between LYTD and YTD, either percentage or dollars. Data source = Financial statements (roll-ups for PEC, Certification, Handbook, Journal, Special Pubs, and Professional Development). Values = US$ x1000.

Certification



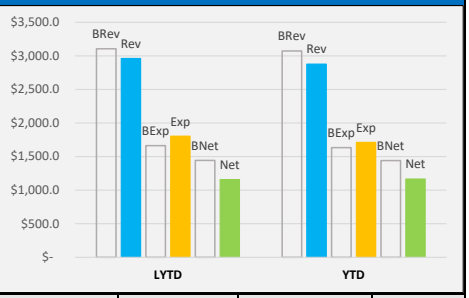
Item	LYTD	YTD	Diff v LY
BRev	$ 334.6	$ 386.4	15%
Rev	$ 414.0	$ 478.6	16%
BExp	$ 335.1	$ 359.2	7%
Exp	$ 371.8	$ 352.0	-5%
BNet	$ (0.5)	$ 27.2	$ 27.7
Net	$ 42.2	$ 126.6	$ 84.4
Margin	10.2%	26.5%	16.3%

Handbook



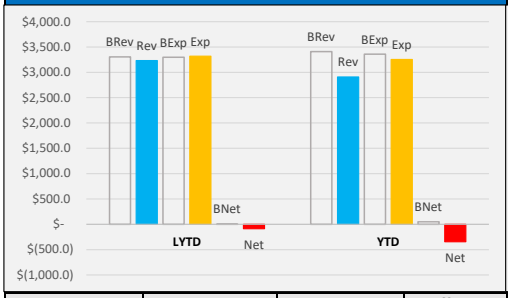
Item	LYTD	YTD	Diff v LY
BRev	$ 326.7	$ 387.3	19%
Rev	$ 329.1	$ 391.7	19%
BExp	$ 545.0	$ 467.2	-14%
Exp	$ 441.1	$ 571.6	30%
BNet	$ (218.3)	$ (79.9)	$ 138.4
Net	$ (112.0)	$ (179.9)	$ (67.9)
Margin	-34.0%	-45.9%	-11.9%

Special Pubs



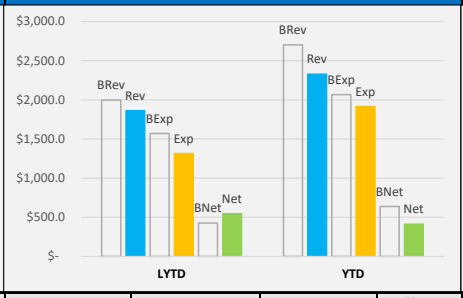
Item	LYTD	YTD	Diff v LY
BRev	$ 3,106.0	$ 3,073.3	-1%
Rev	$ 2,962.0	$ 2,877.9	-3%
BExp	$ 1,663.6	$ 1,634.3	-2%
Exp	$ 1,805.3	$ 1,711.2	-5%
BNet	$ 1,442.4	$ 1,439.0	$ (3.4)
Net	$ 1,156.7	$ 1,166.7	$ 10.0
Margin	39.1%	40.5%	1.5%

AJ-HPB/Advertising



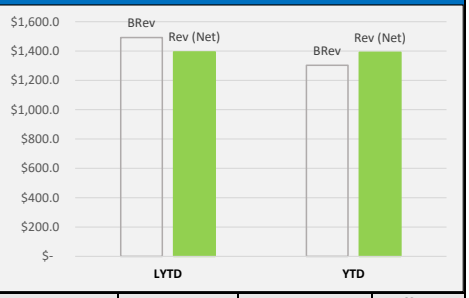
Item	LYTD	YTD	Diff v LY
BRev	$ 3,303.0	$ 3,407.4	3%
Rev	$ 3,232.6	$ 2,910.3	-10%
BExp	$ 3,299.1	$ 3,359.5	2%
Exp	$ 3,320.2	$ 3,255.2	-2%
BNet	$ 3.9	$ 47.9	$ 44.0
Net	$ (87.6)	$ (344.9)	$ (257.3)
Margin	-2.7%	-11.9%	-9.1%

ALI/eLearning



Item	LYTD	YTD	Diff v LY
BRev	$ 1,998.2	$ 2,704.3	35%
Rev	$ 1,864.3	$ 2,331.4	25%
BExp	$ 1,571.8	$ 2,066.6	31%
Exp	$ 1,315.5	$ 1,917.4	46%
BNet	$ 426.4	$ 637.7	$ 211.3
Net	$ 548.8	$ 414.0	$ (134.8)
Margin	29.4%	17.8%	-11.7%

Royalties



Item	LYTD	YTD	Diff v LY
BRev	$ 1,492.3	$ 1,303.3	-13%
Rev (Net)	$ 1,392.9	$ 1,390.6	0%

(No direct expenses, no margin; Rev = Net. Royalty revenue is included in the totals for the other business areas; broken out here for information.)

PEC – Products Subcommittee
Report to PEC Fiscal Subcommittee

Monday, June 23, 2025

Motions

1. That ASHRAE allocate adequate funds to study appropriately conditioned space to maintain its world class library of ASHRAE and industry publications and archival items from the Society's history

Background

The intent of the motion is to create:

- The physical space that can fully house ASHRAE's Library and Archives in a safe environment.
- Implement procedures to ensure the integrity of the collections moving forward.
- Develop a digitalization plan to expand access to the collections.
- Lay the groundwork for utilization of the collections in ways that promotes awareness of HVAC&R technology and benefits members.

Implementing this motion supports two objectives of ASHRAE's 2025-2028 Strategic Plan:

- Strategic Goal 1: Position ASHRAE as the **global leader** in advanced solutions to improve indoor environmental quality and address climate change.
- Strategic Goal 3: Increase the **accessibility** of ASHRAE content, resources and member opportunities.

ASHRAE retains the most extensive collection of HVAC&R literature in the world. ASHRAE's library and archives consist of from 3,000 to 5,000 books, proceedings, monographs and other media; 3,000 to 5,000 periodicals bound and unbound; and 5,000 to 10,000 historical records such as patents, correspondence, records, reports, biographies, and photographs.
The library and archives serve as resources for members to create histories about the technology and the Society's role in its development. For example, historical articles published in ASHRAE Journal regularly draw high readership scores are essential in celebrations of significant ASHRAE and industry milestones.

A long list of publications result from library holdings, such as Heat and Cold, 20th Century Air Conditioning, Pioneers of HVAC&R, Proclaiming the Truth, etc. The library and archives can also be a center for academics and researchers to advance research through bibliographic searches and to create works which increase the public's understanding of the contributions to human wellbeing made by HVACR technology.

Action to ensure this asset's viability is required, however. Current library and archives dedicated space is not adequate to accommodate new ASHRAE works as they are published. Not all of the items displayed at the Tullie Circle building were accommodated in the space allotted in the Peachtree Corner building. Plus, approximately 75 boxes of library and archives content held in offsite storage have been retrieved, requiring immediate action be taken to accommodate these publications, artifacts, and records of historical interest. Until the space issue is resolved, new ASHRAE publications and acceptance of historical items cannot be catalogued and shelved. And the more time that elapses without a solution, the more difficult the job will be to restore the library and archive's value.

The shelfing and display of historical items runs parallel to digitalization efforts to make the holdings more broadly available to the membership. Digitalization is underway through cooperation with the IEEE historical center, digital assets used to create ASHRAE publications in recent years are being identified and re-purposing as library content. Still, the process of digitization begins with cataloging the print content. While some items can exist in digital format only, other works have value if kept in original hard copy form along with digital representation.

In addition to staff, ASHRAE needs to enable access to library science expertise for cataloging and assisting in the digitalization effort. ASHRAE's long time librarian has recently retired. This support will update catalog of holdings to reflect current holding status and outline how holdings may be accesses – onsite and electronically.

When the space allocation and staffing resources are in place, the Historical Committee will identify and work with individuals to prepare a schedule of historically theme articles for ASHRAE Journal, organize conference sessions and create displays so that the entire membership can benefit from ASHRAE's historical intellectual property.

Library items and archive items have already been identified by a subcommittee of the Historical Committee. Items were discarded which did meet standards of historical significance or duplication. The report of the subcommittee is attached for reference.

Fiscal Impact: A total fiscal impact of a maximum $50,000.00.

Information Items

1. HBC brought a motion to PEC Products Subcommittee that was discussed and withdrawn after discussion by members. Handbook Committee (HBC) Report to PEC Products Subcommittee is shown in **Attachment A**.

2. Historical Committee Report to Products Subcommittee is shown in **Attachment B**.

3. Publications Committee Report to Products Subcommittee is shown in **Attachment C**.

4. Research Journal Subcommittee Report to Products Subcommittee is shown in **Attachment D**.

Respectfully submitted,

Adeeba Mehboob

Handbook Committee Report to PEC, Products Subcommittee
Sunday, 22 June 2025

Major Passed Motion

1. **HBC moved, seconded, and approved to request that ASHRAE PEC provide a streamlined offering to ASHRAE members and customers of the Handbook PDF and the Handbook Online under one login.**

   Background: Currently the member benefit for handbook PDF is tied to a member benefit and the handbook online is a subscription offering. It is confusing for ASHRAE members as to how to get to the Handbook online in addition to the Handbook PDFs as they are different portals and could have different usernames and passwords. It would provide better user experience of these two products if they were brought together on one platform/portal.

   Motion was passed unanimously by VV, CNV.

   Fiscal Impact: Lower staff maintenance for only one portal instead of two. The cost of implementing a uniform portal (TBD). Potentially a loss of handbook online revenue from members. This needs to be coordinated with future member benefit options. Potential revenue increase from sales to nonmembers for a combined Handbook Online + PDF product.
   Handbook Online: $77/year ASHRAE Handbook Online.
   Handbook PDF: https://technologyportal.ashrae.org/Handbook.

Information Items

1. The 2025 Fundamentals volume of the Handbook will be published July 1 in print and PDF formats, with Handbook Online updates following shortly after.

2. HBC chair Joe Furman has initiated formal discussions with TAC leadership on how to improve communication with TCs and increase adherence to deadlines, responsiveness to questions from liaisons and staff, etc. This collaboration will be ongoing but holds great promise in increasing communication and keeping everyone on the same page when it comes to ASHRAE publications.

3. HBC agreed to swap the order of the first two administrative subcommittees for incoming volume chairs, so the new progression will be Functional > Training > Electronic Media > Strategic Planning. This is based on volume chair feedback about the learning curve necessary for serving on HBC: previously the newest volume chair was responsible for training new liaisons and TC Handbook subcommittee chairs, while they were still getting up to speed with their new responsibilities. The new order will allow incoming chairs to familiarize themselves with HBC governing documents first, before needing to teach others.

4. See *Attachment A* for MBOs for 2024-2025.

Respectfully submitted,

Joseph Furman, HBC Chair
JF [mhek]

Attachment A: HBC MBOs for 2024-2025

MBO Submission to Planning	DATE	6/22/2025

Council:	PEC	**Chair:**	Joe Furman
Committee:	Handbook Committee	**Vice-chair:**	Stephanie Mages

								Strategic Plan Tally											
MBO #	**Description**	**Metric**	**Initiative #**	**Goal #**	**Completion % /Date**	**Financial Assist Req'd?**	**MBO Comments**	**Initiative #**	**Goal 1**	**Goal 2**	**Goal 3**								
		(how do we determine success?)						**1**	**2**	**3**	**4**	**a**	**b**	**a**	**b**	**c**	**a**	**b**	**c**
1	Consider Handbook volumes as a whole: balance out volume sizes.	All four volumes are of roughly equal size and workload. Currently, the Refrigeration volume is about 800 pages and lightly updated; the Applications volume is over 1500 pages and is heavily updated.	3	1b	Target 6/25	No	Volume rebalancing approved by PEC and will be implemented beginning with the 2028 HVAC Systems and Equipment volume.			x			x						

2	Review number of Chapters that are the responsibility of one TC	No TC is overloaded with more chapters than its membership can maintain.	3	1b	ongoing	No	Would even out burden on TCs; better response from individual overwhelmed TCs. However, very small TCs with very specialized knowledge (e.g., food refrigeration) may not have the membership numbers to sustain regular revisions, and there may not be other TCs with equivalent knowledge to help. Seeking collaboration with other related organizations is one potential path forward.			x			x						
3	Encourage TCs to develop extra features (spreadsheets, sidebar discussions, video, etc.) for Handbook Online.	Increase in number of Handbook Online extra features.	3, 4	1b, 2c	ongoing	No	Suggest to TCs that they use their YEA members.			x	x		x			x			
4	Review and improve ARG for clarity and conciseness (this includes the chapter submittal form).	Updates to be made.	3	1b	ongoing	No				x			x						

5	Review and improve MOP for clarity and conciseness.	Updates to be made.	3	1b	ongoing	No	Starting July 1, 2025, MBOs will be tracked using the new online form.			x			x							
6	Author and develop how-to videos and other job aids for HBC liaisons, TC handbook subcommeittee chairs, and other stakeholders.	Author and post videos	3	1b	ongoing	No	Improving and fine-tuning training materials is ongoing. One new request for staff is to produce a short video replicating the Authoring Portal portion of in-person training, so members can consult the information when it's needed rather than only at the conferences.			x			x							
7	Review single topic/multi TC Chapters responsibility to one TC.		3	1b	ongoing	No	Will help to avoid potential conflicting revisions from multiple TCs, and simplify chapter submittal process. May require guidance issued in reference manual for HBC use when conflicts arise			x			x							
8	Develop and maintain calendar-based activity prompts job aid for HBC leadership to use in managing the HBC.	Author and issue internal guidance document	3	1b	ongoing	No	Scheduling is done through Basecamp, but further improvements are being investigated.			x			x							

9	Work with staff to update Handbook Central.	Updates to be made.	3	1b	ongoing	No	Streamlining the public web page and making the chapter approval checklist available to TCs without having to sign into the Authoring Portal (e.g., for those with no planned changes for a cycle), and posting the Authoring Portal video referenced in item 6 above.			x			x						
10	Update Reference Manual and post on Basecamp.	Updates to be made.	3	1b	Target 1/25	No	A vintage reference manual (ca. 2008) was found and is in the process of being updated for modern use.			x			x						
11	Work with TC Leadership to engage TC's when HC Liasions cannot contact respective TC Liasions	Author and issue internal guidance document	JLF		ongoing	No	Responsibility of TC Volume Chapter revisions seems to lie with the HBC in the current structure. TAC should be accountable for the content and updates/revisions. HBC chair Joe Furman initiated formal contact with TAC, who expressed having similar concerns about timeliness and responsiveness regarding												

							publication deadlines.													

Historical Committee Report to PEC Products Subcommittee

Meeting of Monday, June 23, 2025

Motions

1. **That ASHRAE allocate adequate funds to study appropriately conditioned space to maintain its world class library of ASHRAE and industry publications and archival items from the Society's history**

Background:

The intent of the motion is to create:

- The physical space that can fully house ASHRAE's Library and Archives in a safe environment.
- Implement procedures to ensure the integrity of the collections moving forward.
- Develop a digitalization plan to expand access to the collections.
- Lay the groundwork for utilization of the collections in ways that promotes awareness of HVAC&R technology and benefits members.

Implementing this motion supports two objectives of ASHRAE's 2025-2028 Strategic Plan:

- Strategic Goal 1: Position ASHRAE as the **global leader** in advanced solutions to improve indoor environmental quality and address climate change.
- Strategic Goal 3: Increase the **accessibility** of ASHRAE content, resources and member opportunities.

ASHRAE retains the most extensive collection of HVAC&R literature in the world. ASHRAE's library and archives consist of from 3,000 to 5,000 books, proceedings, monographs and other media; 3,000 to 5,000 periodicals bound and unbound; and 5,000 to 10,000 historical records such as patents, correspondence, records, reports, biographies, and photographs. The library and archives serve as resources for members to create histories about the technology and the Society's role in its development. For example, historical articles published in ASHRAE Journal regularly draw high readership scores are essential in celebrations of significant ASHRAE and industry milestones.

A long list of publications result from library holdings, such as Heat and Cold, 20th Century Air Conditioning, Pioneers of HVAC&R, Proclaiming the Truth, etc. The library and archives can also be a center for academics and researchers to advance research through bibliographic searches and to create works which increase the public's understanding of the contributions to human wellbeing made by HVACR technology.

Action to ensure this asset's viability is required, however. Current library and archives dedicated space is not adequate to accommodate new ASHRAE works as they are published. Not all of the items displayed at the Tullie Circle building were accommodated in the space allotted in the Peachtree Corner building. Plus, approximately 75 boxes of library and archives content held in offsite storage have been retrieved, requiring immediate action be taken to accommodate these publications, artifacts, and records of historical interest. Until the space issue is resolved, new ASHRAE publications and acceptance of historical items cannot be catalogued and shelved. And the more time that elapses without a solution, the more difficult the job will be to restore the library and archive's value.

The shelfing and display of historical items runs parallel to digitalization efforts to make the holdings more broadly available to the membership. Digitalization is underway through cooperation with the IEEE historical center, digital assets used to create ASHRAE publications in recent years are being identified and re-purposing as library content. Still, the process of digitization begins with cataloging the print content. While some items can exist in digital format only, other works have value if kept in original hard copy form along with digital representation.

In addition to staff, ASHRAE needs to enable access to library science expertise for cataloging and assisting in the digitalization effort. ASHRAE's long time librarian has recently retired. This support will update catalog of holdings to reflect current holding status and outline how holdings may be accesses – onsite and electronically.

When the space allocation and staffing resources are in place, the Historical Committee will identify and work with individuals to prepare a schedule of historically theme articles for ASHRAE Journal, organize conference sessions and create displays so that the entire membership can benefit from ASHRAE's historical intellectual property.

Library items and archive items have already been identified by a subcommittee of the Historical Committee. Items were discarded which did meet standards of historical significance or duplication. The report of the subcommittee is attached for reference.

Fiscal Impact: A total fiscal impact of a maximum $50,000.00.

Information Items

1. Historical Committee reviewed the committee's 2024-2025 MBOs. (Attachment A)

2. Mr. Morasch reported to Historical Committee that there has been increased activity on the Engineering and Technology History Website (ETHW) wiki.

3. Mr. Nagengast, Mr. Feiner and Mr. Comstock visited ASHRAE Headquarters to survey and make recommendations for the future needs for the library and historical archives. Their report with detailed recommendations shown Attachment B.

4. A display of historical documents and posters has been set up in the ASHRAE bookstore for the Phoenix Conference. Having a physical presence at ASHRAE conferences will offer new and younger members an introduction to ASHRAE and the industry's history.

Respectfully submitted,

Akinbowale Soluade
June 22, 2025

MBO - Submission to Planning

last update: 2024-07/15

Council: Publications & Education
Committee: Historical

Chair: Norman Grusnick
Vice-chair: Olu Soluade

MBO #	Description	Metric	Initiative #	Goal #	Completion % /Date	Financial Assist Req'd?	MBO Comments	Strategic Plan Tally											
								Initiative #				Goal 1		Goal 2			Goal 3		
		(how do we determine success?)						1	2	3	4	a	b	a	b	c	a	b	c
1	Establish and maintain a continuous line of communication between Society Historical Committee and Regional+Chapter Historians	Electronic communication to be by Committee Chair on a quarterly basis, with input from committee members.	4	2a, 2c	Ongoing **50% complete**	No	propose Historical Committee newsletters to be issued in Nov,April				X			X		X			
2	Develop PAOE Recommended Changes for Next Year 2025-2026	To get ahead of the PAOE Committee Cycle with proposal for the following year's (Society Year 2024-2025), Historical PAOE subcommittee needs to work with the PAOE subcommittee of Members Council during the Fall to Submit recommendations.	4	2a	Ongoing due before Feb 1	No	review PAOE items and forward comments				x			X					
3	Encourage younger members of ASHRAE (specifically SA & YEA) to have interest in history related activities of the Society	reference PAOE H14=For each Membership Promotion, YEA, or Student Activities event planned with a representative from the chapter Historical Committee to add a historical context to the event	4	2a	Ongoing	No					X			X					
4	Identify volunteers to act as committee liaison to other Society Committees	Collaborating with other committees to support ASHRAE's mission by providing a historical context to educate and inspire members.	4	2a, 2c	Ongoing **25%**	No	**Historical Committee Liason:** Membership TBD **Young Engineers in ASHRAE** = TBD **Student Activities** = TBD				X			X		X			
5	Foster collaboration with other international societies to improve our historical research and support history related activities of the Society	1) Continue work to have ASHRAE membership in the IEEE History Center - Engineering & Technology History Wiki (ETHW) [web site: https://ethw.org]. 2) Grow support in the Life Members Club to fundraise & create an endowment fund that would provide ongoing financial support to sustain membership in the IEEE History Center. 3) Continue work on collaboration. HC has links with similar groups in CIBSE and AiCARR - opportunity to pursue to work w/similar committees in CEN, Intl Institute of Ammonia Refrigeration (IIAR), Intl Institute of Refrigeration (IIR), & Global Cold Chain Alliance (GCCA).	4	2b	Ongoing **ETHW complete Now Forward Items**	YES Annual fee	Budget has been approved for IEEE Wiki by PEC contigent on due diligince. Awaiting signature on agreement - **COMPLETED** **ETHW.org agreement signed,** **2024 payment completed,** **ASHRAE logo added to web site**				X				X				

6	Digitize, Sort and Archive historical items including old archived Journals and Transactions	Proposed to have some storage items at HQ identified	4	1b, 2c, 3c	Ongoing	Yes*	*require funds to purchase storage racking at HQ for storage of items *may require funds and persons to scan and index items **Plan trip to HQ to assess what we have**				x		x			X			X
7	Leadership Recall to be arrange at Winter and Summer Conference	Arrange two Presidential interviews. Review other potential interviewees	4	1b, 2c	Ongoing	Yes*	*used to have access to videogropher to video interviews at conferences, however no longer at present due to covid $ cuts. In discussion with ASHRAE Journal Podcast to use resources for interviews **Review if Podcast Team can provided then interviews**				X		x			X			
8	To increase committee visibility work with staff To have a historical display at in registration area at winter and annual meetings	First measure of success will be comments from members and what they have seen	4	1b, 2c	Will be ongoing displays	TBD	Display of past photos, blueprints artifacts will allow new members to See some of the origins of HVACR industry				x		X			x			
9	Ecourage Digital history displays at CRC Add to future PAOE value	Feedback from historians	4	1a, 2a	Ongoing	NO													
10																			
11																			
								0	**0**	**0**	**7**	**0**	**2**	**2**	**1**	**4**	**0**	**0**	**1**
								Initiative #				**Goal 1**		**Goal 2**			**Goal 3**		
								1	**2**	**3**	**4**	**a**	**b**	**a**	**b**	**c**	**a**	**b**	**c**

ASHRAE Library and Archives Revitalization Initiative
Holdings Review, Procedures Development & Space Allotment

March 26, 2025
Revitalization Team: Bern Nagengast, Steve Comstock, Niss Feiner

EXECUTIVE SUMMARY:

ASHRAE retains the most extensive collection of HVAC&R literature in the world.

ASHRAE's library and archives consist of from 3,000 to 5,000 books, proceedings, monographs and other media; 3,000 to 5,000 periodicals bound and unbound; and 5,000 to 10,000 historical records such as patents, correspondence, records, reports, biographies, and photographs.

Action to ensure this asset's viability is required, however. Current space is not adequate to accommodate new ASHRAE works as they are published, and not all the items from the Tullie Circle building were accommodated in the new space allotted in the Peachtree Corner building. Now, approximately 75 boxes of content held in offsite storage have been retrieved, requiring immediate action be taken to accommodate publications, artifacts, and records of historical interest

On March 7 to 9, the Historical Committee's Library and Archives Revitalization Team reviewed all holdings including the offsite storage with the aim of eliminating excess publications, removing items not of historical significance, separating items from other ASHRAE operations, and removing items damaged to the extent of making them unusable.

The team grouped the remaining holdings into ASHRAE Library, HVAC&R Historical Collection, and ASHRAE Archives.

Based upon these groupings, the team:

- Designated physical space that could house the collections.
- Conceptualized procedures to ensure the integrity of the collections moving forward.
- Developed a digitalization plan to expand access to the collections.
- Laid the groundwork for plans to utilize the collections in ways that promote awareness and member benefit.

Recommendations follow to implement a revitalization plan for the library and archives with objectives of:

- Leveraging the assets as a component of the Society's public outreach efforts to raise awareness of the benefits to society made by HVAC&R professionals.
- Providing a membership benefit through organization of physical holdings at ASHRAE Headquarters and enabling members to access holdings virtually.

RECOMMENDATION SUMMARY:

1. It is recommended that staff review excess items and dispose of them through return to inventory if currently sold, sale at the ASHRAE conference, online auction, give away to students, or any other opportunity to repurpose the publications. The repurpose effort can be used to generate awareness of the library and archives. As a last resort, items should be recycled.

   FISCAL IMPACT: Can be positive.

2. It is recommended that the current ASHRAE Library retains the name ASHRAE Library and be designated for ASHRAE publications and the rare book collection. Future publications will be able to be accommodated in this re-arranged space.

   FISCAL IMPACT: None

3. It is recommended that the current ASHRAE Archives Room be returned for other ASHRAE use.

   FISCAL IMPACT: None

4. It is recommended that the current storage room at bottom of staircase be named HVAC&R Historical Collection and ASHRAE Archives with appropriate designation of the room at entry.

   FISCAL IMPACT: None

5. It is recommended that to display the holdings, the bookcases from the current Archives room be relocated to this room with an additional 30 linear feet of matching bookcases purchased. In addition, 2 conference tables, each with 4 chairs, would enable the room to be a working space for researchers and staff. Having a computer terminal or laptop in the room with copier/scanner would also be beneficial to access the online catalog of holdings. It is also recommended to display in this room historical artifacts, such as ASHRAE's early thermostats collection, early hygrometers collection, and the DOMELRE (Domestic Electric Refrigerator).

6. **FISCAL IMPACT:** Estimated at $5,000 for additional shelving, copier/scanner and terminal/laptop is placed here.

7. It is recommended the storage room inside the HVAC&R Historical Collection space be designated ASHRAE Archives.

   FISCAL IMPACT: None

8. It is recommended that a staff team place the remaining boxed inventory on shelves in the newly assigned rooms.

   FISCAL IMPACT: None

9. It is recommended that each holding or collection of holdings in the ASHRAE Archives be accompanied by a statement noting its significance.

   FISCAL IMPACT: $6,000 for a small team of experts with historical perspective to attend a working meeting onsite, with the outcome also being articles or presentations on various subjects.

10. It is recommended that ASHRAE retain on a contractual basis a retired librarian or a library sciences intern to perform this cataloging under the guidance of a Historical Committee designee(s) and current staff member responsible for library processes.

    FISCAL IMPACT: TBD pending Steve Comstock research.

11. It is recommended that staff assemble a matrix showing (a) ASHRAE title or collection (e.g., standards, Transactions, Journal, Handbook, etc.); (b) Current existence of its digital assets; (c) source of the availability (e.g., NXTBOOK, Techstreet, IHS, ASHRAE production files, etc.); (d) gap in availability. This should be completed with an online search of non-ASHRAE sources).

    FISCAL IMPACT: None.

12. It is recommended that ASHRAE staff provide the selected materials to IEEE in fulfillment of our annual support agreement and to ascertain the quality and value and reuse of what is received.

    FISCAL IMPACT: None. ASHRAE currently supports the ETHW and using the service is provided as support benefit.

13. It is recommended that historical artifacts be labeled and placed in either the ASHRAE Library or the HVAC&R Historic Collections Room and the anniversary certificates be placed with the Centennial gift items.

    FISCAL IMPACT: None.

14. It is recommended that the ASHRAE Historical Committee continue to (A) monitor the maintenance of the holdings catalog and the transition of historic ASHRAE items to digital format and (B) promote contents of the collections to the membership through displays, articles, presentations, and virtual events. It is recommended that the Historical Committee update its Reference Manual to reflect these goals.

    FISCAL IMPACT: None.

BACKGROUND FOR RECOMMENDED ACTIONS:

Intelligently Dispose of Excess Works. Approximately 150 to 200 publications have been identified as excess and placed in a storage area for staff to repurpose or dispose.

It is recommended that staff review excess items and dispose of them through return to inventory if currently sold, sale at the ASHRAE conference, online auction, give away to students, or any other opportunity to repurpose the publications. The repurpose effort can be used to generate awareness of the library and archives. As a last resort, items should be recycled.

Associated with this recommendation is that Steve Comstock will reach out to ASHRAE TC 6.7 Solar Energy Utilization to determine the historical value of 3 boxes of documentation donated by Presidential Member Frank Faust on solar energy, mostly in the form of ERDA and DOE reports.

Based upon TC input items will be either marked for cataloging and retention or online sale, conference sale, or recycling.

Re-Assign Library/Archives Space. Two spaces are currently assigned for holdings in the Peachtree Corners building: The ASHRAE Library and the ASHRAE Archives. These spaces, however, cannot accommodate all of the items in the former library and archive space. Plus, the library cannot accommodate publications as they are released. The lack of space is more pressing with the relocation to HQ of excess library holdings retained in storage off-site.

It is recommended that the current ASHRAE Library retain the name ASHRAE Library and be designated for ASHRAE publications and the rare book collection. Future publications will be able to be accommodated in this re-arranged space.

The ASHRAE Library will hold, for example, ASHRAE (and ASHVE and ASRE) Journals, ASHRAE (and ASRE and ASHVE) Handbooks. ASHRAE (and ASHVE) Transactions, ASHRAE Insights, ASHRAE published conference proceedings, bound ASHRAE Insights, ASHRAE Indexes.

It is recommended that the current ASHRAE Archives Room be returned to the Society for other ASHRAE use.

It is recommended that the current storage room at the bottom of the staircase be named HVAC&R Historical Collection and ASHRAE Archives, with appropriate room designation at entry.

The room needs to be cleared of the current contents (excess furniture, etc.) The large area upon entry will be HVAC&R Historical Collection. It will hold all of the non-ASHRAE published periodicals that track the evolution of the industry including, for example, HPAC (non ASHVE Section years), American Artisan, Domestic Engineering, Heating and Ventilation, Ice and Refrigeration, Metal Worker, Plumbers and Heating Journal, and ICE.

This space will also include books not published by ASHRAE that have industry/technology development significance, current works of interest to HVAC&R professionals, and proceedings and papers from conferences sponsored by ASHRAE but not published by ASHRAE.

Other components of the space will be translations of ASHRAE Publications (no digital asset); Publications that include licensed ASHRAE content (no digital asset); and Periodicals published by sister societies, including ASHRAE International Associates (current month only – no digital asset.) Displaying HVAC&R technology publications from around the world showcases the global network that ASHRAE coordinates. It also will allow ASHRAE to display the publications from sister societies, allowing overseas visitors to HQ an opportunity to see that ASHRAE values international exchanges.

Also, the space will include complete second sets of ASHRAE publications (as protection against loss of original items maintained in the ASHRAE Library) and unbound copies of ASHRAE Journals and ASHRAE Research Journal (to allow for easy scanning and copying).

It is recommended that to display the holdings, the bookcases from the current archives room be relocated to this room with an additional 30 linear feet of matching bookcases purchased. In addition, 2 conference tables, each with 4 chairs, would enable the room to be a working space for researchers and staff. Having a computer terminal or laptop in the room with copier/scanner would also be beneficial to access the online catalog of holdings. It is also recommended to display in this room historical artifacts such as ASHRAE's early thermostats collection, early hygrometers collection, and the DOMELRE (Domestic Electric Refrigerator).

The tables and chairs might be able to be drawn from the surplus furniture currently stored in the room.

Within the room, artifacts owned by ASHRAE such as the early thermostats collection and the collection of hygrometers can be labeled and displayed in appropriate cabinets. There are additional items in the archives, such as early correspondence and patents of William Mackay, co-founder of ASHVE, and copper plates used for printing ASHRAE's psychrometric charts, that can also be displayed. In fact, the DOMELRE (Domestic Electric Refrigerator), one of the first successful domestic electric refrigerators, could be relocated here from its obscure location in a hallway.

Another element of the HVAC&R Historical Collections room could be the display plaque for the ASHRAE Hall of Fame with the notebook that explains why each member was selected for recognition.

It is recommended the storage room inside the HVAC&R Historical Collection space be designated ASHRAE Archives.

The filing cabinets in the current archives room should be placed here. These cabinets hold biographical material of prominent members and technology leaders, magazine articles about HVAC&R development, meeting programs, files from significant ASHRAE events, like the ASHAE and ASRE merger and HQ relocation from New York, and other memorabilia and member donations.

All meeting photographs should be stored in the archives, properly labeled/tagged for their later digital use.

In addition, one or two of the bookcase units from the current archives room will need to be placed in this room for the notebooks of artwork assembled for ASHRAE-published history books, the Al Newton Collection of early solar energy and industrial refrigeration applications, Gold Ribbon for History chapter history submissions, etc.

It is recommended that a staff team place the remaining boxed inventory on shelves in the newly assigned rooms.

The Revitalization Team organized and labeled excess inventory. It is waiting on shelving to be available. It is not effective use of volunteer time (or the expense) for travel to Headquarters and place books on shelving. The Revitalization Team will be available virtually to provide guidance at the start of the restacking process or answer questions should they arise.

It is recommended that each holding or collection of holdings in the ASHRAE Archives be accompanied by a statement noting its significance.

These statements will be helpful when materials are used in historical compilations, displays, online reproduction, or by visitors to HQ. They should be prepared by individuals knowledgeable about the history of the Society, the technology and the industry. An onsite visit by this team would be beneficial.

Individuals preparing such statements could also be tasked with preparing Journal articles on Archive items, meeting presentations, podcasts, or virtual presentations.

Contract for Support. A substantial number of items obtained during the past several years, new ASHRAE publications and some items retrieved from Iron Mountain storage need to be cataloged. The revitalization team in some cases placed these items in the library or archives with the need to catalog noted.

It is recommended that ASHRAE retain on a contractual basis a retired librarian or a library sciences intern to perform this cataloging under the guidance of a Historical Committee designee(s) and current staff member responsible for library processes.

Steve Comstock is reaching out to Emory University, Georgia Institute of Technology and Georgia State University to obtain information about library science intern or other resource availability, including cost and processes.

The contracted source should also be tasked with advising ASHRAE on how the catalog can be best prepared for virtual access and providing guidance on how digital access can be expanded, including maintaining respecting the integrity of copyright with consideration of ASHRAE publishing licensing and sales policies.

Expand Digital Holdings. Creating the Library and Archives in digital form will expand access to the resource to ASHRAE's global membership and researchers around the world. It will also protect the assets from catastrophic loss to the physical holdings. Having assets in digital form also assists with retrieval because of searching and indexing features. However, copyrights need to be respected, errors in content can be entered during scanning, and the physical nature of some items are in themselves of historical significance.

> **It is recommended that staff assemble a matrix showing (a) ASHRAE title or collection (e.g., standards, Transactions, Journal, Handbook, etc.); (b) Current existence of its digital assets; (c) source of availability (e.g., NXTBOOK, Techstreet, HIS, ASHRAE production files, etc.); (d) gap in availability. This should be completed with an online search of non-ASHRAE sources).**
>
> This is a first step. The objective here is to capture what is available and determine extent of what is needed.
>
> All of ASHRAE works since the 1990s were created in digital form. Plus. many older and other publisher's older works may already exist digitally. Research needs to take place to retrieve and use existing adequate digital files, to put procedures in place to retain and archive files of new works, and develop a plan in place to fill the gap in digital assets.
>
> Later steps will be to survey for digital availability for ASHRAE all books and other holdings in the library.
>
> While some items will be able to be discarded after digitization, digitization in general should not be considered as a replacement. It is in many cases another avenue for access, a backup, or a means to reduce the need for redundancy.

Utilize the Engineering and Technology History Wiki (ETHW). ASHRAE is a supporter of ETHW, a collaborative platform that documents the history of technology and engineering. It is maintained by the IEEE History Center and serves as a valuable resource for engineers, historians, and anyone interested in the development of engineering and its impact on modern society. As part of its support, ASHRAE has the right to provide content for IEEE to digitize and incorporate it into the platform.

> **It is recommended that ASHRAE staff provide selected materials to IEEE in fulfillment of our annual support agreement and to ascertain the quality and value and reuse of what is received.**
>
> The revitalization team assembled a box of historical materials from the archives and library to be sent to IEEE to learn more about the digitization service and how content will appear in the Wiki.

Display of Photographs, Artifacts and Certificates. The archives and library included several instruments of historical significance used in HVAC&R including thermostats and hygrometers. These artifacts now are mixed in with the Centennial display cases in the reception area. Also, certificates presented to ASHRAE for its 75th and 100th Anniversaries were also in library storage.

It is recommended that historical artifacts be labelled and placed in either the ASHRAE Library or the HVAC&R Historic Collection room and the anniversary certificates be placed with the Centennial gift items.

There are other historic artifacts in the archives that can be displayed such as the Pioneers of Refrigeration plaque, the copper printing plates used for psychrometric charts, and drawings. These should be considered for display.

The photographs of AT Boggs, FM Coda, ME Pennington and W Carrier should be placed in the library with name plates should be re-hung in the library as they were before.

The Centennial Commemorative US Postage stamps and Commemorative Centennial Poster signed by sister societies should be placed with the Centennial items.

Provide Virtual Access to the Catalog and Content of the Library and Archives. The long-term goal is to maximize Online access to ASHRAE's holdings. After the previously stated recommendations are implemented, ASHRAE will be in a position to best move forward to achieving the maximum benefit of remote access to all content.

It is recommended that the ASHRAE Historical Committee continue to (A) monitor the maintenance of the holdings catalog and the transition of historic ASHRAE items to digital format; and (B) promote contents of the collections to the membership through displays, articles, presentations, and virtual events. It is recommended that the Historical Committee update its Reference Manual to reflect these goals.

To be considered in this process are the ASHRAE publications, such as ASHRAE FIND, that have digital content such as floppy computer discs. And a plan will need to be put in place for digitization of the archives after a deeper-give into the Archives by the Revitalization Team.

In the meantime, the process of digitization will move forward so that lessons can be learned, and appropriate procedures put in place.

CONCLUSION

The ASHRAE collection of HVAC&R literature is the world's most extensive. Were it to be disassembled it could not be replaced.

The Society's obligation is to maintain and safeguard the collection to ensure continued access to the story of HVAC&R engineering can be told, understood, and appreciated. Having a viable library and archives supports ASHRAE efforts to raise the public profile of HVAC&R Technology and assists researchers as they look to the past to better understand that path forward in technology application.

With this obligation comes the need to draw upon ASHRAE historical resources to create products and use the asset in other ways to promote awareness of resources and to make ASHRAE HQ a physical destination and the ASHRAE website a virtual destination that can be a source of pride for ASHRAE members.

ANNEX
ASHRAE Library &
HVAC&R Historical Collection and ASHRAE Archives
PROCEDURAL OUTLINE

ASHRAE Library

Maintains:

1. ASHRAE Books
2. ASHRAE Textbooks
3. ASHRAE Published Proceedings
4. ASHRAE Conference Papers (not pre-prints from ASHRAE conferences/meetings)
5. ASHRAE Handbooks
6. ASHRAE Handbook of Fundamentals
7. ASRE Data Books
8. ASHVE Guides
9. ASHRAE Guide and Data Books
10. ASHRAE Standards
11. ASHRAE Guidelines
12. ASHRAE Transactions
13. Refrigerating Abstracts
14. ASRE Journal
15. Refrigerating Engineering
16. ASHVE Journal
17. Heating and Ventilating
18. HPAC 1030-1958 ASHVE Journal Section
19. ASHRAE Composite Indexes including journals and Transactions
20. Electronic Products (with new content or access, e.g., ASHRAE Find, Videotapes)
21. HPB Magazine
22. Research Journal (HVAC&R Research, STBE)
23. Insights

All products kept in physical form (one copy) and in digital form (complete publications).

HVAC&R Historical Collection

Maintains:

1. HVAC&R Books from other publishers
2. HPAC (non ASHVE Section years)
3. American Artisan
4. Domestic Engineering
5. Heating and Ventilation
6. Ice and Refrigeration
7. Metal Worker
8. Plumbers Trade Journal
9. ICE
10. Proceedings of Conferences Co-Sponsored by ASHRAE but not ASHRAE Published
11. Translations of ASHRAE Publications (no digital asset)

12. Publications that include licensed ASHRAE content (no digital asset).
13. Periodicals published by sister societies, including ASHRAE International Associates (current month only – no digital asset)
14. Second set of ASHRAE publications (as backup) – Books, periodicals, proceedings, products
15. Unbound copies of ASHRAE periodicals (for scanning)
16. Magazines received at HQ

All products kept in physical form. Digital copies kept for non-ASHRAE items as permitted by copyright.

ASHRAE Archives

Maintains:

1. Biographical material of prominent members and technology leaders
2. Magazine articles about HVAC&R development
3. Meeting programs
4. Files from significant ASHRAE events, like the ASHAE and ASRE merger and HQ relocation from New York
5. Photographs
6. Patents
7. Visuals, blueprints, drawings, files from significant HVACR systems and inventions
8. Collections of rare documents like the Al Newton Collection
9. Scrapbooks assembled by members
10. Source files and artwork used in ASHRAE historical publications
11. Chapter histories earning Gold Ribbon for History Awards
12. Period pieces like annual reports, news announcements, news clips.

ANNEX

ASHRAE Library &
HVAC&R Historical Collection and ASHRAE Archives
Digitalization Matrix

A First Milestone for completing the digital asset availability is to digitize all ASHRAE Works (from 1959) on. Predecessor Society works before than will be considered after this first step is complete. The objective is to first utilize all existing resources. And to put procedures in place to retain digital assets.

It is recommended that staff assemble a matrix showing (a) ASHRAE title or collection (e.g., standards, Transactions, Journal, Handbook, etc.); (b) Current existence of its digital assets; (c) source of availability (e.g., NXTBOOK, Techstreet, HIS, ASHRAE production files, etc.); (d) gap in availability. This should be completed with an online search of non-ASHRAE sources).

EXAMPLE

Item	**Digital Assets Available**	**Available or Needed**	**Source if Available**	**Comment**
ASHRAE Journal	2024-2025	Available	Production Files	
	2010-2024	Available	NXTBook	But articles only, not complete issues.
	1959-2009	Needed		
ASHRAE Standards	2000-2025	Available	Techstreet	Also more recent in production files; Current versions and all previous editions in time frame

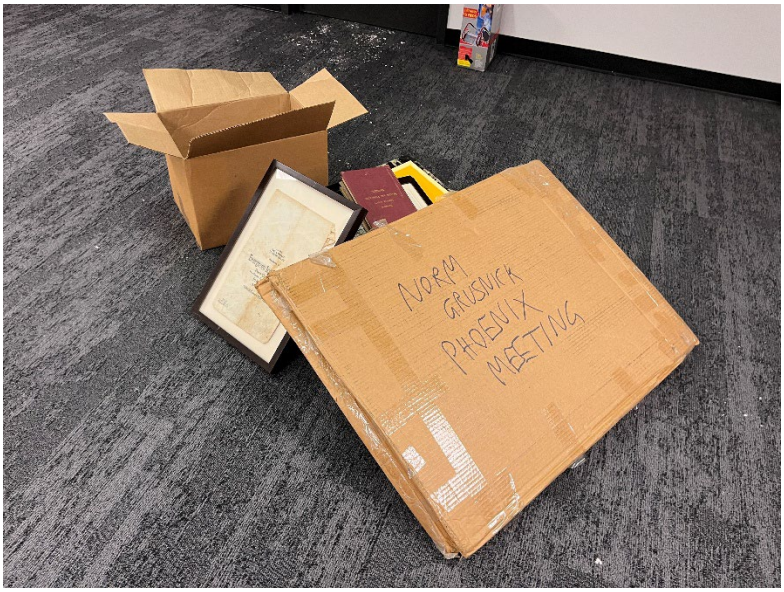
REVIEW OF BOOKS TO DETERMINE HISTORICAL SIGNIFICANCE

MOVING BOOKS PREVIOUSLY IN STORAGE OR MISASSIGNED IN CURRENT LOCATIONS

BOOKS RE-CLASSIFIED NOW AWAITING SHELFING (NOT ALL BOOKS/PERIODICALS)

PUBLICATIONS THAT CAN BE REPURPOSED

ITEMS SET ASIDE FOR HISTORICAL DISPLAY AT UPCOMING ASHRAE MEETING



CURRENT STORAGE SPACE RECOMMENDED FOR HVAC&R HISTORICAL COLLECTION AND ASHRAE ARCHIVES

ASHRAE RARE BOOK COLLECTION WITH TITLS DATING FROM THE 1800S

ASHRAE RETAINS COMPLETE COLLECTION OF NOT ONLLY ASHRAE, ASRE, ASHVE PEERIODICALS BUT ALSO OF THE MAJOR TRADE JOURNALS SERVING THE INDUSTRY SINCE THE LATE 1800S.

AMONG ASHRAE'S HISTORICAL ARTIFACTS IS A COLLECTION OF EARLY THERMOSTATS AND GAUGES FROM THE 1890S USED IN A 42ND STREET THEATER IN NEW YORK.

Preserving our Heritage – Andy Pearson

This report is an addendum to the excellent review conducted by Steve Comstock, with Bern Nagengast and Niss Feiner, dated 11th March and titled "ASHRAE Library and Archives Revitalization Initiative - Holdings Review, Procedures Development & Space Allotment". This addendum is not intended as a criticism of any ASHRAE staff member, the Board of Directors, Committee members or others, but it seeks to highlight what actions are required to preserve this heritage asset that the society currently owns and to work out how to overcome the obstacles that are blocking these actions.

1) I visited ASHRAE HQ on Wednesday 14th May to take a look at the scope and condition of the current library and archive and to gain a better understanding of the challenges that are faced. Julie Harr was in the office and showed me the various spaces currently provided for the storage and display of this material.

2) I inspected the range and variety of books, journals and proceedings that are held in the collection.

3) There are three rooms allocated to the library and archive.

    a. The Library is relatively small with four aisles of book racks and a traditional glass-fronted wooden bookcase containing the Meckler collection. The books on the shelves go back to the early 20th century – those in the Meckler bookcase are in some cases about 50 years older. Many of the older books in the library have at some time been properly catalogued and are labelled on their spines but others have been added more recently with no catalog. There are also many CDs containing proceedings of more recent conferences, but there is no means of accessing the data on the CD.

    b. There is a storage closet on the same floor: smaller than the library and with no windows. It contains a lot of old periodicals, some rare and valuable, and a collection of 1920s advertisements for refrigerators. This store has not been ordered in any way although some of the items have been stored in labelled boxes.

    c. There is a larger room (with two small anterooms) in the lower basement level. The main room is filled with junk left over from the office fit out. One anteroom contains a lot of boxes of books and journals the other has a desk, some pedestal drawers (locked) and a few boxes of books.

4) I did not see any "artifacts" other than the copper psychrometric printing block, the Domelre refrigerator and the instruments on display in the lower foyer. I agree with the Comstock report's conclusion that the Domelre should be relocated to a more prominent location that will help to accentuate ASHRAE's technical heritage – perhaps displayed with some of the old advertisements mentioned in 3b above, as well as the display board currently alongside the refrigerator.

5) The current plan as I understand it is to devote the library to display of ASHRAE publications and to move all other material (apart from the Meckler collection) from the library and the storage closet down to the main basement room. It is extremely regrettable that this entire process is prevented from proceeding because the main basement room is full of junk that was dumped there during the fit out of the building and has not been touched since. Funding is required to clear the space – whether the contents go to charity, for sale or to trash – and labor is required to move it all out. Nothing else can happen until this first step has been taken.

6) It is not clear whether this first step has not yet been taken due to lack of funds, lack of labor, lack of willpower, or lack of ownership. The historical committee's staff liaison does not have the authority or the resources to take this on. It seems to me that the senior management of the society, under the instruction of the board of directors, need to make this happen as a matter of urgency by allocating resource to the effort.

7) Once the basement spaces (including the adjacent office anteroom) have been cleared, the task of creating a useful working space with a pleasant ambience can begin. This space will require to be redecorated and should be fitted with suitable work desks, IT provision and shelving for the collection. If the impediment to this second step is lack of finance, then the society should embark on a specific two step funding program to create the means to achieve this outcome. To be very clear – this is not the task of the Historical Committee or the staff liaison. The Board of Directors need to provide the resource one way or another – further suggestions are given below.

8) When the basement room is equipped, the task of moving items from the library and the storage closet can begin but this must not be done in a haphazard way. The already catalogued items should be placed on shelves in order and the uncatalogued items should be properly catalogued and placed on shelves. An electronic index of the items should be populated as they are catalogued for future reference. Note: ASHRAE does not currently employ anyone with the skillset to do this job.

9) Once the non-ASHRAE items have been moved from the library it can be populated with the transactions and proceedings that are currently not on display. This is the strategy proposed in the Comstock report, but it strikes me that this limits the utility of the only visible space in the whole archive. It might be appropriate to keep track of which items are most frequently requested or accessed and then rearrange the stock to bring those items to more prominent display.

10) The Comstock report has several recommendations of actions to be taken by "staff" but there are no staff with these actions in their job description. It is not reasonable to expect Julie Harr to be able to make all this happen with no resources. The labor resource to make these actions happen needs to come from elsewhere. There are several options:

    a. Other ASHRAE staff could be seconded to provide assistance, perhaps by organising a "Heritage Group" within the staff to do this on a voluntary basis or alternatively by giving them an additional responsibility in their existing roles. There are over 100 people on staff so it should be possible to arrange a task force of five or six, even if only on a temporary basis.

    b. ASHRAE could add an archivist to staff with the specific task of leading the effort of volunteers

    c. Assistance could be sought from the local Atlanta chapter, but I would not expect then to have specialist knowledge of the historical significance of all of the material. It is not reasonable to place this burden on the chapter historian, but they could act as a "recruiter" for this volunteer effort.

    d. Assistance could be sought from the local student body – what connections do ASHRAE have with the local universities? This could be mechanical engineering students, or it could be librarianship students and it could be done as a paid internship for an individual or even a small group, or it could be a larger volunteer group. Either way this would require strict supervision so is probably not viable unless ASHRAE employ the archivist mentioned above and the volunteer labor would be under their strict supervision.

    e. Assistance could be sought from local businesses even if they are not predominantly ASHRAE members, but this would need further control.

11) The Comstock report presents a very light touch approach to finance but if we are serious about preserving our heritage, we should be willing to commit significant resource to it and should also be willing to sanction additional fundraising effort to support this work. There are several ways to do this.

    a. The board could agree to set aside a suitable sum from ordinary activities to fund this work. This is about taking action to maintain a precious resource, but it does not seem to have any real financial support from the Board of Directors. It is a disgrace that this has not already been taken care of five years after moving into the new building. The junk that is blocking the actions outlined above has been lying there for all that time.

    b. If the board are unwilling or unable to support the preservation of ASHRAE's heritage they could approve some additional fundraising provided it was clear that this would not have an adverse impact on income. This fundraising is not the role of the Historical Committee, but they can help with it. A working group to manage this activity should be set up, including members of the Historical Committee but with other relevant officers and staff, empowered to take appropriate action without being hampered by bureaucracy.

    c. One method of fundraising would be to add a check box to the member dues renewal notice saying "Contribute to Preserving Our Heritage" with a suggested donation of $10. Larger amounts could also be offered as an opt-in.

    d. The Society could seek a single donor to sponsor the basement facility in the way that other spaces within the building have been sponsored, and recognition given.

    e. The working group could set up a crowd funding opportunity with a wall within the basement room displaying the names of all the donors.

    f. The working group could petition all chapters to contribute to the Preserving our Heritage fund, with recognition of financial donations recorded.

    g. The Society could approach a university active in the HVACR field and seek funding, hardware and expert support in archiving: this could be in memory of a member of the faculty who was active in ASHRAE, or it could be an ongoing active involvement in supporting the current students. It could be a joint venture between several universities.

    h. The society could ask one of the local universities to take over the management of the collection and treat it as an annex to their own facility. This could be done with the library contents in place, or they could be relocated to the university's facility. This would be most valuable if there were unique unpublished materials in the archive.

12) The Comstock report suggests that once the basement room has been set in order the upstairs archive store can be made available for other uses. I suggest that it should be set up as a study room complete with desks, IT equipment including CD reader, scanner and printer and should not be used for purposes other than library/educational. If it is to be handed over to be repurposed, then the library/archive need to receive something of suitable significance to compensate.

13) I understand that there is significant reluctance to put historical artifacts, pictures or posters on display in the main hallways, breakrooms and other public spaces. This is perhaps fair and reasonable, but it needs to be justified. The Domelre is a good example – is there a concern that this gives a false impression of the Society, being "stuck in the past" and not forward looking? That perception is dangerous and misguided.

Conclusions

The library and archive assets of ASHRAE fall into five distinct groups:

i) There are old and rare books that might be difficult to find elsewhere
ii) There are old materials not published and not available elsewhere
iii) There are sets of conference proceedings and journals that are likely to be difficult to find elsewhere
iv) There are current and historic textbooks, probably available elsewhere but not collated in this way
v) There are materials ranging from the early 1900s to the present day related to ASHRAE in its various historical forms
vi) There are society records, minute books and photographs not available elsewhere

Putting the library and archive assets owned by ASHRAE into good order is not the sole responsibility of the Historical Committee. There ought to be multiple stakeholders with an interest in the different aspects of the task. The following departments of ASHRAE staff have a role to play in this: Marketing, ASHRAE Journal, ASHRAE Handbook, Special Publications, Member Services, Finance, Membership, Chapter Programs, Young Professionals and Students, Conferences, Technology, Research, Publications and Education. The following committees have a role to play in this in addition to the Historical Committee: Members Council (including the Young Engineers Committee), Technology Council (including Research) and the Publishing and Education Council (including Training and Education Committee and Publications Committee).

There will be little to no progress in putting the library and archive together until a dynamic, motivated, funded and equipped group of interested people is formed to make this happen. The questions that this group should address (which as far as I can see have not yet been addressed) are:

i) What do members want the heritage to be?
ii) What are members willing to pay for?
iii) How do ASHRAE plan to serve the needs of the members in this respect?
iv) Who can coordinate the efforts of such a diverse group to achieve a common outcome?

ASHRAE Shaping Tomorrow's Global Built Environment Today

Publications Committee Report to the Products Subcommittee of the Publishing and Education Council

Monday, June 23, 2025, 8:00-9:30 a.m.

Action Items

(none)

Information Items

Major Motions:

1. Publications Committee voted on a Special Publications proposal regarding evaluation of the capabilities of a fledgling energy analysis model and will be sending their response to the submitter.
2. Publications Committee voted on a response to supply to RAC regarding PTAR #0008, Updating *Reference Guide for Dynamic Models of HVAC Equipment* – Phase I, and is forwarding that to RAC for their consideration before the final vote on this PTAR.

Other:

1. Regarding the action item assigned to Publications Committee in Orlando in February 2025 to look into making the Psychrometric Analysis CD available for free and/or forming partnerships with schools to use Psychrometric Analysis or the ASHRAE psychrometric charts as a way of spreading the ASHRAE brand and making the Society known early as a resource and therefore a trusted source for life, the committee
    a. discussed the various products and the sales revenue for each,
    b. was informed by staff that the Psychrometric Analysis CD is being replaced by a download version and an online version,
    c. was in agreement that this might be a good branding opportunity for ASHRAE, and
    d. determined that more discussion with staff is needed to explore offering PDFs of the psychrometric charts for sale and making the online version of Psychrometric Analysis and the potential new PDFs of charts available to students and universities.
2. Updates on the Publications Committee MBOs for the 2024–2025 Society year are included in **Attachment A**.
3. An executive summary of an ASHRAE Publishing Opportunities report, which is the result of the work done on MBOs 1 and 2, is included in **Attachment B**.
4. The Publications Committee MBOs for the 2025–2026 Society year are included in **Attachment C**.

Respectfully submitted,
Megan Tosh, Chair
Publications Committee
21 June 2025

Attachment A

Publications Committee MBOs for Society Year 2024–2025

Chair: Megan Tosh **Date:** 21 June 2025

MBO #	Description	Metric	Initiative #	Goal #	Completion % /Date	Financial Assist Req'd?	MBO Comments
		(how do we determine success?)					
1	Create a process for the Publications Committee to compile information on market needs for publications and communicate that information to potential authors	Update the Reference Manual to describe the process for committee operations	3	1b, 2b, 3a	2025 Annual Meeting	N	Publications Committee receives input on market needs from other committees and organizations, as well as through its own internal evaluations. *Complete*
2	Integrate ASHRAE publications with other ASHRAE product offerings.	Compile a report on product opportunities and identify market gaps	4	1a, 1b, 2c	2025 Annual Meeting	N	Liaise with Training & Education, Certifications, and others to ensure existing publications are fully leveraged and to identify new product opportunities. *Complete*
3	Develop a streamlined communication process with technical committees that support publication	50% response rate from TC chairs by 2025 Annual Conference	3	3b	2025 Winter Meeting	N	Publications Committee to set up a working group meeting with members of TAC to develop a method of communication with TC chairs so publications that have been developed by TCs are adequately maintained and managed. *Complete*

Attachment B

ASHRAE PUBLICATIONS OPPORTUNITIES—EXECUTIVE SUMMARY

Megan Tosh, 2024–2025 Publications Committee Chair
June 21, 2025

Background

Publications Committee undertook a two-year effort to identify how the committee could strategically evaluate where ASHRAE had gaps in our product offerings to members of our industry. Goals included identifying where information to inform analysis could be sourced, ensuring the work could continue in future Society Years, and establishing a pathway for filling product gaps, once identified. Below is a result of seeking information for analysis.

Information was sourced from within ASHRAE, specifically from Chapter Technology Transfer Committee, Training and Education Committee, Government Affairs Committee, Conferences & Expositions Committee, CRC Roundtable reports, and sales data provided by ASHRAE staff. It is noted that this assessment overlooks the needs of members of our industry that are not currently engaging with ASHRAE programs, products, or services as their needs are not necessarily reflected through these sources.

Results Summary: Common Themes

Publications Committee worked within the Society to determine which content produced by ASHRAE is most sought after by the industry members we serve. Three topic areas were clearly the most popular, appearing significantly more frequently in the research than all other topics. In order of prevalence from the information collected for this report:

(1) Systems & Equipment – energy recovery, controls, geothermal, thermal energy storage, chilled water systems, VRF, cogeneration
(2) Energy – decarbonization, Standard 90.1, energy efficiency, building performance and simulation
(3) Indoor Environmental Quality – ventilation, filtration, infectious aerosols, air quality

Regarding these three topic areas of most interest, the following was found:

- Several publications exist on Systems & Equipment and work is needed to streamline redundant publications. Additionally, some topics that appeared popular in this research are not represented in these publications or do not have current publications.
- The Center of Excellence for Building Decarbonization is quickly producing publications that meet industry needs on energy efficiency. Publications Committee will continue to support their efforts and strengthen our liaison relationship. Additionally, Publications Committee will consider how discussion of energy efficiency integrates into the Systems & Equipment publications.
- Almost no publications exist to support the topic of indoor environmental quality. Likewise there is considerable opportunity to supplement the Journal articles, Conference Papers, and

Standards & Guidelines with special publications on indoor air quality including infection control and wildfire smoke mitigation.

Other topic areas that appeared in our research but were less common are listed below.

(1) Basics – equipment applications, design fundamentals
(2) Refrigeration – low GWP refrigerants
(3) Non-Technical – emotional intelligence, workforce development
(4) Applications – healthcare, data centers
(5) Thermal Comfort
(6) Acoustics

Several notable topics did not appear as top areas of interest including, but not limited to: residential, commissioning, tall buildings, existing buildings, district energy systems, laboratories, multifamily, and schools/universities. Development of publications for these topic areas still provides value to members of our industry, however it is not the current primary focus of the Publications Committee.

Future Work

Publications Committee members are to review the full report draft presented at the meeting on Saturday and supply comments, the staff liaison is to refine some points regarding some of the publications mentioned therein, access data for ASHRAE's free publications is to be added, and then a complete ASHRAE Publishing Opportunities report can be finalized and shared with other committees within ASHRAE so the Society can work toward meeting the content demands of the industry and filling the gaps in our product offerings. Future Publications Committee MBOs will use the information in this report to move toward completing these goals, as well.

Attachment C

Publications Committee MBOs for Society Year 2025–2026

Chair: Kurt Monteiro **Date:** 21 June 2025

								Strategic Plan Tally												
MBO #	Description	Measurable Metric	Completion Date	Completion %	Financial Assist?	Staff Assist?	MBO Comments	Initiative #				Goal 1			Goal 2				Goal 3		
		(how do we determine success?)						1	2	3	4	a	b	c	a	b	c	d	a	b	c
1	Create a current trends of popular topics to assist in determining market gaps in publications, buy creating a tool that categories ASHRAE conference topis and their actual attendance, and reviewing the number of downloads of PDFs of ASHRAE Journal Articles and free publications.	Create the list of publications, their potential TCs and carry outreach and list potential authors names.	2026 Annual Meeting	0.		✓		✓	✓	✓	✓		✓	✓	✓		✓		✓		
2	The number of publications being sold is trending downwards, based on the latest sales data. A review to the carried out of the best available methods to deliver content to the membership that would increase engagement and generate revenue, with a focus on the understanding YEA and student members preferred methods of consuming content.	Compile a list of potential content publishing strategies and identify how they can generate revenue to replace the diminishing traditional publications sales revenue.	2026 Annual Meeting	0				✓	✓	✓	✓			✓	✓	✓	✓		✓	✓	✓
3	Create a current trends of popular topics to assist in determining market gaps in publications, buy creating a tool that categories ASHRAE conference topis and their actual attendance, and reviewing the number of downloads of PDFs of ASHRAE Journal Articles and free publications.	Create the excel spreadsheet that requires staff to export their current database of information without requiring any conditioning of data.	2026 Annual Meeting	0		✓		✓	✓	✓				✓	✓				✓		
4	The current ASHRAE publications sales spreadsheet that hundreds of rows that requires constant sorting to understand trends. Create a Dashboard of key metrics to assist the Publications committee in determining sales trends of various publications, to support the committees mandate to keep resources relevant to its membership.	Create a Dashboard in excel that automatically updates based unconditioned ASHRAE publications sales data imported by staff, without the current data conditioning that is required to analyze the data.	2026 Annual Meeting	0			This is building on last years MBO. AI will be used to assist in developing the Dashboard.	✓	✓	✓	✓			✓	✓				✓	✓	
								4	4	4	3	0	1	4	4	1	2	0	4	2	1

Research Journal Subcommittee of PEC
Report to PEC Products Subcommittee
Monday, June 16, 2025

PEC Research Journal Subcommittee	
Voting Members	
Blake Ellis, Chair,	PEC Director/ExO Publications
Jeffrey Siegel	ASHRAE Fellow
Tim Dwyer	ASHRAE Fellow
Non-Voting Members	
Jeffrey Spitler	STBE Editor
Mark Owen - Staff Liaison	Director Publishing & Education
Invited Guests	
Stephanie Loeh	Taylor & Francis, Publisher
Alexa Flood	Taylor & Francis, Publisher
Mary Bolton - ASHRAE Staff	Associate Editor, Special Publications

Motions

None.

Information Items

1. Publishing Report (Attachment A)

Review of action items of May 7, 2025, Research Journal Subcommittee Meeting

#	Responsible	Action Item
1	Taylor & Francis	Check into whether ASHRAE can roll over past Open Access allocations year to year. Taylor and Francis reported that after review with management, it is not possible to utilize unused 2024 allocations in 2025. Taylor and Francis also clarified that allocations are based on the calendar year they are used, not the calendar year of the paper. **Complete.**

2	Taylor & Francis	Formulate a cost estimate for converting *Science and Technology for the Built Environment* (STBE) to an Open Access journal. Taylor and Francis reported that the cross-departmental report on this has not been completed. They will send over the report as soon as possible and are willing to set up a meeting to discuss the report once finalized. **On-Going.**

Ms. Loeh reviewed the Publisher's Report with the subcommittee.

Report Includes:

- Published content statistics
- Content flow & article count
- Production schedule for 2024 & 2025
- Average speed to article publication over the last 12 months
- Average speed of article publications over the last 5 years
- Global circulation statistics
- Most downloads articles in the past 12 months
- Top 11 institutions downloads in the past 12 months
- Article downloads by TFO usage, source, country, and region
- Taylor & Francis development initiatives
- Author satisfaction survey statistics

Citation Analysis including:

- Impact Factor for 2023 – 1.7. 2024 Impact Factor is due by the end of June.
- CiteScore for the last 4 years – 3.5
- Scopus scores for the last 5 years
- The top cited articles over the past 2 years
- Citing sources & regions
- Top altmetric scored articles in the past year

2. Report from Editorial Office (Attachment B)

Dr. Spitler reviewed the Editor's Report with the subcommittee.

Submission Statistics as of June 12, 2025

- 320 submissions started
- 313 submitted
- 32 abandoned (didn't finish checklist or revisions)
- 288 have decision
- 154 desk rejections by JDS
- Common reasons: out of scope, case studies, poor English, lack of technical rigor.
- 68 rejections on recommendation of AE, before or after reviews
- 14 papers still in review
- 52 accepted
- Accepted: 16%; Rejected: 69%; Still in review: 4%; Abandoned: 10%

2024 Special Issues and Topical Sections

- Ground-source Heat Pump Systems (5 papers, Issue 3)
- BPAC/Simbuild 2022 (7 papers, Issue 4)
- Buildings XV Conference (10 papers, Issue 7)
- Combined:
- ASHRAE Conf. Research Papers - 2023 (7 submissions, 3 rejected)
- Decarbonization conference in Athens (3 submissions, 2 rejected)

Future Special Issues and Topical Sections

- ASHRAE Conference Research Papers from 2024 (5 submissions, 1 rejected)
- Ground-source Heat Pump Systems (6 submissions, 1 rejected)
- Clima 2025
- Buildings XVI Conference 2025
- IEA Heat Pump Conference 2026

Future Plans

- Dr. Spitler will be meeting with the Associate Editors in Phoenix.
- Continue efforts moving towards format-free submission.
- Continue to recruit special issues based on conferences.
- Request the Editorial Board to help identify non-conference-based topical issues.

Taylor & Francis

Attachment A
PEC Research Journal Subcommittee Report to PEC
Products Subcommittee

SCIENCE AND TECHNOLOGY FOR THE BUILT ENVIRONMENT

Confidential Publishing Report

Last Updated: June 2025

Highlights

Top Performing Articles (last 12 months)

Top Downloaded Article

Article Title	No. of Downloads
Quantifying leaks from Schrader valves in air conditioning systems	1,152

Top Cited Article

Article Title	No. of Citations
Comparative analysis of the static and dynamic dehumidification performance of metal-organic framewo...	12

Top Altmetric Score

Title	Altmetric Attention Score
Strategies to minimize SARS-CoV-2 transmission in classroom settings: combined impacts of ventilation and mask effective filtration efficiency	382

Highlights

112K 2024 Downloads	79 2024 Volume Year Publications	13 2024 Volume Year OA Publications	1.7 2023 Impact Factor	3.5 2024 CiteScore

(Blank) 2024 Acceptance Rate (%)	(Blank) Median Days Sub. to 1st Decision	26 Median Days Accept. to Online Pub	Q3 2023 Impact Factor Best Quartile	Q2 2024 CiteScore Best Quartile

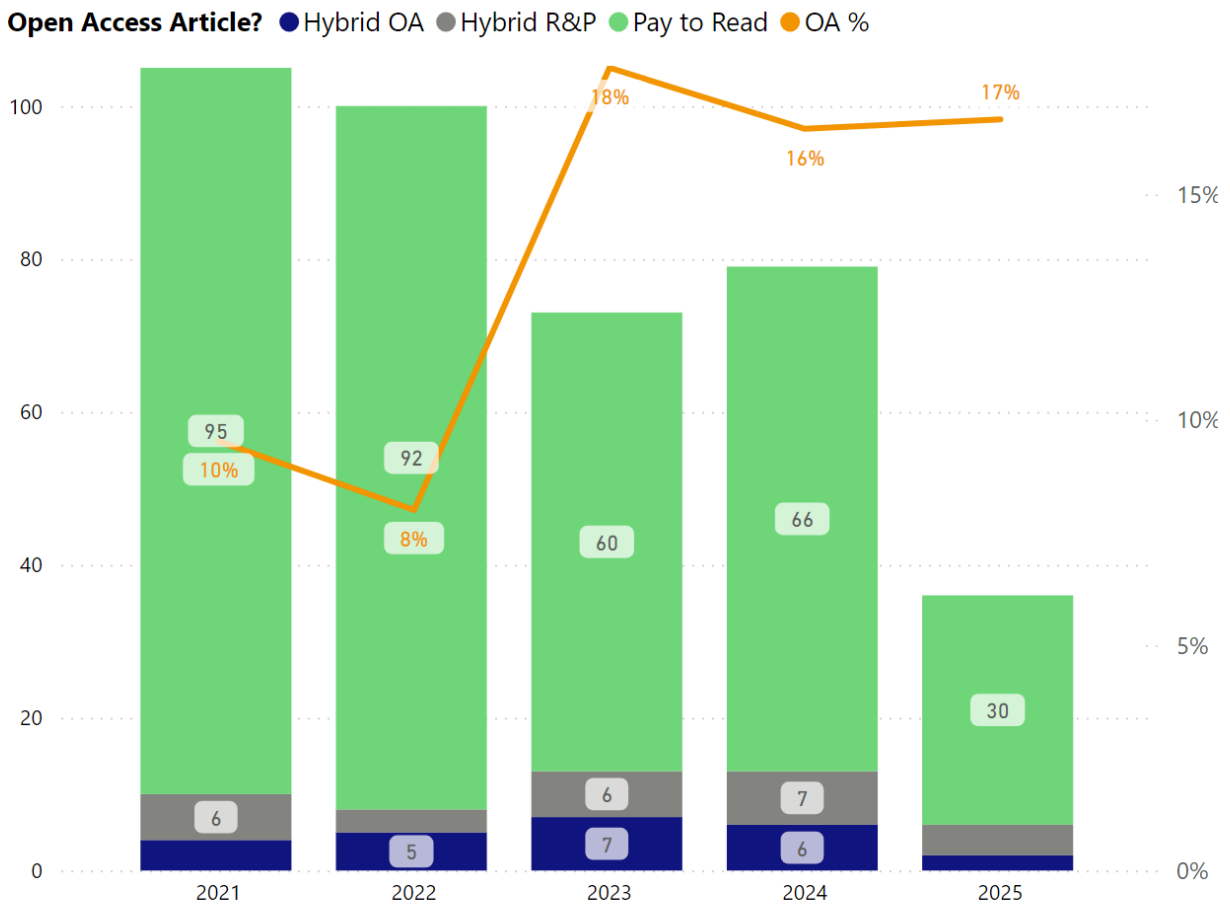
Production

Published Content

Number of Documents by Article Type (last full year and current year)

Article Type	Count
Research Article	111
Editorial	4
Total	**115**

Number of Articles Published by Volume Year - with OA Type Split



Content Flow and Article Count

Manuscript Type	Number of Manuscripts	Number of Typeset Pages
Research Article	15	189

Current Year

Volume Year	Volume #	Min Budget Research Articles	Actual Research Article	# of Online Issues	# of Print Issues
2025	31	105	34	10	2

The oldest article not yet assigned to an issue was received in Production on 27 January 2025.

Production Schedule (Volume Years 2024 and 2025)

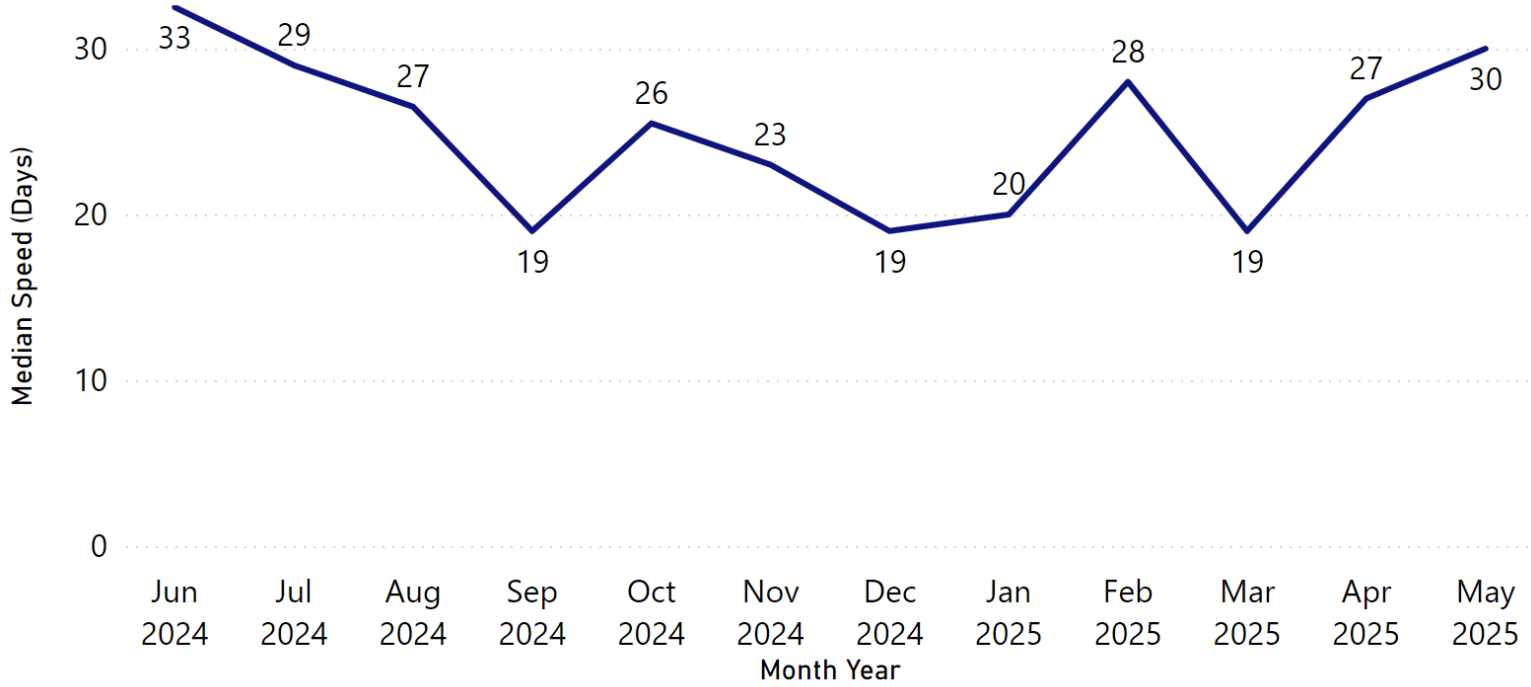
Online Issues

Issue Number	2024	2025
01	30 January 2024	30 December 2024
02	20 February 2024	06 February 2025
03	31 March 2024	26 February 2025
04	31 March 2024	28 March 2025
05	07 May 2024	02 May 2025
06	05 July 2024	01 July 2025
07	13 August 2024	01 August 2025
08	23 August 2024	02 September 2025
09	18 September 2024	01 October 2025
10	04 November 2024	30 October 2025

Print Issues

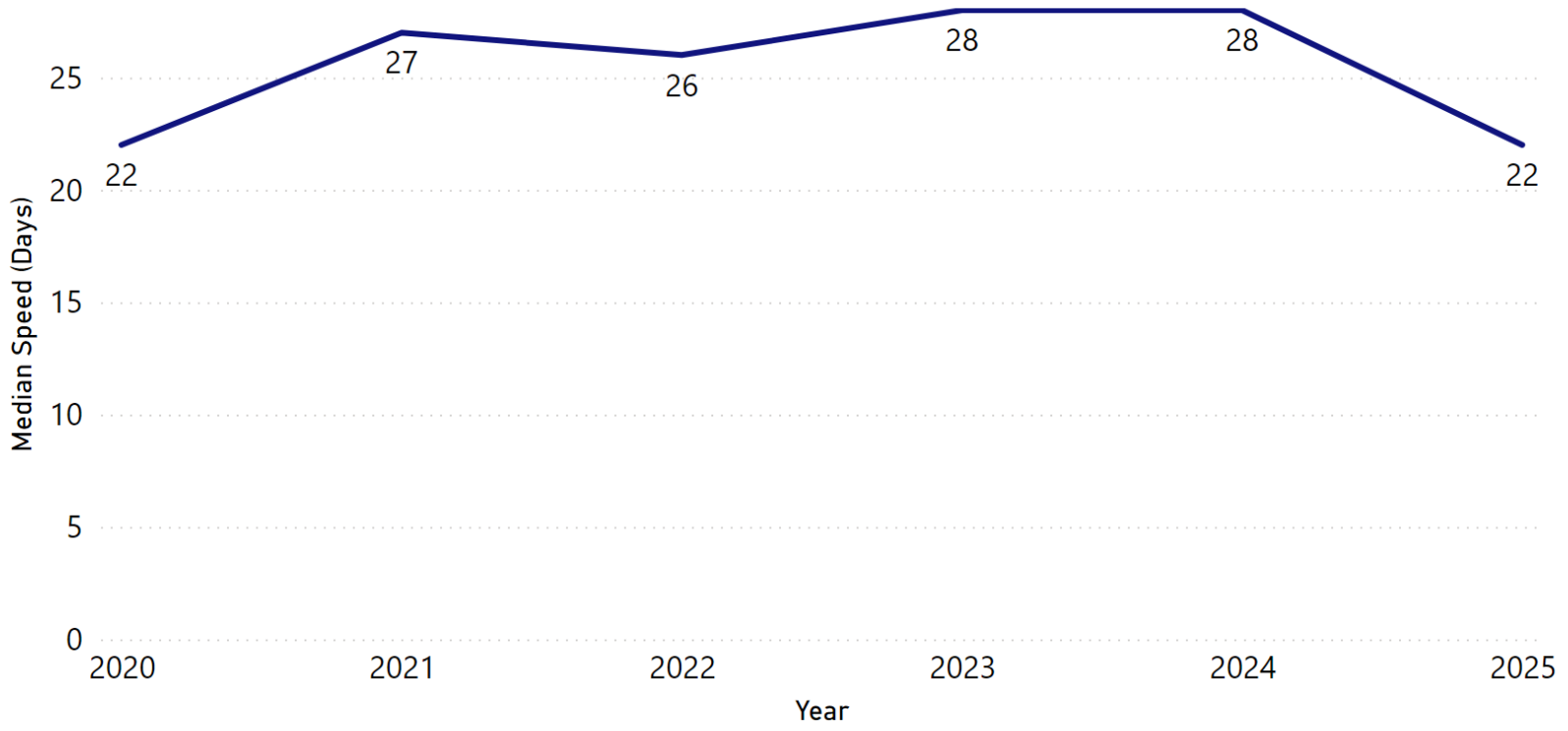
Issue Number	2024	2025
01-05	07 June 2024	27 May 2025
06-10	02 December 2024	20 November 2025

Average Speed of Article Publication (last 12 months)*



* median days from entered into Central Article Tracking System (CATS) to online publication.

Average Speed of Article Publication*



* median days from entered into Central Article Tracking System (CATS) to online publication.

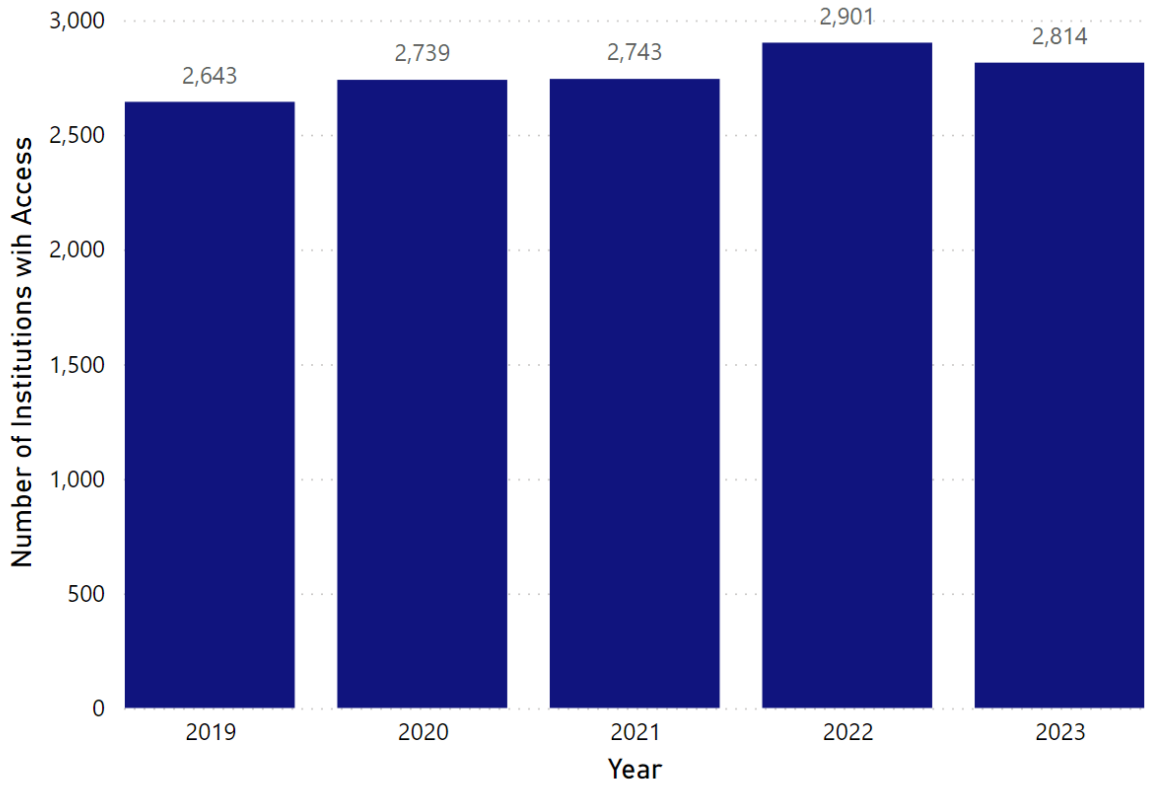
Global Reach & Usage

Global Reach - Circulation

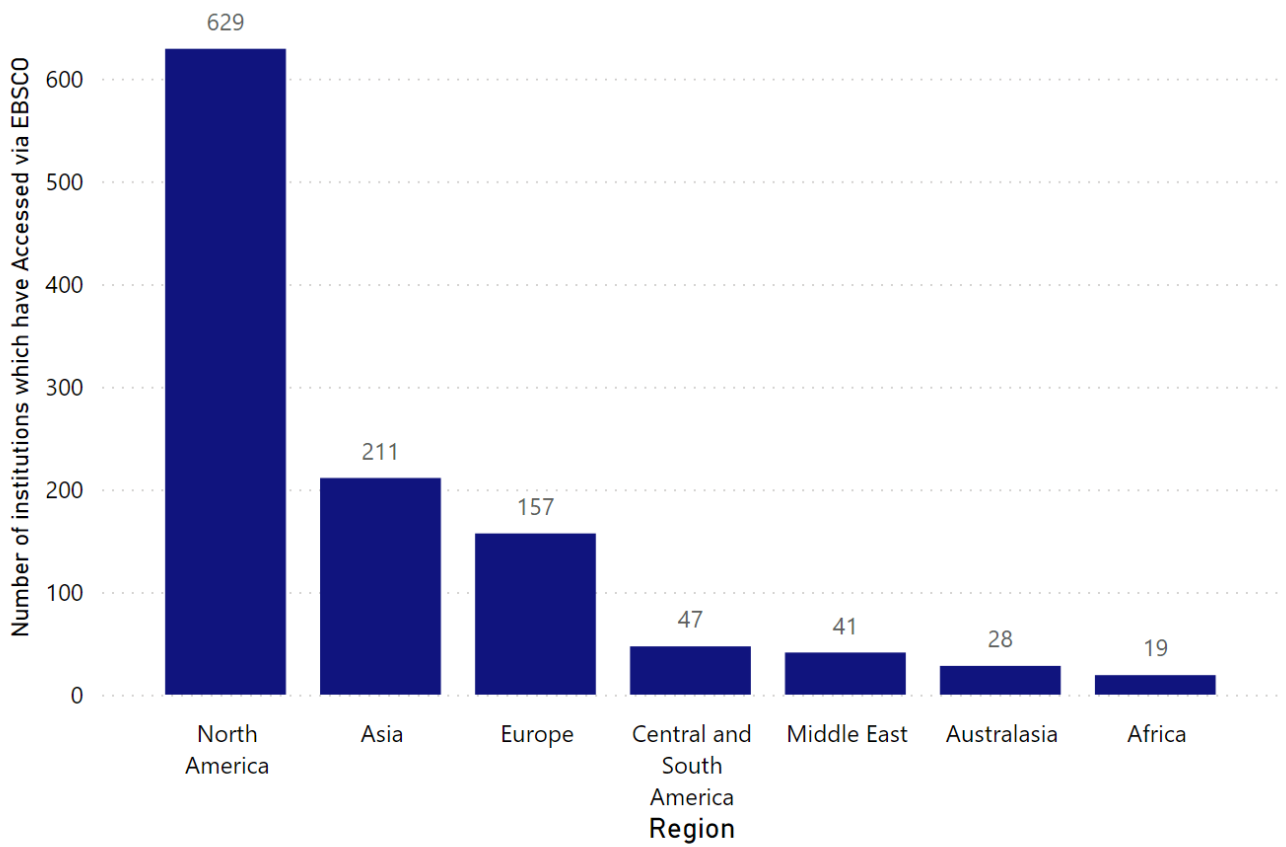
Collection Year	Subject Collection
2020	Engineering, Computing & Technology
2021	Engineering, Computing & Technology
2022	Engineering, Computing & Technology
2023	Engineering, Computing & Technology
2024	Engineering, Computing & Technology

Collection Year	Library Package
2020	ST Library
2021	ST Library
2022	ST Library
2023	ST Library
2024	ST Library

Number of Institutions with access via Sales Deal, Subject and Non-Sales Deal subscriptions



EBSCO Coverage 2024 by Region



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

Latest Update Date

Data is updated monthly and goes up to the end of:

April 2025

Article Title	First Author	Volume and Issue	Open Access?	Number of Downloads
Quantifying leaks from Schrader valves in air conditioning systems	Theresa Pistochini	Volume 30 Issue 9	Yes	1,152
Open building operating system: a grid-responsive semantics-driven control platform for buildings	Marco Pritoni	Volume 31 Issue 3	Yes	1,137
Data analysis and interpretable machine learning for HVAC predictive control: A case-study based imp...	Jianqiao Mao	IAQ 2020: Indoor Environmental Quality Performance...	Yes	940
Model-based data center cooling controls comparative co-design	Milica Grahovac	2022 Building Performance Analysis Conference and ...	Yes	903
Developing and testing low-cost air cleaners for safer spaces during wildfires	Elliott Gall	Volume 30 Issue 9	Yes	862
Development of near-optimal advanced control sequences for chiller plants with water-side economizer...	Wangda Zuo	Volume 31 Issue 1	Yes	855
Research on the effect of the refrigerant charge in a variable capacity heat pump	Jaime Sieres	Volume 30 Issue 6	Yes	799
Laboratory and field validation of the performance benefits and costs of thin triple-pane windows in...	Patricia Kaye Gunderson	Buildings XV Conference Special Issue; Guest Edito...	Yes	771
The borehole thermal energy storage at Emmaboda, Sweden: First distributed temperature measurements	Randi Kalskin Ramstad	Volume 29 Issue 2	Yes	721
A simulation analysis on the internal and external application of new silica-aerogel-based (Quartzen...	Sana Sayadi	Volume 31 Issue 1	Yes	710

Additional timeframes available on: PR Dashboard (atypon.com)

Top Institutions by Downloads (Past 12 Months)

Latest Update Date

Data is updated monthly and goes up to the end of:

April 2025

Institution Name	Total No of Downloads
Xian Jiaotong University	1,521
Texas A & M University System	1,166
Hong Kong Polytechnic University	970
Seoul National University	910
Carleton University	855
Tsinghua University	855
Purdue University	786
Oak Ridge National Laboratory	738
Purdue University Calumet	736
Machine Science Info Institute	734
University of California, Berkeley	698

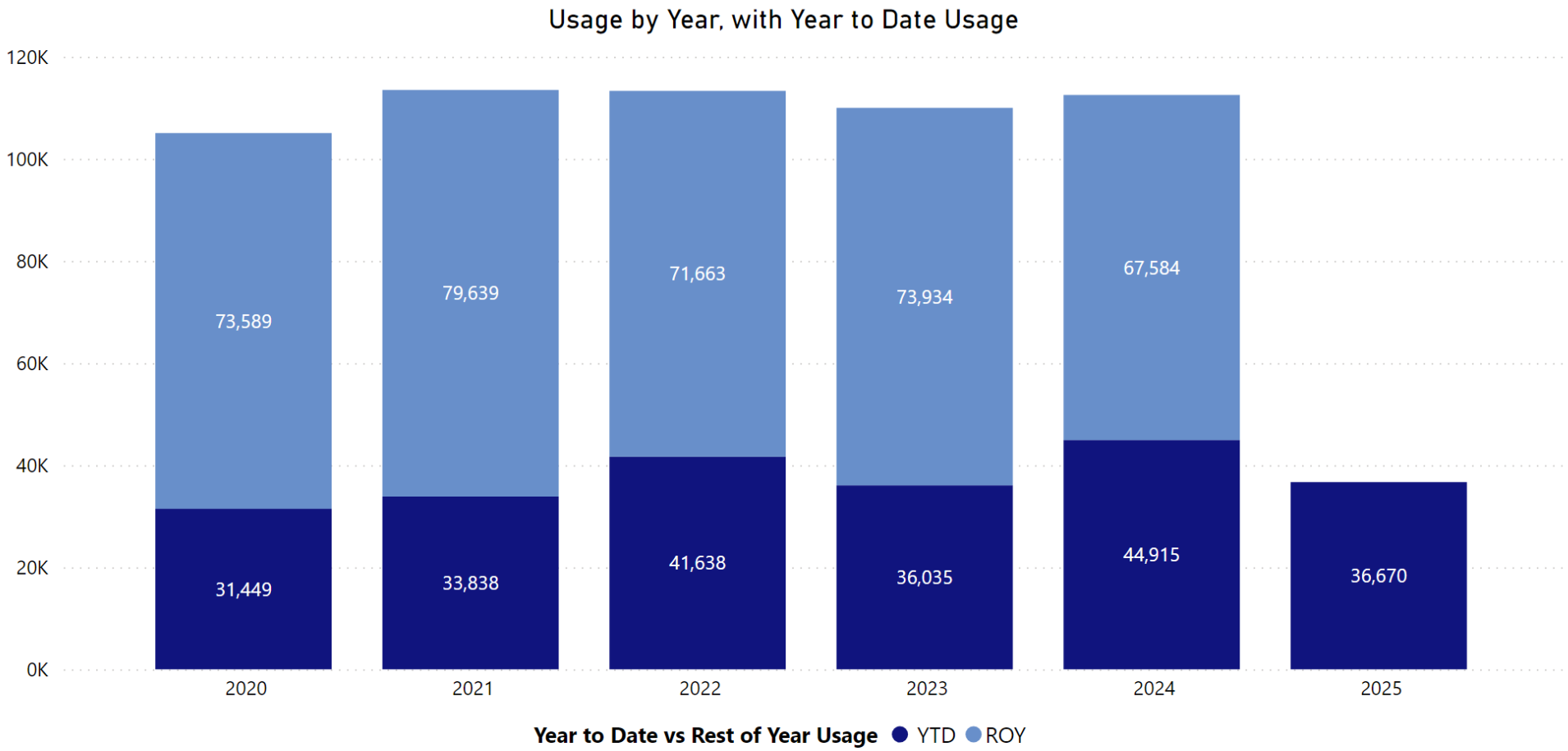
Note: Consortia have been removed from this table.

Article Downloads - Taylor & Francis Online (TFO) Usage

Latest Update Date

Data is updated monthly and goes up to the end of:

April 2025



-18%

% Change Usage YTD

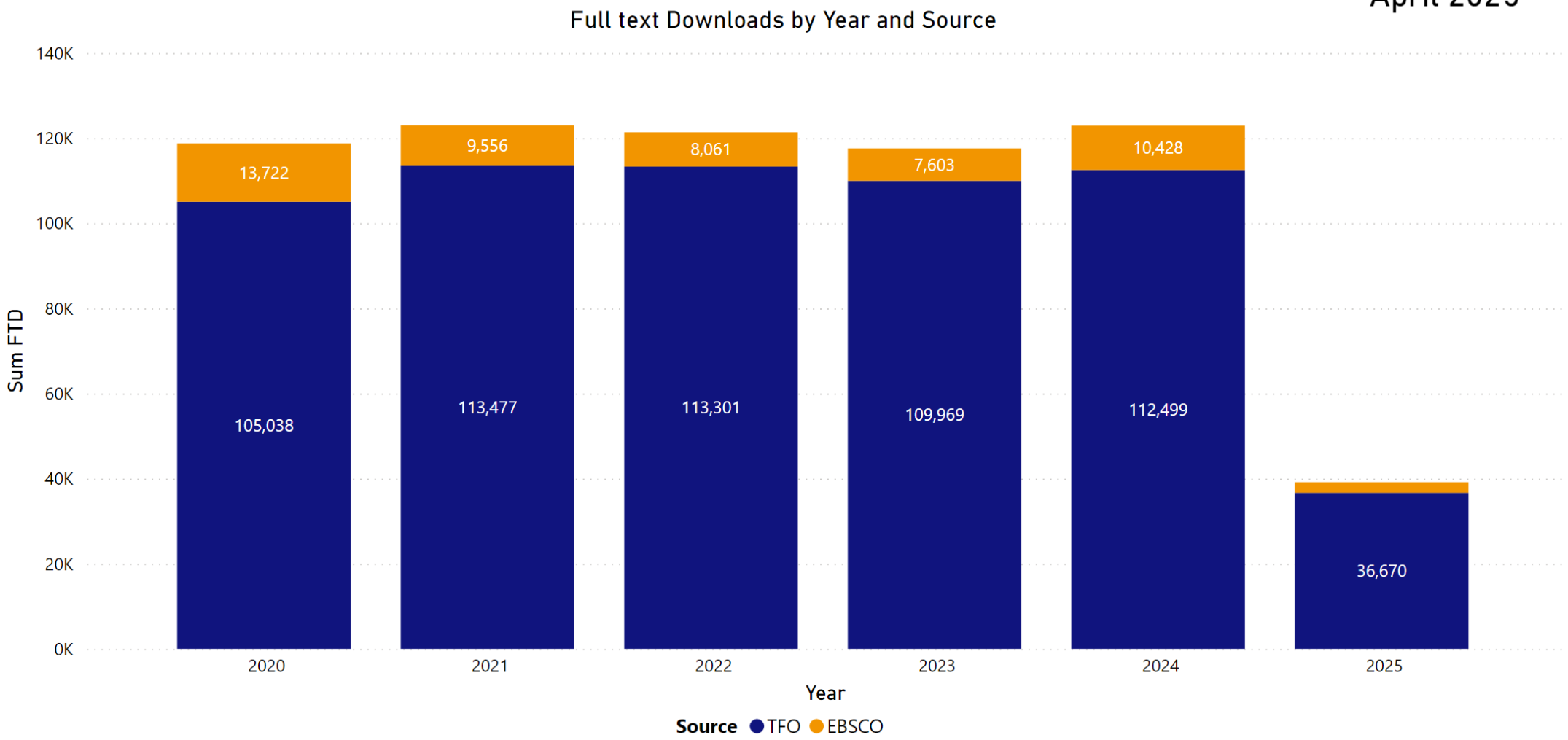
Article Downloads - Usage by Source

Please note that PMC, JSTOR, and EBSCO usage data may not be updated until mid-month.

Latest Update Date

Data is updated monthly and goes up to the end of:

April 2025



Article Downloads - Usage by Country & Region

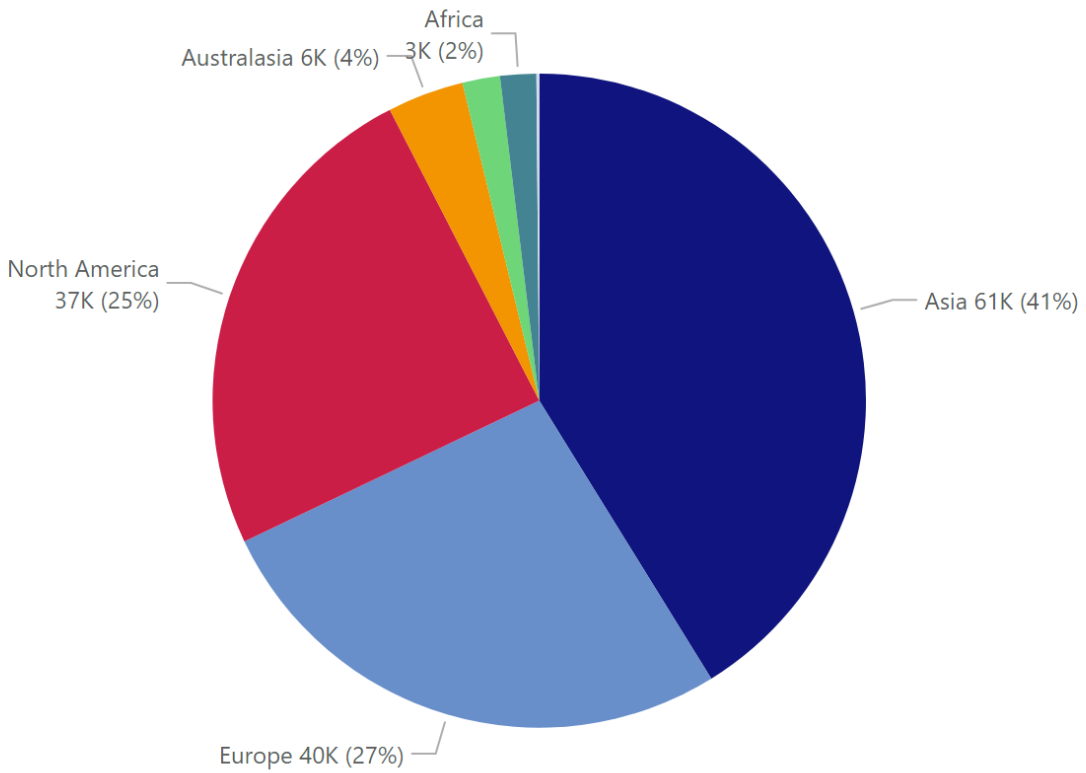
Latest Update Date

Data is updated monthly and goes up to the end of:

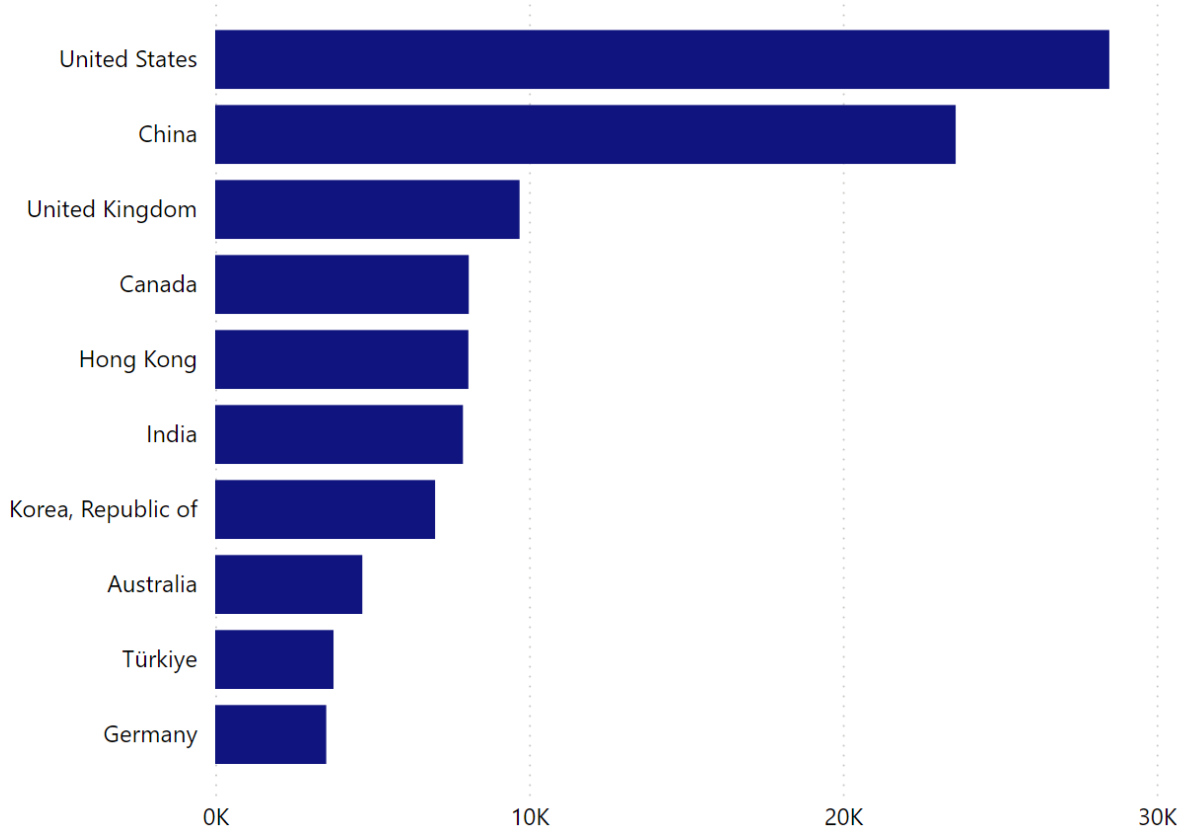
April 2025

Usage shown is for the last full year, plus the current year.

Full Text Downloads by Region



Full Text Downloads by Country



Development Initiatives

Taylor & Francis is committed to providing access to knowledge to researchers in resource-constrained regions.

For more information on the development initiatives that T&F is involved with, please visit:

- Development Initiatives
- Corporate Responsibility
- SDG Online
- STAR Programme

research4life

inasp

RISING SCHOLARS

Special Terms for Authors and Researchers
STAR

STAR (Special Terms for Authors and Researchers)

- Provides eligible researchers and authors in over 100 countries free access to articles across all T&F journals
- Celebrating 15 years in 2025 (Press Release here)
- Supports authors who don't have access to the resources of a university or other research institution, including independent researchers, retired academics, and professionals working for NGO

Opportunities for your journal

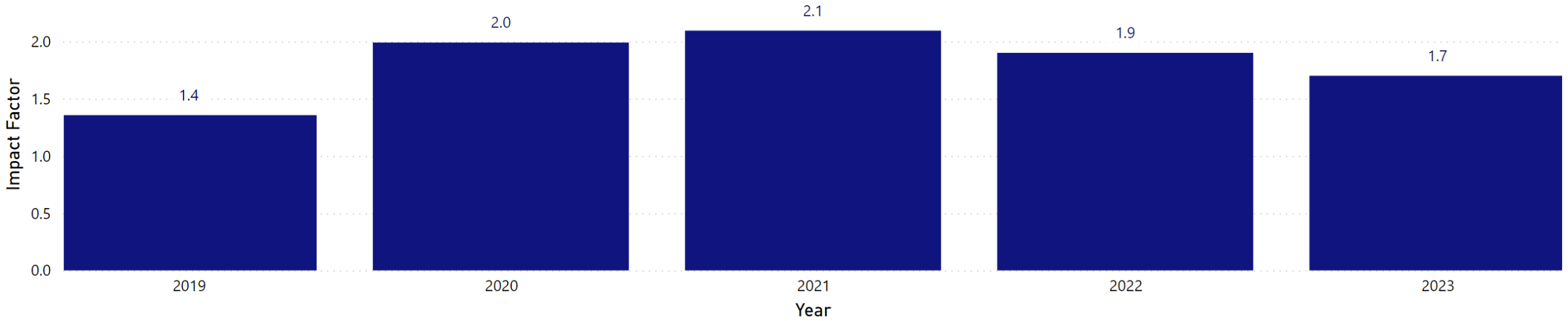
- Engage with a wider geography of authors and diversify your journal network
- Lever for increased readership, submissions, citations, and overall reputation
- We encourage Editors to raise awareness of STAR within their research community
- Please contact your Portfolio Manager to discuss these opportunities

Citation Analysis

Citation Metrics (Impact Factor)

Year	Impact Factor	Impact Factor Rank	5 Year IF	Article Influence	Eigenfactor
2019	1.4	42 / 63 CONSTRUCTION & BUILDING TECHNOLOGY - SCIE, 47 / 61 THERMODYNAMICS - SCIE, 96 / 130 ENGINEERING, MECHANICAL - SCIE	1.5	0.354	0.00183
2020	2.0	39 / 62 THERMODYNAMICS - SCIE, 41 / 66 CONSTRUCTION & BUILDING TECHNOLOGY - SCIE, 78 / 135 ENGINEERING, MECHANICAL - SCIE	1.8	0.418	0.00218
2021	2.1	39 / 63 THERMODYNAMICS - SCIE, 47 / 68 CONSTRUCTION & BUILDING TECHNOLOGY - SCIE, 78 / 137 ENGINEERING, MECHANICAL - SCIE	2.1	0.416	0.00215
2022	1.9	45 / 68 CONSTRUCTION & BUILDING TECHNOLOGY - SCIE, 46 / 63 THERMODYNAMICS - SCIE, 92 / 136 ENGINEERING, MECHANICAL - SCIE	1.9	0.360	0.00200
2023	1.7	45/78 THERMODYNAMICS, 51/92 CONSTRUCTION & BUILDING TECHNOLOGY, 107/183 ENGINEERING, MECHANICAL	1.9	0.341	0.00100

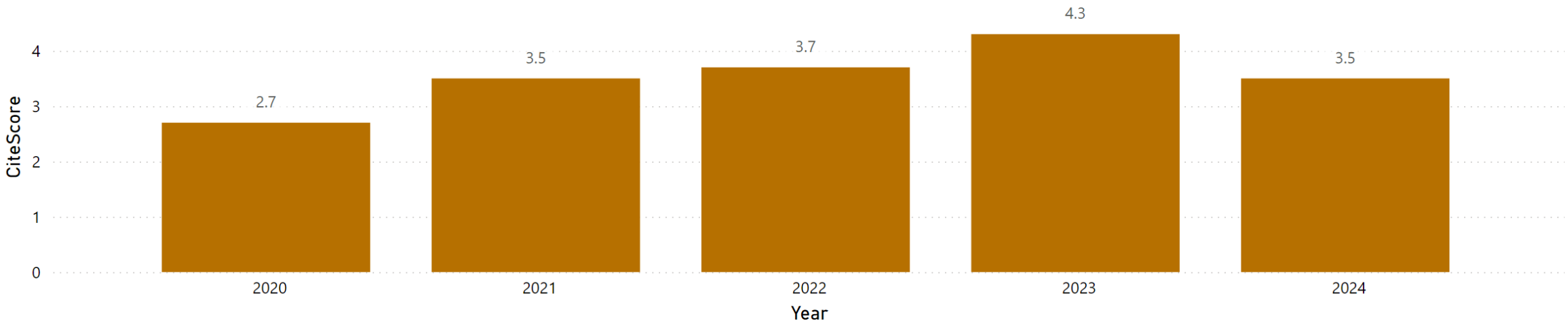
Impact Factor by Year



Citation Metrics (Scopus)

Year	CiteScore	CiteScore Rank	SNIP	SJR
2020	2.7	39 / 83 Fluid Flow and Transfer Processes, 70 / 185 Building and Construction, 70 / 146 Environmental Engineering	0.920	0.510
2021	3.5	38 / 87 Fluid Flow and Transfer Processes, 73 / 173 Environmental Engineering, 79 / 211 Building and Construction	0.808	0.493
2022	3.7	40 / 92 Fluid Flow and Transfer Processes, 72 / 200 Building and Construction, 85 / 184 Environmental Engineering	0.706	0.471
2023	4.3	37 / 96 Fluid Flow and Transfer Processes, 74 / 223 Building and Construction, 89 / 197 Environmental Engineering	0.702	0.461
2024	3.5	44 / 97 Fluid Flow and Transfer Processes, 91 / 239 Building and Construction, 100 / 219 Environmental Engineering	0.664	0.451

CiteScore by Year



Top Cited Articles (Published Online in the Past 2 Years + YTD)

4.7%

% Self-Citations

Article Title	Author Name	Published Online Year	Number of Citations	Altmetric Score
Comparative analysis of the static and dynamic dehumidification performance of metal-organic framewo...	Win-Jet Luo	2023	12	
Experimental comparison of R290 and R600a and prediction of performance with machine learning algori...	Oguzhan Pektezel	2023	8	
Within- and cross-domain effects of environmental factors on students' perception in educational bui...	Francesca Cappelletti	2023	8	
A simulation-based approach for evaluating indoor environmental quality at the early design stage	Arefeh Sadat Fathi	2023	7	
CFD modeling of room airflow effects on inactivation of aerosol SARS-CoV-2 by an upper-room ultravio...	Youngbo Won	2023	7	
Empirical analysis of the prevalence of HVAC faults in commercial buildings	Eliot Crowe	2023	7	
How to ensure occupant comfort and satisfaction through deep building retrofit? Lessons from a Danis...	Lucile Sarran	2023	7	
All-air vs. radiant cooling systems: Analysis of design and operation factors that impact building c...	Atila Novoselac	2023	6	
Development of a crankshaft driven single long NiTi tube compressive elastocaloric cooler	Siyuan Cheng	2023	6	
Origins of whole-building energy simulations for high-performance commercial buildings: Contribution...	Jounghwan Ahn	2025	4	
Origins of whole-building energy simulations for high-performance commercial buildings: Contribution...	Jounghwan Ahn	2023	3	

Data is collected from Dimensions

Citing Sources & Regions

Published online in the past 2 years + YTD data, citations from any time

Citing Journal	Citing Articles - Sources
Building and Environment	27
Energy and Buildings	23
Science and Technology for the Built Environment	21
Journal of Building Engineering	12
Applied Thermal Engineering	8
Energy	7
Sustainability	7
Buildings	6
Energies	6
Applied Energy	4
International Journal of Refrigeration	4
Renewable and Sustainable Energy Reviews	4
Journal of Physics Conference Series	3
Results in Engineering	3

Country name	Citing Articles - Countries
China	69
United States	63
Canada	28
India	22
Italy	16
Türkiye	13
United Kingdom	12
Malaysia	10
France	8
Korea, Republic of	8
Denmark	7
Netherlands	6
Saudi Arabia	6
Spain	6

Data is collected from Dimensions

Altmetric Analysis

Altmetric Analysis – Top Altmetric Scores (Past Year)

Badge	Altmetric Attention Score	Article Title	Publication Date
	382	Strategies to minimize SARS-CoV-2 transmission in classroom settings: combined impacts of ventilation and mask effective filtration efficiency	July 2021
	195	Associations of bedroom temperature and ventilation with sleep quality	May 2020
	129	IAQ and energy implications of high efficiency filters in residential buildings: A review (RP-1649)	January 2019
	111	Airborne transmission of SARS-CoV-2 in indoor environments: A comprehensive review	September 2021
	83	Energy and ventilation performance analysis for CO2-based demand-controlled ventilation in multiple-zone VAV systems with fan-powered terminal units (ASHRAE RP-1819)	October 2020
	19	The Effects of Outdoor Air Supply Rate and Supply Air Filter Condition in Classrooms on the Performance of Schoolwork by Children (RP-1257)	February 2011
	8	Experimental and numerical study on the thermal plumes of a standing and lying human in an operating room	August 2021
	6	Miscibility of POE and PVE oils with low-GWP refrigerant R-1234ze(E)	October 2016
	6	Optimization of HVAC Control System Strategy Using Two-Objective Genetic Algorithm	February 2011
	6	Agglomeration Control of Ice Particles in Ice-Water Slurry System Using Surfactant Additives	February 2011

Overview and Source Breakdown of Altmetric Attention (Past Year)

Total Mentions

80

Total mentions for research outputs in this report.

Outputs with Mentions

33

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

ATTENTION SOURCE BREAKDOWN

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

5
Total News Mentions

0
Total Blog Mentions

11
Total X Mentions

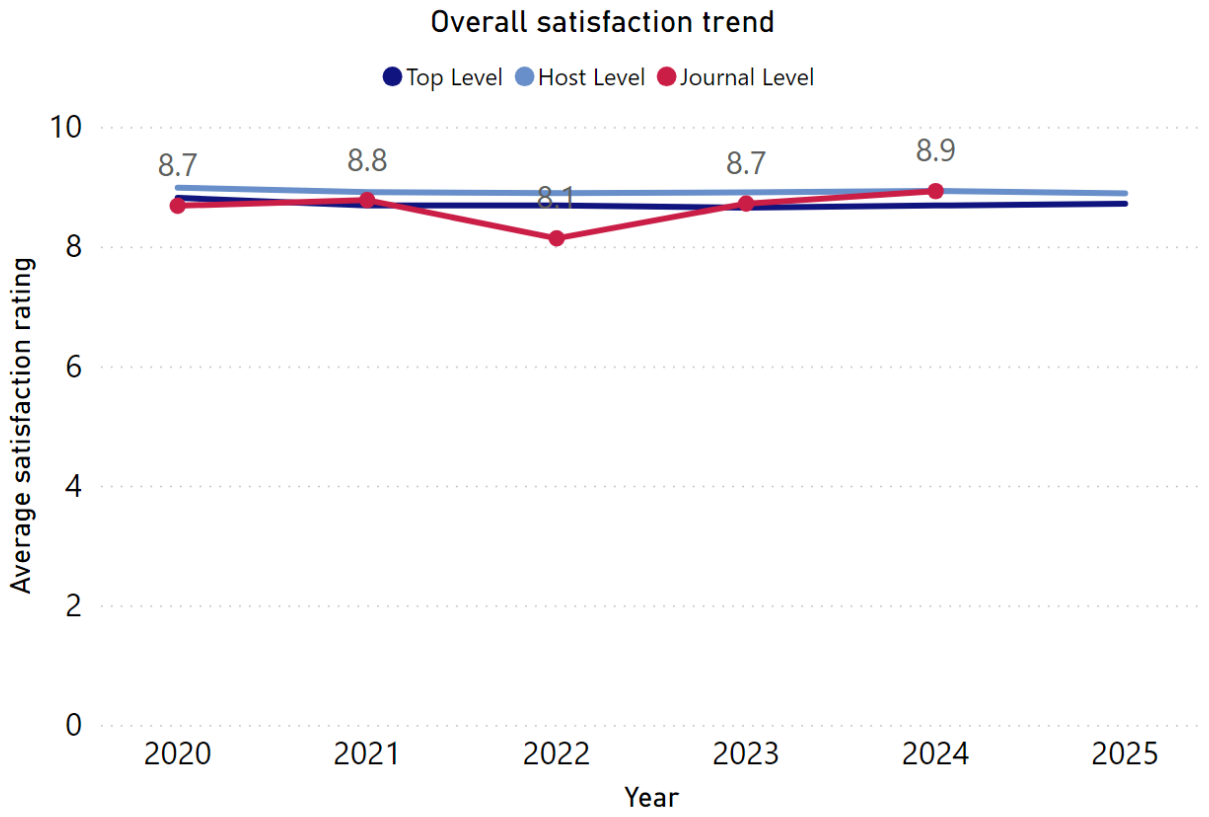
0
Total Facebook Mentions

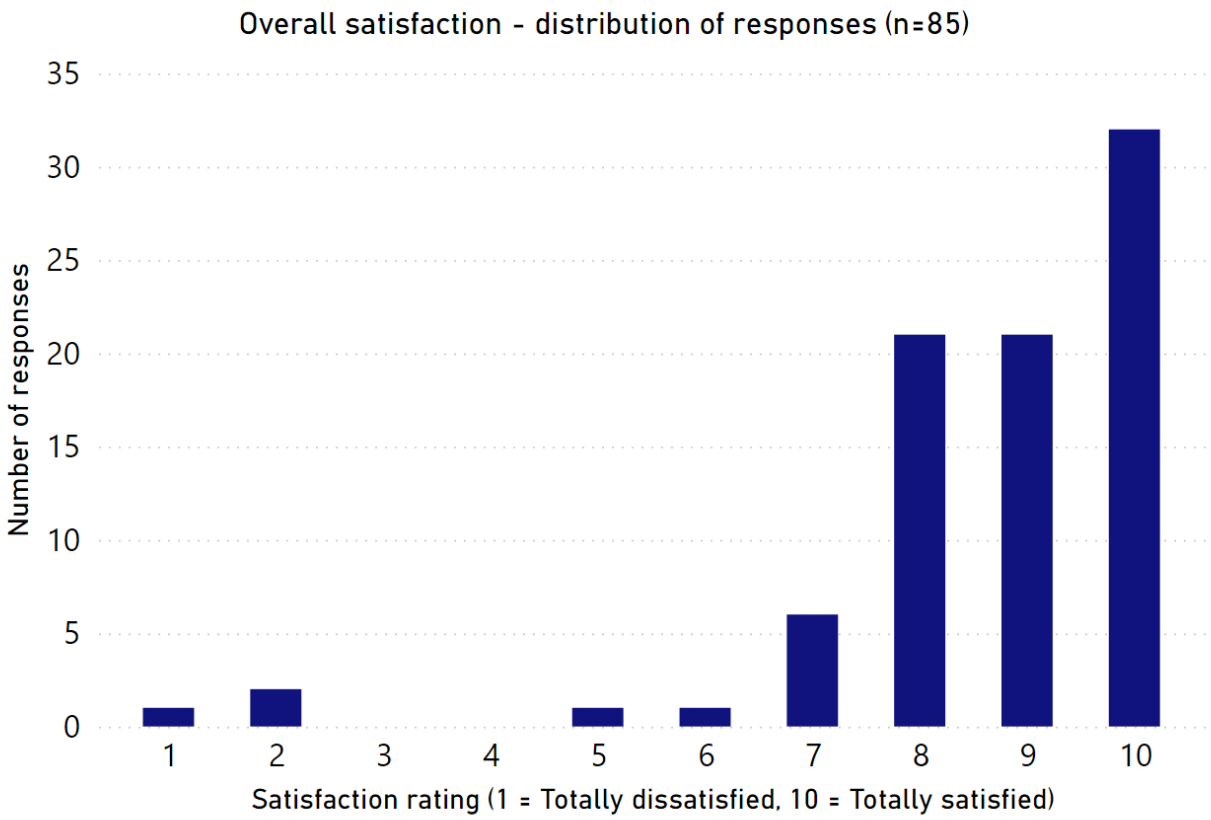
First Altmetric Shareable Link

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

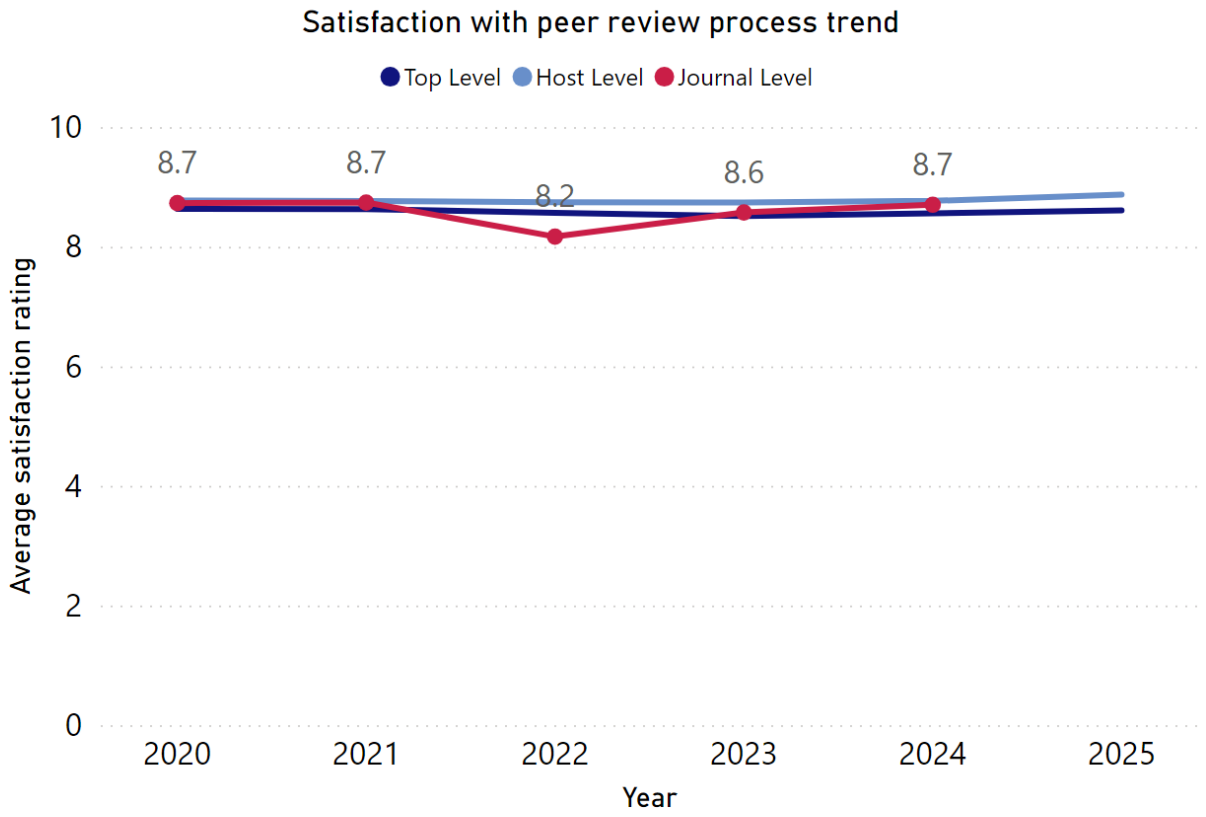
Author Survey

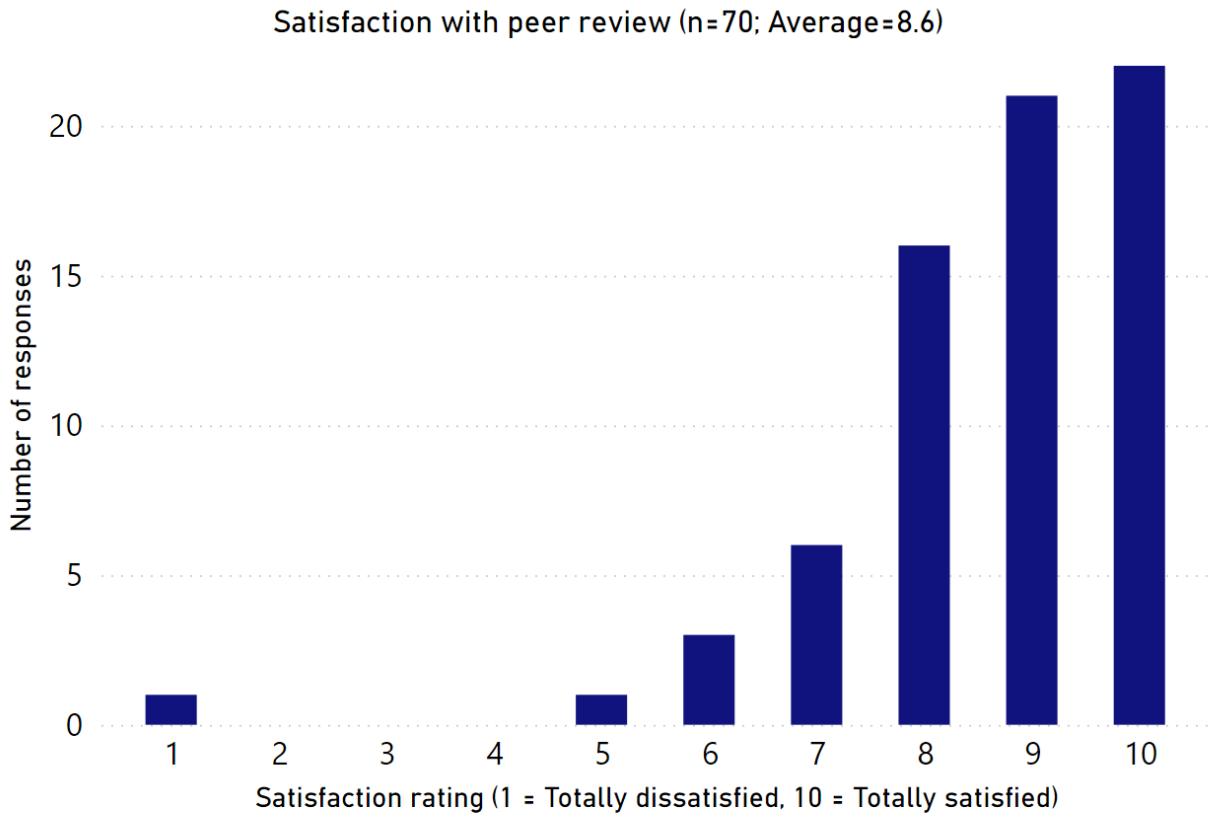
Author Survey - Overall Satisfaction





Author Survey - Satisfaction with Refereeing Process





Resources

EDITOR RESOURCES
Supporting Taylor & Francis journal editors

http://editorresources.taylorandfrancisgroup.com/

AUTHOR SERVICES
Supporting Taylor & Francis authors

http://authorservices.taylorandfrancis.com

LIBRARIAN RESOURCES
Taylor & Francis supporting librarians

https://librarianresources.taylorandfrancis.com/

PUBLISHING PARTNERSHIP PROGRAM

https://forms.monday.com/forms/c14a9c82ad09f355de7d5d9bcc84b80e?r=use1

Sign up for updates, tips and talking points from **Author Services**, **Editor Resources** and Librarian Resources websites straight to your inbox:

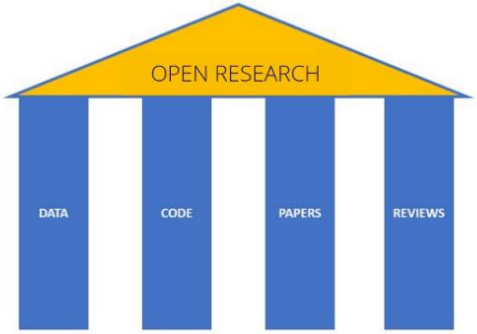
https://authorservices.taylorandfrancis.com/category/insights/

@tandfonline
@tandfnewsroom

@TaylorandFrancisGroup

Open Research at Taylor & Francis

• **Open Research** (sometimes called 'open scholarship' or 'open science') is an umbrella term focusing on making research **transparent** and **reproducible**. It describes the movement to make all the outputs of scholarly activity available for others to read and build upon, improving trust in research. In addition to Gold Open Access licensing options and sharing of early versions (preprints), open research provides routes for researchers to make all outputs of research open and accessible, from the peer review comments to the data and code.



• Journals can take an active role in facilitating Open Research practices. Find out more about the initiatives Taylor & Francis offers:

- Data Sharing Policies
- Open Science Badges
- Registered Reports
- Methods
- Data Notes
- Preprints

•If you are interested in hearing more about Open Research, please contact us **here.**

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

Contact Points for Queries and Support

Editorial Queries & Support

Your Editorial contact is your main point of contact for general journal or editorial queries, support and requests.

Portfolio Manager: Stephanie.Loeh@taylorandfrancis.com

Production Queries & Support

For queries and requests regarding papers that have been accepted in peer review and transferred to production, or papers which have been published, please direct these to the email address above.

UHVC-production@journals.taylorandfrancis.com

Peer Review Queries & Support

Any questions or requests related to peer review, such as amendments to email templates or information on the status of papers, should be directed to the email address above.

journalshelpdesk@taylorandfrancis.com

Attachment B
PEC Research Journal Subcommittee Report to
PEC Products Subcommittee

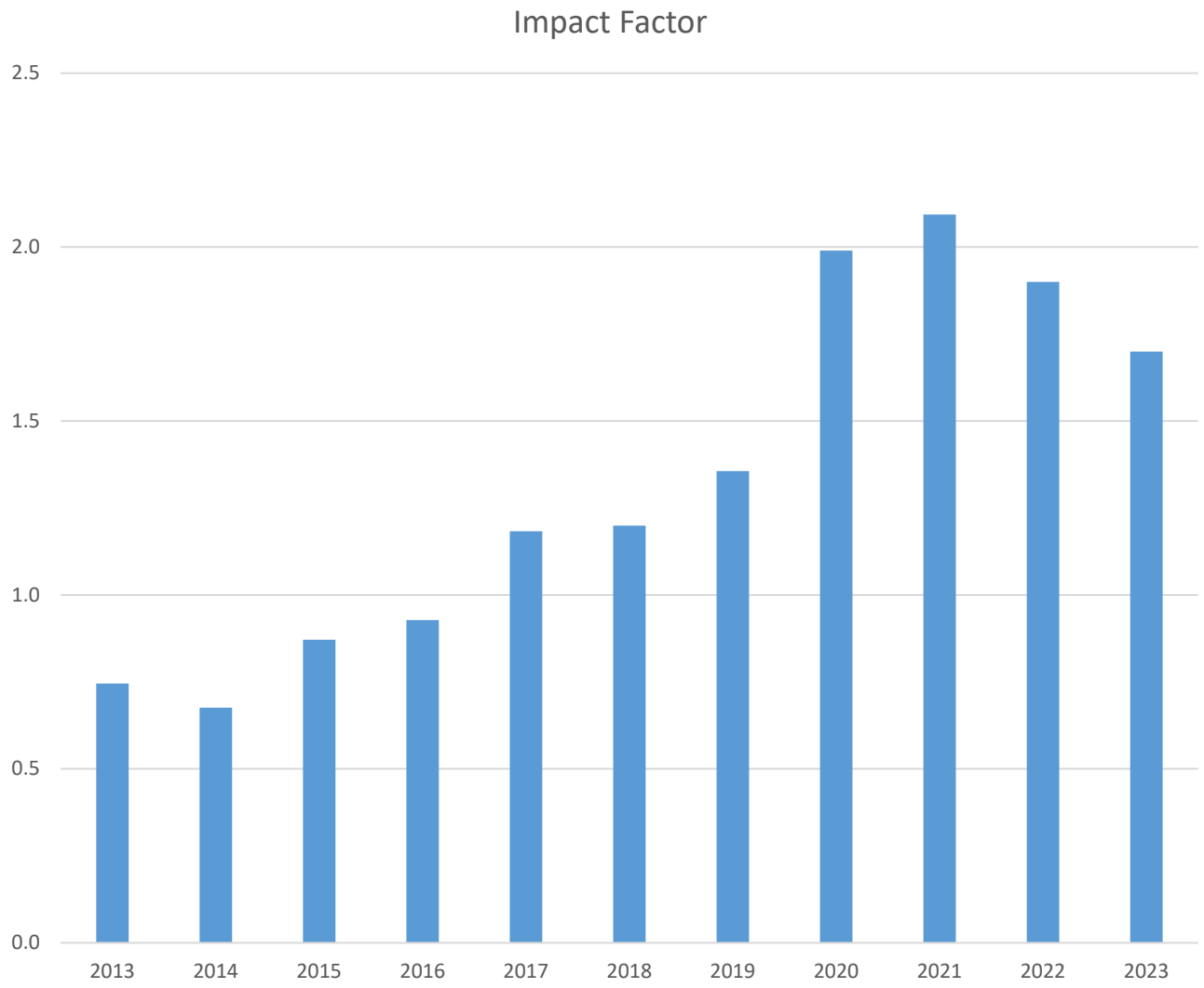
Science and Technology for the Built Environment

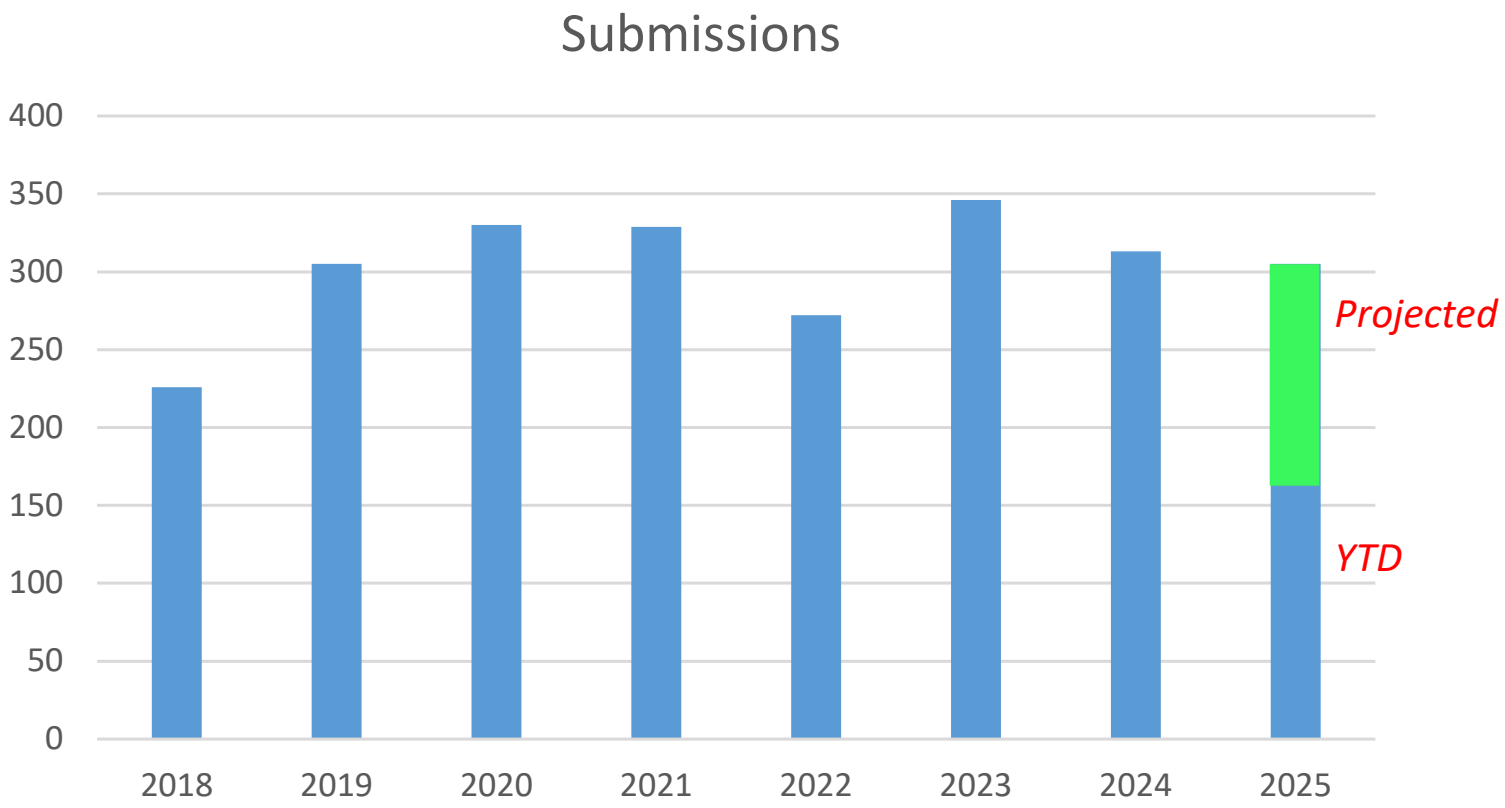
Jeffrey D. Spitler

June 16, 2025

Numbers in red from June 2024

Usage		Citation metrics		Speed/acceptance
110K • **112K** annual downloads/views	1.9	• **1.7 (2023)** Impact Factor		• **26** days avg. from acceptance to online publication
	1.9	• **1.9 (2023)** 5 year IF		
	3.7	• **4.3 (2023)** CiteScore (Scopus)		*28 days*
	Q2	• **Q2** CiteScore Best Quartile		
	0.706	• **0.702 (2023)** SNIP		
	0.471	• **0.461 (2023)** SJR		


Impact Factor
2.5
2.0
1.5
1.0
0.5
0.0
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023


Submissions
400
350
300
250
200
150
100
50
0
2018
2019
2020
2021
2022
2023
2024
2025
Projected
YTD

2024 (as of June 12, 2025)

- 320 submissions started
- 313 submitted
- 32 abandoned (didn't finish checklist or revisions)
- 288 have decision
- 154 desk rejections by JDS
  - Common reasons: out of scope, case studies, poor English, lack of technical rigor.
- 68 rejections on recommendation of AE, before or after reviews
- 14 papers still in review
- 52 accepted
- Accepted: 16%; Rejected: 69%; Still in review: 4%; Abandoned: 10%

Special Issues & Topical Sections

- 2024 Special Issues and Topical Sections
  - Ground-source Heat Pump Systems (5 papers, Issue 3)
  - BPAC/Simbuild 2022 (7 papers, Issue 4)
  - Buildings XV Conference(10 papers, Issue 7)
  - Combined:
    - ASHRAE Conf. Research Papers - 2023 (7 submissions, 3 rejected)
    - Decarbonization conference in Athens (3 submissions, 2 rejected)
- Future Special Issues and Topical Sections
  - ASHRAE Conference Research Papers from 2024 (5 submissions, 1 rejected)
  - Ground-source Heat Pump Systems (6 submissions, 1 rejected)
  - Clima 2025
  - Buildings XVI Conference 2025
  - IEA Heat Pump Conference 2026

Editorials

- Awaiting an obituary editorial on Reinhard Radermacher, from Vikrant Aute.

Misconduct allegations

- No formal complaints.
- One apparently AI-generated review caught by Associate Editor

Associate Editors

- 4 Associate Editors have terms expiring (highlighted)
- Still have one slot for the right candidate.
- Current roster:

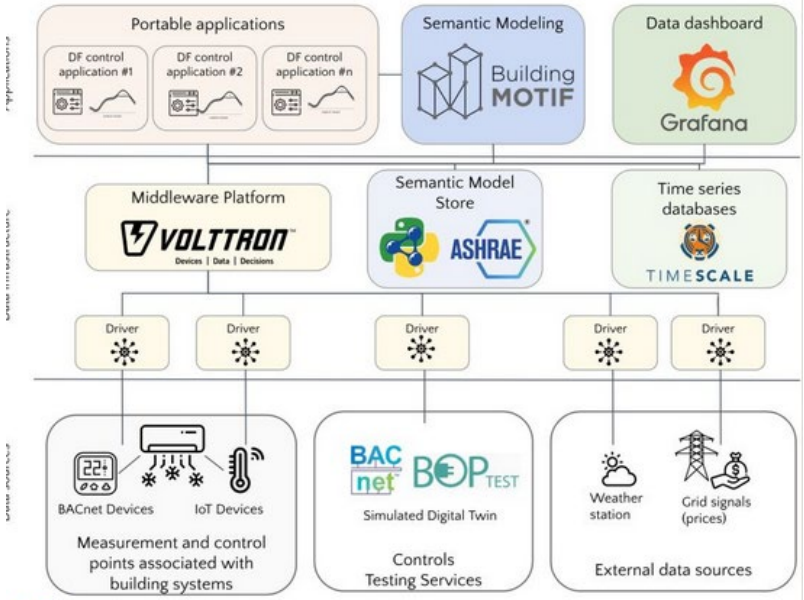
Name	Department	Institution	Country	Term expires
Jie Cai	School of Aerospace and Mechanical Engineering	University of Oklahoma	USA	6/30/2026
Kristen Cetin	Department of Civil and Environmental Engineering	Michigan State University	USA	6/30/2026
Richard De Dear	Faculty of Architecture	The University of Sydney	Australia	6/30/2027
Brian Fronk	Department of Mechanical Engineering	Pennsylvania State University	USA	6/30/2026
Saqib Javed	Building Services Division	Lund University	Sweden	6/30/2026
Yong Chan Kim	Department of Mechanical Engineering	Korea University	South Korea	6/30/2025
Clayton Miller	Department of the Built Environment	National University of Singapore	Singapore	6/30/2026
Liam O'Brien	Department of Civil and Environmental Engineering	Carleton University	Canada	6/30/2026
Zheng O'Neill	Mike Walker '66 Department of Mechanical Eng.	Texas A&M University	USA	6/30/2025
Rajan Rawal	Faculty of Technology	CEPT University	India	6/30/2026
Jørn Toftum	Department of Civil Engineering	Technical University of Denmark	Denmark	6/30/2025
Shengwei Wang	Department of Building Services Engineering	The Hong Kong Polytechnic University	Hong Kong	6/30/2026
Bin Yang	School of Energy and Safety Engineering	Tianjin Chengjian University	China	6/30/2026
John Zhai	Dept. of Civil, Environmental, and Architectural Eng.	University of Colorado-Boulder	USA	6/30/2026
Jianshun "Jensen"	Department of Civil and Environmental Engineering	Syracuse University	USA	6/30/2025
Claudio Zilio	Department of Management and Engineering	University of Padova	Italy	6/30/2026

Social Media

- ~50% increase in Followers since January.

Science and Technology for the Built Environment ✓ Following
420 followers
1w •

New research published in Science and Technology for the Built Environment (#STBE) introduces a groundbreaking open-source platform for grid-interactive efficient buildings (#GEBs). ...more

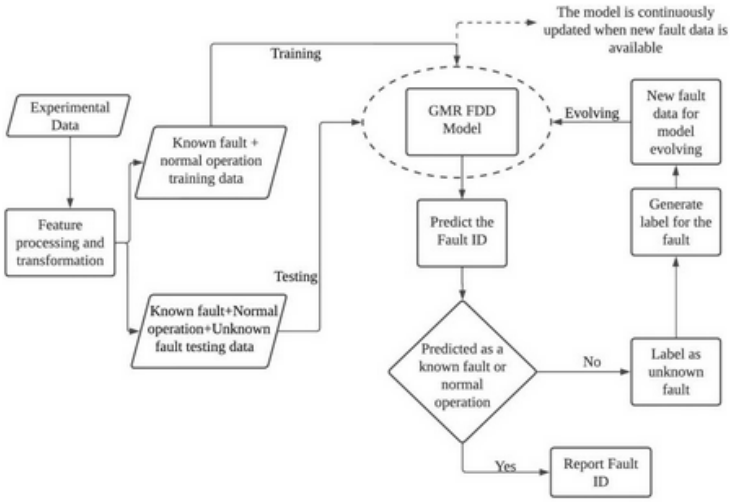


You and 65 others 3 comments · 5 reposts

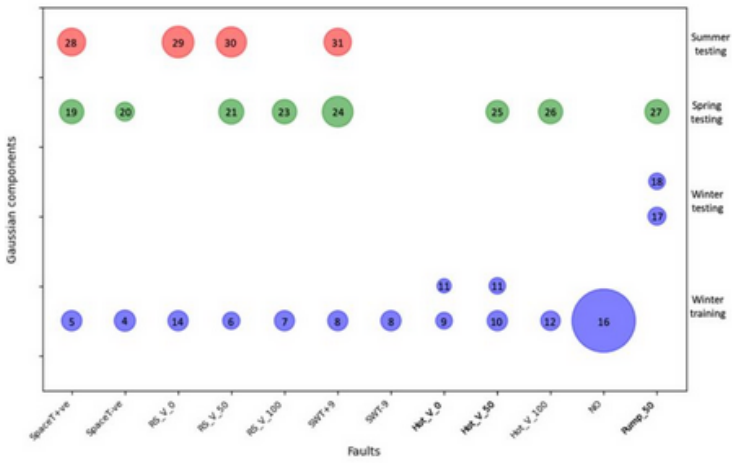
Like Comment Repost Send

Science and Technology for the Built Environment
621 followers
2d •

New research published in Science and Technology for the Built Environment (#STBE) presents an adaptive fault detection and diagnosis (#FDD) framework fc radiant slab heating and cooling systems using Gaussian Mixture Regression ...r



Schematic diagram of evolving GMR-based FDD approach.



The GMR FDD model with a Gaussian component for each fault and size of the component after evolving with the winter, spring, and summer data.

Logistical Problems (LaTeX)

- LaTeX submissions remain problematic.
- Mark Owen sent Stephanie agreement on Feb. 1, 2024.
- As of May 23rd, awaiting contact from “Peer Review team”
- We have a partial work-around for LaTeX submissions.

Logistical problems (low backlog)

- Backlog is improved, but still low:
- January 2023: 5 papers in backlog.
- June 2023: 6 papers in backlog.
- December 2023, after filling 2024.01 lineup:
  - 20 papers total.
- August 2024, after allocating 20 papers to 2024.06 and 2024.07:
  - 12 papers total.
- January 2025, after allocating 15 papers to 2025.01, 02:
  - 18 papers
- June 2025: after allocating 7 papers to 2025.06: 11 papers

Miscellaneous problems

- Obtaining timely, high-quality reviews remains challenging. (Even with the reviewer board!)
- AI – continues to come up sporadically:
  - AI-assembled nonsensical paper
  - Overly general reviews that appear to be AI-generated.

Other initiatives

- Reviewer board – continuing, but consider name change to “Junior Editorial Board” or…?
- Assigning open access paper slots – still on my list.

General Plans

- Meet with Associate Editors in Phoenix.
- Continue with moving towards format-free submission.
- Continue to recruit special issues based on conferences.
- Will ask the Editorial Board to help identify non-conference-based topical issues.

PEC - Professional Development Subcommittee
Report to Fiscal and Planning Subcommittees

Monday, June 23, 2025

Motions

None.

Information Items

1. Certification Committee Report shown in Attachment A.

2. TEC Report shown in Attachment B.

Certification Committee Report
to Professional Development Subcommittee of PEC
Meeting of June 23, 2025

Motions

None.

Information Items:

1. **Record Certification Applications** [MBO 2]

ASHRAE will receive a record **750+** applications in 2024-25, which is a **9% increase** over the 2023-24 record total.

2. **ISO/IEC 17024:2012 Accreditation** [MBO 4.1]

Following ANSI National Accreditation Board (ANAB) assessor team evaluation of ASHRAE's Reaccreditation application, ASHRAE Certification programs have been granted **reaccreditation** under the ISO/IEC 17024:2012 accreditation standard for another five-year cycle.

In addition, the Certified Decarbonization Professional (CDP) certification was awarded accreditation.

3. **Certification Exam Administration** [MBO 19]

The Certification Committee has planned with the ASHRAE Meetings department an **onsite exam administration** at the 2026 Winter Conference to take place at the AHR Expo, leveraging complimentary ALI courses and marketing in order to maximize registrations.

4. **2025-28 Exam Subcommittee Members** [MBO 4.3]

Approved slate of nominees and alternates for eight Exam Subcommittees for the 2025-28 term. The slate was developed from a pool of 107 self-nominations.

5. **Certification Committee 2024-2025 MBOs are included as an attachment.**

Respectfully submitted,
Suz Ann Arroyo, Certification Committee Chair
June 23, 2025

MBO Submission to Planning

Council: Publishing & Education
Committee: Certification

MBO #	Description	Metric
		(how do we determine success?)
1	Attain 80% recertification rate for the 2024 renewal class.	If 80% attained
2	Grow the number of certification applications by 10% over the 2023-24 total of 694, to a total of 763 applications.	If 763 applications attained
3	Achieve 400 sales and selection as renewing full Member benefit of BCxP Study Guide.	If uptake of 400 achieved
4	Achieve 350 sales and selection as renewing full Member benefit of BEMP Study Guide.	If uptake of 350 achieved
5	Achieve 500 sales and selection as renewing full Member benefit of CHD Study Guide.	If uptake of 500 achieved
6	Achieve 300 sales and selection as renewing full Member benefit of CDP Study Guide.	If uptake of 300 achieved
7	Leverage grass roots channels for enhanced communication.	If grass roots channels leveraged.
8	Collaborate with YEA Committee and Staff to identify and pursue opportunities to position ASHRAE Certification as career development goal.	If opportunities are identified and pursued to position ASHRAE Certification as a career development goal for YEA Members.
9	Cross-promote certification and online, instructor-led training (fall and spring) for each certification program on ashrae.org.	If cross promotion takes place.
10	Manage certification programs against the ANSI/ISO/IEC 17024 accreditation standard.	If ASHRAE maintains its accreditation.
11	Conduct BEMP, HBDP, and HFDP exam development against JTA updates and launch new exam forms.	If exam development takes place and new exam forms are launched.
12	Recruit 2025-28 class of Exam Subcommittee members.	If the 2025-28 class of Exam Subcommittee members is recruited.
13	Pursue opportunities to strengthen the Security of Examination Materials (ANSI 7.4) procedure for Item Development.	If the Security of Examination Materials (ANSI 7.4) procedure for Item Development is strengthened

	Monitor and report on developments in the security of remote proctoring.	
14		If developments in the security of remote proctoring are reported to the Certification Committee
15	Monitor the effectiveness of certification programs and recommend and implement any steps to improve program effectiveness.	If the effectiveness of certification programs is monitored and any recommended steps to improve program effectiveness are implemented
16	Evaluate the certification and recertification application fee schedule and recommend any possible updates in the 2025 Winter Conference meeting.	If this evaluation takes place.
17	Conduct strategic planning every two years at Annual Conference.	If ongoing strategic planning is conducted.
18	PEC MBO #3: Develop new products & services aligned with Strategic Plan initiatives 1 & 2 (ETF & TFBD).	If CDP certification and CDP Study Guide are developed.
19	Organize exam administration at Winter Conference.	If there are 10 exam candidates.
20	Determine need and demand for leveraging ASHRAE AMS as location for logging PDHs in order to enhance customer experience.	If need and demand are identified.

Chair:	Suz Ann Arroyo
Vice-chair:	Badri Patel

Initiative #	Goal #	Completion % /Date	Financial Assist Req'd?
4	2	3/31/2025	No
4	3	6/30/2025	No
4	3	6/30/2025	No
4	3	6/30/2025	No
4	3	6/30/2025	No
4	3	6/30/2025	No
4	2	6/30/2025	No
1	1	6/30/2025	No
3	1	6/30/2025	No
4	2	6/30/2025	Budgeted
4	2	6/30/2025	Budgeted
4	2	6/30/2025	No
3	3	6/30/2025	No

3	3	9/30/2024	No
4	3	6/30/2025	No
4	3	1/31/2025	No
3	3	6/30/2025	No
1	1	6/30/2025	No
4	2	1/31/2025	No
3	2	9/30/2024	No

MBO Comments	Initiative #				Strategic Goal 1	
	1	2	3	4	a	b
76% attained in 2024, compared to 77% recertification rate attained in 2023. 76% = average for certification programs with 3-year renewal periods.				x		
On track to achieve this MBO. 669 applications processed through May, 2025, versus 583 in May of SY 2024.				x		
Through 5/31, uptake of 337.				x		
Through 5/31, uptake of 268.				x		
Through 5/31, uptake of 480.				x		
CDP Study Guide to be publsihed likely in August, 2025.				x		
Certification to present at 6/20 CTTC meeting in Phoenix.				x		
Per YEA staff and volunteer leaders, “YEA Connections” e-newsletter, YEA social media, and YEA webinar are possible opportunities.	x				x	
Completed for fall 2024 instructor-led ALI courses, and fall and spring Global Training Center courses.			x		x	
Reaccreditation granted 6/10/2025. Year 1 Reapplication application submitted to ANSI on 12/9/2024. Two non-conformities closed.				x		
Beta BEMP and HBDP exams are being administered in June, 2025. Passing score workshops to take place in July.				x		
Slate for approval in 6/21 Certification Committee meeting.				x		
			x			

Conducted annually in September. Staff attended annual ANSI National Accreditation Board (ANAB) Client Day meeting on September 24, 2024. Developments: 70-80% of Certification bodies now use remote proctoring. The use of remote proctoring is increasing, even though the number of non-conformities has not decreased. There is a 60-70% incidence of NCRs during annual surveillance reviews which result from remote proctoring security failures.			x			
Task Force meeting held on Jan. 27.				x		
Fees increased approximately 25% 7/1/2024.				x		
Next strategic planning to be held June 21, 2025.			x			
SY 2023-24 JTA for HFDP supported ETF efforts. CDP certification launched by 6/30/2024, supporting TFBD efforts.	x				x	
COMPLETED. With only 2 applications received, this exam administration was cancelled.	**2**	**0**	**4**	**12**	**3**	**0**

Plan Tally					
Goal 2			Goal 3		
a	b	c	a	b	c
		x			
			x		
			x		
			x		
			x		
			x		
x					
	x				
x					
x					
			x		

			x		
			x		
			x		
			x		
3	**1**	**1**	**10**	**0**	**0**

TRAINING AND EDUCATION COMMITTEE

REPORT TO THE PROFESSIONAL DEVELOPMENT COMMITTEE
ASHRAE 2025 Annual Conference - Phoenix

Information Items

1. ALI courses for 24-25 are slightly below the previous year at 3,120 registrants. E-learning, AGT, and SDL registrations are all higher than the previous year.
    a. Total revenue for all learning types is currently at $2,096,200.

2. Phoenix has 10 ALI courses scheduled with 99 registrants. This is slightly lower than Indianapolis (125). Total revenue for ALI courses at the Annual meeting is $20,698.

3. eLearning revenue for 24-25 is tracking to exceed the fiscal performance of the 23-24 fiscal year. December is still the largest month, but there has been improvement in the slower months (summer).

4. AGT is working with local municipalities in the UAE to present 6 courses for the 25-26 year, as well as courses at a large CRC.

    a. Prices have increased 10%. 23 courses have been offered with 252 registrants.
    b. 3 HVAC Design Level I and II courses
    c. Free Arabic webinar with 543 registrants (135 members, 408 nonmembers)

5. The TEC Committee has developed a reaffirmation and sunset procedure and approved the documentation. Courses focusing on COVID have been sunsetted, and there are two that are going to be reaffirmed in the coming months. [MBO 1]

6. The TEC Committee is developing a franchise model for courses that allows multiple presenters to teach ALI courses. This will allow for translation to different languages, units, and regions. The franchise guidelines have been developed and are in the final draft review. The finalized guidelines will be used to pilot the process for a few selected courses. [MBO 2]

7. The TEC Committee has reviewed the RFP process and updated the procedure for clarity in the TEC Reference Manual. [MBO 3]

8. The TEC Committee is working to develop and send out a survey to all who have taken ASHRAE courses to understand what courses people want, as well as any concerns. [MBO 4]

9. TEC has reviewed and approved several courses since the Winter meeting. Several courses are moving forward to RFP stage. This includes a course for A2L refrigerants, CDP exam prep, and public speaking.

10. LMS update – we have a vendor and are working through the construction. Members will be able to search, filter, see course groupings, and view a transcript. It integrates with the current website platform.

Respectfully submitted,
Kim Pierson, Training and Education Committee Chair
June 22, 2025

PEC - Planning Subcommittee
Report to PEC
Monday, June 24, 2025

Attendance: Ken Fulk - Chair, Kimberly Cowman, Doug Cochrane, Badri Patel, Kurt Monteiro (absent), Stephanie Mages (absent), Akinbowale Soluade (absent), Ashley N Weekly (absent), Jeremy T Smith (absent), Jonathan Smith (absent)

Motion

1. PEC Planning Subcommittee recommends that PEC approve and forward to the BOD for approval changes to the PEC ROB as shown:

2.302 PUBLISHING AND EDUCATION COUNCIL

2.302.01 SCOPE AND PURPOSE (19-06-26-13)

This council is responsible for the manufacturing, delivery, and fiscal impact of all ASHRAE publications and professional development products with consideration given to (1) recognized need, (2) potential for sales income, (3) budget constraints, and (4) joint funding agreements. Using established guidelines and procedures, this council shall work with managing groups of publications at project inception, during execution, and upon completion to ensure a balance of the above considerations is achieved.

2.302.02 MEMBERSHIP

2.302.02.1 The members of this Council are as follows:

A. Chair: A Vice President of the Society

B. Vice-Chair: A Vice President of the Society

C. Voting Members: Chair, Vice Chair, up to four (4) Directors, plus the following positions elected by the Board of Directors:

1. One past voting member from each of the following committees: Certification, Training and Education, Handbook, Publications~~.~~, Historical.

2. Current Chair of the following committees: Certification, Training and Education, Handbook and Publications.

D. Non-Voting Members: Vice Chairs of each committee reporting to this council.

2.302.003 OPERATIONS **(13/06-26-19)**

A. The council shall review and recommend changes, when appropriate, to any ASHRAE publications or professional development products.

B. This council is responsible for reviewing, recommending changes and interpreting the following: Rights and Responsibilities and General Guidelines for Co-Sponsoring Organizations for ASHRAE Public Sessions.

C. This council shall facilitate communication and planning between all things related to ASHRAE publications and education.

2.302.03 STRATEGIC PLAN

This council shall develop procedures for recommending updates to the strategic plan on a continuous basis. The council as a minimum shall at the Annual Meeting submit a report to the BOD which includes the current status of each activity which supports the fulfillment of their assignments under the strategic plan. The council shall solicit and report recommendations for changes to the strategic plan as reported by the committees reporting to the council at the Annual Meeting.

Background: These changes correct an oversight in leaving off one of the standing committee chairs as a voting member and aligning PEC membership more closely to Members Council voting/non-voting membership makeup.

Fiscal Impact: None.

Planning Subcommittee did not have quorum and therefore could only discuss motion. Members recommend that PEC approve the motion as shown and forward to the BOD for approval.

Information Items

1. Products Subcommittee report to Planning Subcommittee shown in **Attachment A**.

   This report includes:

   - Handbook Committee Report - *Attachment A of the Planning Subcommittee Report to PEC.*
   - Historical Report - *Attachment B of the Planning Subcommittee Report to PEC.*
   - Publications Report - *Attachment C of the Planning Subcommittee Report to PEC.*
   - Research Journal Subcommittee - *Attachment D of the Planning Subcommittee Report to PEC.*

2. Professional Development Subcommittee report to Planning Subcommittee shown in **Attachment B**.

This report includes:

- Certification Committee Report – *Attachment A of the Planning Subcommittee Report to PEC.*
- Training and Education Committee Report - *Attachment B of the Planning Subcommittee Report to PEC.*

Respectfully Submitted,

Ken Fulk, Chair

PEC – Products Subcommittee
Report to PEC Planning Subcommittee

Monday, June 23, 2025

Motions

None.

Information Items

1. HBC brought a motion to PEC Products Subcommittee that was discussed and withdrawn after discussion by members. Handbook Committee (HBC) Report to PEC Products Subcommittee is shown in **Attachment A**.

2. The Historical Committee has forwarded the following motion to PEC Fiscal Subcommittee for their consideration:

   That ASHRAE allocate adequate funds to study appropriately conditioned space to maintain its world class library of ASHRAE and industry publications and archival items from the Society's history

   Background

   The intent of the motion is to create:
   - The physical space that can fully house ASHRAE's Library and Archives in a safe environment.
   - Implement procedures to ensure the integrity of the collections moving forward.
   - Develop a digitalization plan to expand access to the collections.
   - Lay the groundwork for utilization of the collections in ways that promotes awareness of HVAC&R technology and benefits members.

   Implementing this motion supports two objectives of ASHRAE's 2025-2028 Strategic Plan:
   - Strategic Goal 1: Position ASHRAE as the **global leader** in advanced solutions to improve indoor environmental quality and address climate change.
   - Strategic Goal 3: Increase the **accessibility** of ASHRAE content, resources and member opportunities.

   ASHRAE retains the most extensive collection of HVAC&R literature in the world. ASHRAE's library and archives consist of from 3,000 to 5,000 books, proceedings, monographs and other media; 3,000 to 5,000 periodicals bound and unbound; and 5,000 to 10,000 historical records such as patents, correspondence, records, reports, biographies, and photographs.

Action to ensure this asset's viability is required, however. Current library and archives dedicated space is not adequate to accommodate new ASHRAE works as they are published. Not all of the items displayed at the Tullie Circle building were accommodated in the space allotted in the Peachtree Corner building. Plus, approximately 75 boxes of library and archives content held in offsite storage have been retrieved, requiring immediate action be taken to accommodate these publications, artifacts, and records of historical interest. Until the space issue is resolved, new ASHRAE publications and acceptance of historical items cannot be catalogued and shelved. And the more time that elapses without a solution, the more difficult the job will be to restore the library and archive's value.

The shelfing and display of historical items runs parallel to digitalization efforts to make the holdings more broadly available to the membership. Digitalization is underway through cooperation with the IEEE historical center, digital assets used to create ASHRAE publications in recent years are being identified and re-purposing as library content. Still, the process of digitization begins with cataloging the print content. While some items can exist in digital format only, other works have value if kept in original hard copy form along with digital representation.

In addition to staff, ASHRAE needs to enable access to library science expertise for cataloging and assisting in the digitalization effort. ASHRAE's long time librarian has recently retired. This support will update catalog of holdings to reflect current holding status and outline how holdings may be accesses – onsite and electronically.

When the space allocation and staffing resources are in place, the Historical Committee will identify and work with individuals to prepare a schedule of historically theme articles for ASHRAE Journal, organize conference sessions and create displays so that the entire membership can benefit from ASHRAE's historical intellectual property.

Library items and archive items have already been identified by a subcommittee of the Historical Committee. Items were discarded which did meet standards of historical significance or duplication. The report of the subcommittee is attached for reference.

Staff impact: Minimal—less than 40 hours.

Fiscal Impact: A total fiscal impact of a maximum $50,000.

PASSED 4-0-0, CNV

Information Items

1. Products Subcommittee report to Fiscal Subcommittee shown in **Attachment A**.

   This report includes:

   - Handbook Committee Report - *Attachment A of the Fiscal Subcommittee Report to PEC.*
   - Historical Report - *Attachment B of the Fiscal Subcommittee Report to PEC.*
   - Publications Report - *Attachment C of the Fiscal Subcommittee Report to PEC.*
   - Research Journal Subcommittee - *Attachment D of the Fiscal Subcommittee Report to PEC.*

2. Professional Development Subcommittee report to Fiscal Subcommittee shown in **Attachment B**.

This report includes:

- Certification Committee Report – *Attachment A of the Fiscal Subcommittee Report to PEC.*
- Training and Education Committee Report - *Attachment B of the Fiscal Subcommittee Report to PEC.*

Respectfully Submitted,

Chandra Sekhar, Chair

Handbook Committee Report to PEC, Products Subcommittee
Sunday, 22 June 2025

Major Passed Motion

1. **HBC moved, seconded, and approved to request that ASHRAE PEC provide a streamlined offering to ASHRAE members and customers of the Handbook PDF and the Handbook Online under one login.**

   Background: Currently the member benefit for handbook PDF is tied to a member benefit and the handbook online is a subscription offering. It is confusing for ASHRAE members as to how to get to the Handbook online in addition to the Handbook PDFs as they are different portals and could have different usernames and passwords. It would provide better user experience of these two products if they were brought together on one platform/portal.

   Motion was passed unanimously by VV, CNV.

   Fiscal Impact: Lower staff maintenance for only one portal instead of two. The cost of implementing a uniform portal (TBD). Potentially a loss of handbook online revenue from members. This needs to be coordinated with future member benefit options. Potential revenue increase from sales to nonmembers for a combined Handbook Online + PDF product.
   Handbook Online: $77/year ASHRAE Handbook Online.
   Handbook PDF: https://technologyportal.ashrae.org/Handbook.

Information Items

1. The 2025 Fundamentals volume of the Handbook will be published July 1 in print and PDF formats, with Handbook Online updates following shortly after.

2. HBC chair Joe Furman has initiated formal discussions with TAC leadership on how to improve communication with TCs and increase adherence to deadlines, responsiveness to questions from liaisons and staff, etc. This collaboration will be ongoing but holds great promise in increasing communication and keeping everyone on the same page when it comes to ASHRAE publications.

3. HBC agreed to swap the order of the first two administrative subcommittees for incoming volume chairs, so the new progression will be Functional > Training > Electronic Media > Strategic Planning. This is based on volume chair feedback about the learning curve necessary for serving on HBC: previously the newest volume chair was responsible for training new liaisons and TC Handbook subcommittee chairs, while they were still getting up to speed with their new responsibilities. The new order will allow incoming chairs to familiarize themselves with HBC governing documents first, before needing to teach others.

4. See *Attachment A* for MBOs for 2024-2025.

Respectfully submitted,

Joseph Furman, HBC Chair
JF [mhek]

Attachment A: HBC MBOs for 2024-2025

MBO Submission to Planning	DATE	6/22/2025

Council:	PEC	**Chair:**	Joe Furman
Committee:	Handbook Committee	**Vice-chair:**	Stephanie Mages

								Strategic Plan Tally											
MBO #	**Description**	**Metric**	**Initiative #**	**Goal #**	**Completion % /Date**	**Financial Assist Req'd?**	**MBO Comments**	**Initiative #**	**Goal 1**	**Goal 2**	**Goal 3**								
		(how do we determine success?)						**1**	**2**	**3**	**4**	**a**	**b**	**a**	**b**	**c**	**a**	**b**	**c**
1	Consider Handbook volumes as a whole: balance out volume sizes.	All four volumes are of roughly equal size and workload. Currently, the Refrigeration volume is about 800 pages and lightly updated; the Applications volume is over 1500 pages and is heavily updated.	3	1b	Target 6/25	No	Volume rebalancing approved by PEC and will be implemented beginning with the 2028 HVAC Systems and Equipment volume.			x			x						

2	Review number of Chapters that are the responsibility of one TC	No TC is overloaded with more chapters than its membership can maintain.	3	1b	ongoing	No	Would even out burden on TCs; better response from individual overwhelmed TCs. However, very small TCs with very specialized knowledge (e.g., food refrigeration) may not have the membership numbers to sustain regular revisions, and there may not be other TCs with equivalent knowledge to help. Seeking collaboration with other related organizations is one potential path forward.			x			x						
3	Encourage TCs to develop extra features (spreadsheets, sidebar discussions, video, etc.) for Handbook Online.	Increase in number of Handbook Online extra features.	3, 4	1b, 2c	ongoing	No	Suggest to TCs that they use their YEA members.			x	x		x			x			
4	Review and improve ARG for clarity and conciseness (this includes the chapter submittal form).	Updates to be made.	3	1b	ongoing	No				x			x						

5	Review and improve MOP for clarity and conciseness.	Updates to be made.	3	1b	ongoing	No	Starting July 1, 2025, MBOs will be tracked using the new online form.			x			x							
6	Author and develop how-to videos and other job aids for HBC liaisons, TC handbook subcommeittee chairs, and other stakeholders.	Author and post videos	3	1b	ongoing	No	Improving and fine-tuning training materials is ongoing. One new request for staff is to produce a short video replicating the Authoring Portal portion of in-person training, so members can consult the information when it's needed rather than only at the conferences.			x			x							
7	Review single topic/multi TC Chapters responsibility to one TC.		3	1b	ongoing	No	Will help to avoid potential conflicting revisions from multiple TCs, and simplify chapter submittal process. May require guidance issued in reference manual for HBC use when conflicts arise			x			x							
8	Develop and maintain calendar-based activity prompts job aid for HBC leadership to use in managing the HBC.	Author and issue internal guidance document	3	1b	ongoing	No	Scheduling is done through Basecamp, but further improvements are being investigated.			x			x							

9	Work with staff to update Handbook Central.	Updates to be made.	3	1b	ongoing	No	Streamlining the public web page and making the chapter approval checklist available to TCs without having to sign into the Authoring Portal (e.g., for those with no planned changes for a cycle), and posting the Authoring Portal video referenced in item 6 above.			x			x						
10	Update Reference Manual and post on Basecamp.	Updates to be made.	3	1b	Target 1/25	No	A vintage reference manual (ca. 2008) was found and is in the process of being updated for modern use.			x			x						
11	Work with TC Leadership to engage TC's when HC Liasions cannot contact respective TC Liasions	Author and issue internal guidance document	JLF		ongoing	No	Responsibility of TC Volume Chapter revisions seems to lie with the HBC in the current structure. TAC should be accountable for the content and updates/revisions. HBC chair Joe Furman initiated formal contact with TAC, who expressed having similar concerns about timeliness and responsiveness regarding												

							publication deadlines.													

Historical Committee Report to PEC Products Subcommittee

Meeting of Monday, June 23, 2025

Motions

1. **That ASHRAE allocate adequate funds to study appropriately conditioned space to maintain its world class library of ASHRAE and industry publications and archival items from the Society's history**

Background:

The intent of the motion is to create:

- The physical space that can fully house ASHRAE's Library and Archives in a safe environment.
- Implement procedures to ensure the integrity of the collections moving forward.
- Develop a digitalization plan to expand access to the collections.
- Lay the groundwork for utilization of the collections in ways that promotes awareness of HVAC&R technology and benefits members.

Implementing this motion supports two objectives of ASHRAE's 2025-2028 Strategic Plan:

- Strategic Goal 1: Position ASHRAE as the **global leader** in advanced solutions to improve indoor environmental quality and address climate change.
- Strategic Goal 3: Increase the **accessibility** of ASHRAE content, resources and member opportunities.

ASHRAE retains the most extensive collection of HVAC&R literature in the world. ASHRAE's library and archives consist of from 3,000 to 5,000 books, proceedings, monographs and other media; 3,000 to 5,000 periodicals bound and unbound; and 5,000 to 10,000 historical records such as patents, correspondence, records, reports, biographies, and photographs. The library and archives serve as resources for members to create histories about the technology and the Society's role in its development. For example, historical articles published in ASHRAE Journal regularly draw high readership scores are essential in celebrations of significant ASHRAE and industry milestones.

A long list of publications result from library holdings, such as Heat and Cold, 20th Century Air Conditioning, Pioneers of HVAC&R, Proclaiming the Truth, etc. The library and archives can also be a center for academics and researchers to advance research through bibliographic searches and to create works which increase the public's understanding of the contributions to human wellbeing made by HVACR technology.

Action to ensure this asset's viability is required, however. Current library and archives dedicated space is not adequate to accommodate new ASHRAE works as they are published. Not all of the items displayed at the Tullie Circle building were accommodated in the space allotted in the Peachtree Corner building. Plus, approximately 75 boxes of library and archives content held in offsite storage have been retrieved, requiring immediate action be taken to accommodate these publications, artifacts, and records of historical interest. Until the space issue is resolved, new ASHRAE publications and acceptance of historical items cannot be catalogued and shelved. And the more time that elapses without a solution, the more difficult the job will be to restore the library and archive's value.

The shelfing and display of historical items runs parallel to digitalization efforts to make the holdings more broadly available to the membership. Digitalization is underway through cooperation with the IEEE historical center, digital assets used to create ASHRAE publications in recent years are being identified and re-purposing as library content. Still, the process of digitization begins with cataloging the print content. While some items can exist in digital format only, other works have value if kept in original hard copy form along with digital representation.

In addition to staff, ASHRAE needs to enable access to library science expertise for cataloging and assisting in the digitalization effort. ASHRAE's long time librarian has recently retired. This support will update catalog of holdings to reflect current holding status and outline how holdings may be accesses – onsite and electronically.

When the space allocation and staffing resources are in place, the Historical Committee will identify and work with individuals to prepare a schedule of historically theme articles for ASHRAE Journal, organize conference sessions and create displays so that the entire membership can benefit from ASHRAE's historical intellectual property.

Library items and archive items have already been identified by a subcommittee of the Historical Committee. Items were discarded which did meet standards of historical significance or duplication. The report of the subcommittee is attached for reference.

Fiscal Impact: A total fiscal impact of a maximum $50,000.00.

Information Items

1. Historical Committee reviewed the committee's 2024-2025 MBOs. (Attachment A)

2. Mr. Morasch reported to Historical Committee that there has been increased activity on the Engineering and Technology History Website (ETHW) wiki.

3. Mr. Nagengast, Mr. Feiner and Mr. Comstock visited ASHRAE Headquarters to survey and make recommendations for the future needs for the library and historical archives. Their report with detailed recommendations shown Attachment B.

4. A display of historical documents and posters has been set up in the ASHRAE bookstore for the Phoenix Conference. Having a physical presence at ASHRAE conferences will offer new and younger members an introduction to ASHRAE and the industry's history.

Respectfully submitted,

Akinbowale Soluade
June 22, 2025

MBO - Submission to Planning

last update: 2024-07/15

Council: Publications & Education
Committee: Historical

Chair: Norman Grusnick
Vice-chair: Olu Soluade

MBO #	Description	Metric	Initiative #	Goal #	Completion % /Date	Financial Assist Req'd?	MBO Comments	Strategic Plan Tally											
								Initiative #				Goal 1		Goal 2			Goal 3		
		(how do we determine success?)						1	2	3	4	a	b	a	b	c	a	b	c
1	Establish and maintain a continuous line of communication between Society Historical Committee and Regional+Chapter Historians	Electronic communication to be by Committee Chair on a quarterly basis, with input from committee members.	4	2a, 2c	Ongoing **50% complete**	No	propose Historical Committee newsletters to be issued in Nov,April				X			X		X			
2	Develop PAOE Recommended Changes for Next Year 2025-2026	To get ahead of the PAOE Committee Cycle with proposal for the following year's (Society Year 2024-2025), Historical PAOE subcommittee needs to work with the PAOE subcommittee of Members Council during the Fall to Submit recommendations.	4	2a	Ongoing due before Feb 1	No	review PAOE items and forward comments				x			X					
3	Encourage younger members of ASHRAE (specifically SA & YEA) to have interest in history related activities of the Society	reference PAOE H14=For each Membership Promotion, YEA, or Student Activities event planned with a representative from the chapter Historical Committee to add a historical context to the event	4	2a	Ongoing	No					X			X					
4	Identify volunteers to act as committee liaison to other Society Committees	Collaborating with other committees to support ASHRAE's mission by providing a historical context to educate and inspire members.	4	2a, 2c	Ongoing **25%**	No	**Historical Committee Liason:** Membership TBD **Young Engineers in ASHRAE** = TBD **Student Activities** = TBD				X			X		X			
5	Foster collaboration with other international societies to improve our historical research and support history related activities of the Society	1) Continue work to have ASHRAE membership in the IEEE History Center - Engineering & Technology History Wiki (ETHW) [web site: https://ethw.org]. 2) Grow support in the Life Members Club to fundraise & create an endowment fund that would provide ongoing financial support to sustain membership in the IEEE History Center. 3) Continue work on collaboration. HC has links with similar groups in CIBSE and AiCARR - opportunity to pursue to work w/similar committees in CEN, Intl Institute of Ammonia Refrigeration (IIAR), Intl Institute of Refrigeration (IIR), & Global Cold Chain Alliance (GCCA).	4	2b	Ongoing **ETHW complete Now Forward Items**	YES Annual fee	Budget has been approved for IEEE Wiki by PEC contigent on due diligince. Awaiting signature on agreement - **COMPLETED** **ETHW.org agreement signed,** **2024 payment completed,** **ASHRAE logo added to web site**				X				X				

6	Digitize, Sort and Archive historical items including old archived Journals and Transactions	Proposed to have some storage items at HQ identified	4	1b, 2c, 3c	Ongoing	Yes*	*require funds to purchase storage racking at HQ for storage of items *may require funds and persons to scan and index items **Plan trip to HQ to assess what we have**				x		x			X			X
7	Leadership Recall to be arrange at Winter and Summer Conference	Arrange two Presidential interviews. Review other potential interviewees	4	1b, 2c	Ongoing	Yes*	*used to have access to videogropher to video interviews at conferences, however no longer at present due to covid $ cuts. In discussion with ASHRAE Journal Podcast to use resources for interviews **Review if Podcast Team can provided then interviews**				X		x			X			
8	To increase committee visibility work with staff To have a historical display at in registration area at winter and annual meetings	First measure of success will be comments from members and what they have seen	4	1b, 2c	Will be ongoing displays	TBD	Display of past photos, blueprints artifacts will allow new members to See some of the origins of HVACR industry				x		X			x			
9	Ecourage Digital history displays at CRC Add to future PAOE value	Feedback from historians	4	1a, 2a	Ongoing	NO													
10																			
11																			
								0	**0**	**0**	**7**	**0**	**2**	**2**	**1**	**4**	**0**	**0**	**1**
								Initiative #				**Goal 1**		**Goal 2**			**Goal 3**		
								1	**2**	**3**	**4**	**a**	**b**	**a**	**b**	**c**	**a**	**b**	**c**

ASHRAE Library and Archives Revitalization Initiative
Holdings Review, Procedures Development & Space Allotment

March 26, 2025
Revitalization Team: Bern Nagengast, Steve Comstock, Niss Feiner

EXECUTIVE SUMMARY:

ASHRAE retains the most extensive collection of HVAC&R literature in the world.

ASHRAE's library and archives consist of from 3,000 to 5,000 books, proceedings, monographs and other media; 3,000 to 5,000 periodicals bound and unbound; and 5,000 to 10,000 historical records such as patents, correspondence, records, reports, biographies, and photographs.

Action to ensure this asset's viability is required, however. Current space is not adequate to accommodate new ASHRAE works as they are published, and not all the items from the Tullie Circle building were accommodated in the new space allotted in the Peachtree Corner building. Now, approximately 75 boxes of content held in offsite storage have been retrieved, requiring immediate action be taken to accommodate publications, artifacts, and records of historical interest

On March 7 to 9, the Historical Committee's Library and Archives Revitalization Team reviewed all holdings including the offsite storage with the aim of eliminating excess publications, removing items not of historical significance, separating items from other ASHRAE operations, and removing items damaged to the extent of making them unusable.

The team grouped the remaining holdings into ASHRAE Library, HVAC&R Historical Collection, and ASHRAE Archives.

Based upon these groupings, the team:

- Designated physical space that could house the collections.
- Conceptualized procedures to ensure the integrity of the collections moving forward.
- Developed a digitalization plan to expand access to the collections.
- Laid the groundwork for plans to utilize the collections in ways that promote awareness and member benefit.

Recommendations follow to implement a revitalization plan for the library and archives with objectives of:

- Leveraging the assets as a component of the Society's public outreach efforts to raise awareness of the benefits to society made by HVAC&R professionals.
- Providing a membership benefit through organization of physical holdings at ASHRAE Headquarters and enabling members to access holdings virtually.

RECOMMENDATION SUMMARY:

1. It is recommended that staff review excess items and dispose of them through return to inventory if currently sold, sale at the ASHRAE conference, online auction, give away to students, or any other opportunity to repurpose the publications. The repurpose effort can be used to generate awareness of the library and archives. As a last resort, items should be recycled.

   FISCAL IMPACT: Can be positive.

2. It is recommended that the current ASHRAE Library retains the name ASHRAE Library and be designated for ASHRAE publications and the rare book collection. Future publications will be able to be accommodated in this re-arranged space.

   FISCAL IMPACT: None

3. It is recommended that the current ASHRAE Archives Room be returned for other ASHRAE use.

   FISCAL IMPACT: None

4. It is recommended that the current storage room at bottom of staircase be named HVAC&R Historical Collection and ASHRAE Archives with appropriate designation of the room at entry.

   FISCAL IMPACT: None

5. It is recommended that to display the holdings, the bookcases from the current Archives room be relocated to this room with an additional 30 linear feet of matching bookcases purchased. In addition, 2 conference tables, each with 4 chairs, would enable the room to be a working space for researchers and staff. Having a computer terminal or laptop in the room with copier/scanner would also be beneficial to access the online catalog of holdings. It is also recommended to display in this room historical artifacts, such as ASHRAE's early thermostats collection, early hygrometers collection, and the DOMELRE (Domestic Electric Refrigerator).

6. **FISCAL IMPACT:** Estimated at $5,000 for additional shelving, copier/scanner and terminal/laptop is placed here.

7. It is recommended the storage room inside the HVAC&R Historical Collection space be designated ASHRAE Archives.

   FISCAL IMPACT: None

8. It is recommended that a staff team place the remaining boxed inventory on shelves in the newly assigned rooms.

   FISCAL IMPACT: None

9. It is recommended that each holding or collection of holdings in the ASHRAE Archives be accompanied by a statement noting its significance.

   FISCAL IMPACT: $6,000 for a small team of experts with historical perspective to attend a working meeting onsite, with the outcome also being articles or presentations on various subjects.

10. It is recommended that ASHRAE retain on a contractual basis a retired librarian or a library sciences intern to perform this cataloging under the guidance of a Historical Committee designee(s) and current staff member responsible for library processes.

    FISCAL IMPACT: TBD pending Steve Comstock research.

11. It is recommended that staff assemble a matrix showing (a) ASHRAE title or collection (e.g., standards, Transactions, Journal, Handbook, etc.); (b) Current existence of its digital assets; (c) source of the availability (e.g., NXTBOOK, Techstreet, IHS, ASHRAE production files, etc.); (d) gap in availability. This should be completed with an online search of non-ASHRAE sources).

    FISCAL IMPACT: None.

12. It is recommended that ASHRAE staff provide the selected materials to IEEE in fulfillment of our annual support agreement and to ascertain the quality and value and reuse of what is received.

    FISCAL IMPACT: None. ASHRAE currently supports the ETHW and using the service is provided as support benefit.

13. It is recommended that historical artifacts be labeled and placed in either the ASHRAE Library or the HVAC&R Historic Collections Room and the anniversary certificates be placed with the Centennial gift items.

    FISCAL IMPACT: None.

14. It is recommended that the ASHRAE Historical Committee continue to (A) monitor the maintenance of the holdings catalog and the transition of historic ASHRAE items to digital format and (B) promote contents of the collections to the membership through displays, articles, presentations, and virtual events. It is recommended that the Historical Committee update its Reference Manual to reflect these goals.

    FISCAL IMPACT: None.

BACKGROUND FOR RECOMMENDED ACTIONS:

Intelligently Dispose of Excess Works. Approximately 150 to 200 publications have been identified as excess and placed in a storage area for staff to repurpose or dispose.

It is recommended that staff review excess items and dispose of them through return to inventory if currently sold, sale at the ASHRAE conference, online auction, give away to students, or any other opportunity to repurpose the publications. The repurpose effort can be used to generate awareness of the library and archives. As a last resort, items should be recycled.

Associated with this recommendation is that Steve Comstock will reach out to ASHRAE TC 6.7 Solar Energy Utilization to determine the historical value of 3 boxes of documentation donated by Presidential Member Frank Faust on solar energy, mostly in the form of ERDA and DOE reports.

Based upon TC input items will be either marked for cataloging and retention or online sale, conference sale, or recycling.

Re-Assign Library/Archives Space. Two spaces are currently assigned for holdings in the Peachtree Corners building: The ASHRAE Library and the ASHRAE Archives. These spaces, however, cannot accommodate all of the items in the former library and archive space. Plus, the library cannot accommodate publications as they are released. The lack of space is more pressing with the relocation to HQ of excess library holdings retained in storage off-site.

It is recommended that the current ASHRAE Library retain the name ASHRAE Library and be designated for ASHRAE publications and the rare book collection. Future publications will be able to be accommodated in this re-arranged space.

The ASHRAE Library will hold, for example, ASHRAE (and ASHVE and ASRE) Journals, ASHRAE (and ASRE and ASHVE) Handbooks. ASHRAE (and ASHVE) Transactions, ASHRAE Insights, ASHRAE published conference proceedings, bound ASHRAE Insights, ASHRAE Indexes.

It is recommended that the current ASHRAE Archives Room be returned to the Society for other ASHRAE use.

It is recommended that the current storage room at the bottom of the staircase be named HVAC&R Historical Collection and ASHRAE Archives, with appropriate room designation at entry.

The room needs to be cleared of the current contents (excess furniture, etc.) The large area upon entry will be HVAC&R Historical Collection. It will hold all of the non-ASHRAE published periodicals that track the evolution of the industry including, for example, HPAC (non ASHVE Section years), American Artisan, Domestic Engineering, Heating and Ventilation, Ice and Refrigeration, Metal Worker, Plumbers and Heating Journal, and ICE.

This space will also include books not published by ASHRAE that have industry/technology development significance, current works of interest to HVAC&R professionals, and proceedings and papers from conferences sponsored by ASHRAE but not published by ASHRAE.

Other components of the space will be translations of ASHRAE Publications (no digital asset); Publications that include licensed ASHRAE content (no digital asset); and Periodicals published by sister societies, including ASHRAE International Associates (current month only – no digital asset.) Displaying HVAC&R technology publications from around the world showcases the global network that ASHRAE coordinates. It also will allow ASHRAE to display the publications from sister societies, allowing overseas visitors to HQ an opportunity to see that ASHRAE values international exchanges.

Also, the space will include complete second sets of ASHRAE publications (as protection against loss of original items maintained in the ASHRAE Library) and unbound copies of ASHRAE Journals and ASHRAE Research Journal (to allow for easy scanning and copying).

It is recommended that to display the holdings, the bookcases from the current archives room be relocated to this room with an additional 30 linear feet of matching bookcases purchased. In addition, 2 conference tables, each with 4 chairs, would enable the room to be a working space for researchers and staff. Having a computer terminal or laptop in the room with copier/scanner would also be beneficial to access the online catalog of holdings. It is also recommended to display in this room historical artifacts such as ASHRAE's early thermostats collection, early hygrometers collection, and the DOMELRE (Domestic Electric Refrigerator).

The tables and chairs might be able to be drawn from the surplus furniture currently stored in the room.

Within the room, artifacts owned by ASHRAE such as the early thermostats collection and the collection of hygrometers can be labeled and displayed in appropriate cabinets. There are additional items in the archives, such as early correspondence and patents of William Mackay, co-founder of ASHVE, and copper plates used for printing ASHRAE's psychrometric charts, that can also be displayed. In fact, the DOMELRE (Domestic Electric Refrigerator), one of the first successful domestic electric refrigerators, could be relocated here from its obscure location in a hallway.

Another element of the HVAC&R Historical Collections room could be the display plaque for the ASHRAE Hall of Fame with the notebook that explains why each member was selected for recognition.

It is recommended the storage room inside the HVAC&R Historical Collection space be designated ASHRAE Archives.

The filing cabinets in the current archives room should be placed here. These cabinets hold biographical material of prominent members and technology leaders, magazine articles about HVAC&R development, meeting programs, files from significant ASHRAE events, like the ASHAE and ASRE merger and HQ relocation from New York, and other memorabilia and member donations.

All meeting photographs should be stored in the archives, properly labeled/tagged for their later digital use.

In addition, one or two of the bookcase units from the current archives room will need to be placed in this room for the notebooks of artwork assembled for ASHRAE-published history books, the Al Newton Collection of early solar energy and industrial refrigeration applications, Gold Ribbon for History chapter history submissions, etc.

It is recommended that a staff team place the remaining boxed inventory on shelves in the newly assigned rooms.

The Revitalization Team organized and labeled excess inventory. It is waiting on shelving to be available. It is not effective use of volunteer time (or the expense) for travel to Headquarters and place books on shelving. The Revitalization Team will be available virtually to provide guidance at the start of the restacking process or answer questions should they arise.

It is recommended that each holding or collection of holdings in the ASHRAE Archives be accompanied by a statement noting its significance.

These statements will be helpful when materials are used in historical compilations, displays, online reproduction, or by visitors to HQ. They should be prepared by individuals knowledgeable about the history of the Society, the technology and the industry. An onsite visit by this team would be beneficial.

Individuals preparing such statements could also be tasked with preparing Journal articles on Archive items, meeting presentations, podcasts, or virtual presentations.

Contract for Support. A substantial number of items obtained during the past several years, new ASHRAE publications and some items retrieved from Iron Mountain storage need to be cataloged. The revitalization team in some cases placed these items in the library or archives with the need to catalog noted.

It is recommended that ASHRAE retain on a contractual basis a retired librarian or a library sciences intern to perform this cataloging under the guidance of a Historical Committee designee(s) and current staff member responsible for library processes.

Steve Comstock is reaching out to Emory University, Georgia Institute of Technology and Georgia State University to obtain information about library science intern or other resource availability, including cost and processes.

The contracted source should also be tasked with advising ASHRAE on how the catalog can be best prepared for virtual access and providing guidance on how digital access can be expanded, including maintaining respecting the integrity of copyright with consideration of ASHRAE publishing licensing and sales policies.

Expand Digital Holdings. Creating the Library and Archives in digital form will expand access to the resource to ASHRAE's global membership and researchers around the world. It will also protect the assets from catastrophic loss to the physical holdings. Having assets in digital form also assists with retrieval because of searching and indexing features. However, copyrights need to be respected, errors in content can be entered during scanning, and the physical nature of some items are in themselves of historical significance.

> **It is recommended that staff assemble a matrix showing (a) ASHRAE title or collection (e.g., standards, Transactions, Journal, Handbook, etc.); (b) Current existence of its digital assets; (c) source of availability (e.g., NXTBOOK, Techstreet, HIS, ASHRAE production files, etc.); (d) gap in availability. This should be completed with an online search of non-ASHRAE sources).**
>
> This is a first step. The objective here is to capture what is available and determine extent of what is needed.
>
> All of ASHRAE works since the 1990s were created in digital form. Plus. many older and other publisher's older works may already exist digitally. Research needs to take place to retrieve and use existing adequate digital files, to put procedures in place to retain and archive files of new works, and develop a plan in place to fill the gap in digital assets.
>
> Later steps will be to survey for digital availability for ASHRAE all books and other holdings in the library.
>
> While some items will be able to be discarded after digitization, digitization in general should not be considered as a replacement. It is in many cases another avenue for access, a backup, or a means to reduce the need for redundancy.

Utilize the Engineering and Technology History Wiki (ETHW). ASHRAE is a supporter of ETHW, a collaborative platform that documents the history of technology and engineering. It is maintained by the IEEE History Center and serves as a valuable resource for engineers, historians, and anyone interested in the development of engineering and its impact on modern society. As part of its support, ASHRAE has the right to provide content for IEEE to digitize and incorporate it into the platform.

> **It is recommended that ASHRAE staff provide selected materials to IEEE in fulfillment of our annual support agreement and to ascertain the quality and value and reuse of what is received.**
>
> The revitalization team assembled a box of historical materials from the archives and library to be sent to IEEE to learn more about the digitization service and how content will appear in the Wiki.

Display of Photographs, Artifacts and Certificates. The archives and library included several instruments of historical significance used in HVAC&R including thermostats and hygrometers. These artifacts now are mixed in with the Centennial display cases in the reception area. Also, certificates presented to ASHRAE for its 75th and 100th Anniversaries were also in library storage.

It is recommended that historical artifacts be labelled and placed in either the ASHRAE Library or the HVAC&R Historic Collection room and the anniversary certificates be placed with the Centennial gift items.

There are other historic artifacts in the archives that can be displayed such as the Pioneers of Refrigeration plaque, the copper printing plates used for psychrometric charts, and drawings. These should be considered for display.

The photographs of AT Boggs, FM Coda, ME Pennington and W Carrier should be placed in the library with name plates should be re-hung in the library as they were before.

The Centennial Commemorative US Postage stamps and Commemorative Centennial Poster signed by sister societies should be placed with the Centennial items.

Provide Virtual Access to the Catalog and Content of the Library and Archives. The long-term goal is to maximize Online access to ASHRAE's holdings. After the previously stated recommendations are implemented, ASHRAE will be in a position to best move forward to achieving the maximum benefit of remote access to all content.

It is recommended that the ASHRAE Historical Committee continue to (A) monitor the maintenance of the holdings catalog and the transition of historic ASHRAE items to digital format; and (B) promote contents of the collections to the membership through displays, articles, presentations, and virtual events. It is recommended that the Historical Committee update its Reference Manual to reflect these goals.

To be considered in this process are the ASHRAE publications, such as ASHRAE FIND, that have digital content such as floppy computer discs. And a plan will need to be put in place for digitization of the archives after a deeper-give into the Archives by the Revitalization Team.

In the meantime, the process of digitization will move forward so that lessons can be learned, and appropriate procedures put in place.

CONCLUSION

The ASHRAE collection of HVAC&R literature is the world's most extensive. Were it to be disassembled it could not be replaced.

The Society's obligation is to maintain and safeguard the collection to ensure continued access to the story of HVAC&R engineering can be told, understood, and appreciated. Having a viable library and archives supports ASHRAE efforts to raise the public profile of HVAC&R Technology and assists researchers as they look to the past to better understand that path forward in technology application.

With this obligation comes the need to draw upon ASHRAE historical resources to create products and use the asset in other ways to promote awareness of resources and to make ASHRAE HQ a physical destination and the ASHRAE website a virtual destination that can be a source of pride for ASHRAE members.

ANNEX
ASHRAE Library &
HVAC&R Historical Collection and ASHRAE Archives
PROCEDURAL OUTLINE

ASHRAE Library

Maintains:

1. ASHRAE Books
2. ASHRAE Textbooks
3. ASHRAE Published Proceedings
4. ASHRAE Conference Papers (not pre-prints from ASHRAE conferences/meetings)
5. ASHRAE Handbooks
6. ASHRAE Handbook of Fundamentals
7. ASRE Data Books
8. ASHVE Guides
9. ASHRAE Guide and Data Books
10. ASHRAE Standards
11. ASHRAE Guidelines
12. ASHRAE Transactions
13. Refrigerating Abstracts
14. ASRE Journal
15. Refrigerating Engineering
16. ASHVE Journal
17. Heating and Ventilating
18. HPAC 1030-1958 ASHVE Journal Section
19. ASHRAE Composite Indexes including journals and Transactions
20. Electronic Products (with new content or access, e.g., ASHRAE Find, Videotapes)
21. HPB Magazine
22. Research Journal (HVAC&R Research, STBE)
23. Insights

All products kept in physical form (one copy) and in digital form (complete publications).

HVAC&R Historical Collection

Maintains:

1. HVAC&R Books from other publishers
2. HPAC (non ASHVE Section years)
3. American Artisan
4. Domestic Engineering
5. Heating and Ventilation
6. Ice and Refrigeration
7. Metal Worker
8. Plumbers Trade Journal
9. ICE
10. Proceedings of Conferences Co-Sponsored by ASHRAE but not ASHRAE Published
11. Translations of ASHRAE Publications (no digital asset)

12. Publications that include licensed ASHRAE content (no digital asset).
13. Periodicals published by sister societies, including ASHRAE International Associates (current month only – no digital asset)
14. Second set of ASHRAE publications (as backup) – Books, periodicals, proceedings, products
15. Unbound copies of ASHRAE periodicals (for scanning)
16. Magazines received at HQ

All products kept in physical form. Digital copies kept for non-ASHRAE items as permitted by copyright.

ASHRAE Archives

Maintains:

1. Biographical material of prominent members and technology leaders
2. Magazine articles about HVAC&R development
3. Meeting programs
4. Files from significant ASHRAE events, like the ASHAE and ASRE merger and HQ relocation from New York
5. Photographs
6. Patents
7. Visuals, blueprints, drawings, files from significant HVACR systems and inventions
8. Collections of rare documents like the Al Newton Collection
9. Scrapbooks assembled by members
10. Source files and artwork used in ASHRAE historical publications
11. Chapter histories earning Gold Ribbon for History Awards
12. Period pieces like annual reports, news announcements, news clips.

ANNEX

ASHRAE Library &
HVAC&R Historical Collection and ASHRAE Archives
Digitalization Matrix

A First Milestone for completing the digital asset availability is to digitize all ASHRAE Works (from 1959) on. Predecessor Society works before than will be considered after this first step is complete. The objective is to first utilize all existing resources. And to put procedures in place to retain digital assets.

It is recommended that staff assemble a matrix showing (a) ASHRAE title or collection (e.g., standards, Transactions, Journal, Handbook, etc.); (b) Current existence of its digital assets; (c) source of availability (e.g., NXTBOOK, Techstreet, HIS, ASHRAE production files, etc.); (d) gap in availability. This should be completed with an online search of non-ASHRAE sources).

EXAMPLE

Item	**Digital Assets Available**	**Available or Needed**	**Source if Available**	**Comment**
ASHRAE Journal	2024-2025	Available	Production Files	
	2010-2024	Available	NXTBook	But articles only, not complete issues.
	1959-2009	Needed		
ASHRAE Standards	2000-2025	Available	Techstreet	Also more recent in production files; Current versions and all previous editions in time frame

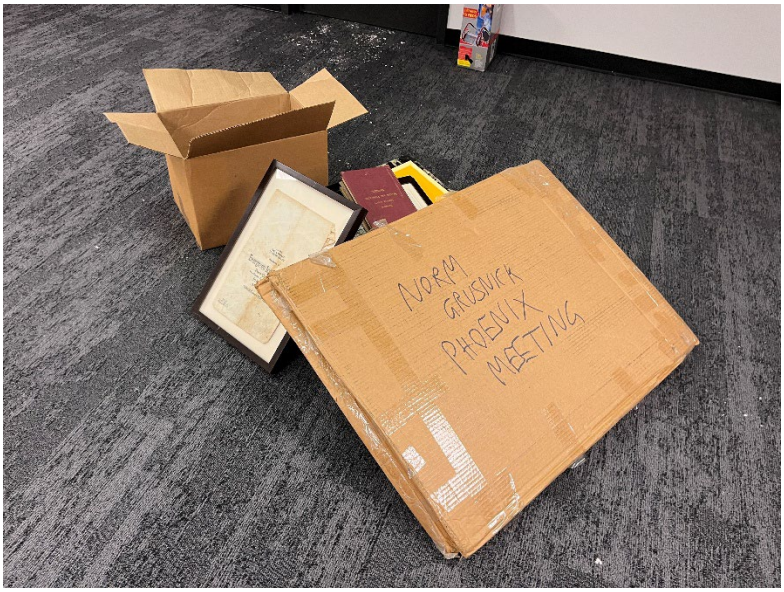
REVIEW OF BOOKS TO DETERMINE HISTORICAL SIGNIFICANCE

MOVING BOOKS PREVIOUSLY IN STORAGE OR MISASSIGNED IN CURRENT LOCATIONS

BOOKS RE-CLASSIFIED NOW AWAITING SHELFING (NOT ALL BOOKS/PERIODICALS)

PUBLICATIONS THAT CAN BE REPURPOSED

ITEMS SET ASIDE FOR HISTORICAL DISPLAY AT UPCOMING ASHRAE MEETING



CURRENT STORAGE SPACE RECOMMENDED FOR HVAC&R HISTORICAL COLLECTION AND ASHRAE ARCHIVES

ASHRAE RARE BOOK COLLECTION WITH TITLS DATING FROM THE 1800S

ASHRAE RETAINS COMPLETE COLLECTION OF NOT ONLLY ASHRAE, ASRE, ASHVE PEERIODICALS BUT ALSO OF THE MAJOR TRADE JOURNALS SERVING THE INDUSTRY SINCE THE LATE 1800S.

AMONG ASHRAE'S HISTORICAL ARTIFACTS IS A COLLECTION OF EARLY THERMOSTATS AND GAUGES FROM THE 1890S USED IN A 42ND STREET THEATER IN NEW YORK.

Preserving our Heritage – Andy Pearson

This report is an addendum to the excellent review conducted by Steve Comstock, with Bern Nagengast and Niss Feiner, dated 11th March and titled "ASHRAE Library and Archives Revitalization Initiative - Holdings Review, Procedures Development & Space Allotment". This addendum is not intended as a criticism of any ASHRAE staff member, the Board of Directors, Committee members or others, but it seeks to highlight what actions are required to preserve this heritage asset that the society currently owns and to work out how to overcome the obstacles that are blocking these actions.

1) I visited ASHRAE HQ on Wednesday 14th May to take a look at the scope and condition of the current library and archive and to gain a better understanding of the challenges that are faced. Julie Harr was in the office and showed me the various spaces currently provided for the storage and display of this material.

2) I inspected the range and variety of books, journals and proceedings that are held in the collection.

3) There are three rooms allocated to the library and archive.

    a. The Library is relatively small with four aisles of book racks and a traditional glass-fronted wooden bookcase containing the Meckler collection. The books on the shelves go back to the early 20th century – those in the Meckler bookcase are in some cases about 50 years older. Many of the older books in the library have at some time been properly catalogued and are labelled on their spines but others have been added more recently with no catalog. There are also many CDs containing proceedings of more recent conferences, but there is no means of accessing the data on the CD.

    b. There is a storage closet on the same floor: smaller than the library and with no windows. It contains a lot of old periodicals, some rare and valuable, and a collection of 1920s advertisements for refrigerators. This store has not been ordered in any way although some of the items have been stored in labelled boxes.

    c. There is a larger room (with two small anterooms) in the lower basement level. The main room is filled with junk left over from the office fit out. One anteroom contains a lot of boxes of books and journals the other has a desk, some pedestal drawers (locked) and a few boxes of books.

4) I did not see any "artifacts" other than the copper psychrometric printing block, the Domelre refrigerator and the instruments on display in the lower foyer. I agree with the Comstock report's conclusion that the Domelre should be relocated to a more prominent location that will help to accentuate ASHRAE's technical heritage – perhaps displayed with some of the old advertisements mentioned in 3b above, as well as the display board currently alongside the refrigerator.

5) The current plan as I understand it is to devote the library to display of ASHRAE publications and to move all other material (apart from the Meckler collection) from the library and the storage closet down to the main basement room. It is extremely regrettable that this entire process is prevented from proceeding because the main basement room is full of junk that was dumped there during the fit out of the building and has not been touched since. Funding is required to clear the space – whether the contents go to charity, for sale or to trash – and labor is required to move it all out. Nothing else can happen until this first step has been taken.

6) It is not clear whether this first step has not yet been taken due to lack of funds, lack of labor, lack of willpower, or lack of ownership. The historical committee's staff liaison does not have the authority or the resources to take this on. It seems to me that the senior management of the society, under the instruction of the board of directors, need to make this happen as a matter of urgency by allocating resource to the effort.

7) Once the basement spaces (including the adjacent office anteroom) have been cleared, the task of creating a useful working space with a pleasant ambience can begin. This space will require to be redecorated and should be fitted with suitable work desks, IT provision and shelving for the collection. If the impediment to this second step is lack of finance, then the society should embark on a specific two step funding program to create the means to achieve this outcome. To be very clear – this is not the task of the Historical Committee or the staff liaison. The Board of Directors need to provide the resource one way or another – further suggestions are given below.

8) When the basement room is equipped, the task of moving items from the library and the storage closet can begin but this must not be done in a haphazard way. The already catalogued items should be placed on shelves in order and the uncatalogued items should be properly catalogued and placed on shelves. An electronic index of the items should be populated as they are catalogued for future reference. Note: ASHRAE does not currently employ anyone with the skillset to do this job.

9) Once the non-ASHRAE items have been moved from the library it can be populated with the transactions and proceedings that are currently not on display. This is the strategy proposed in the Comstock report, but it strikes me that this limits the utility of the only visible space in the whole archive. It might be appropriate to keep track of which items are most frequently requested or accessed and then rearrange the stock to bring those items to more prominent display.

10) The Comstock report has several recommendations of actions to be taken by "staff" but there are no staff with these actions in their job description. It is not reasonable to expect Julie Harr to be able to make all this happen with no resources. The labor resource to make these actions happen needs to come from elsewhere. There are several options:

    a. Other ASHRAE staff could be seconded to provide assistance, perhaps by organising a "Heritage Group" within the staff to do this on a voluntary basis or alternatively by giving them an additional responsibility in their existing roles. There are over 100 people on staff so it should be possible to arrange a task force of five or six, even if only on a temporary basis.

    b. ASHRAE could add an archivist to staff with the specific task of leading the effort of volunteers

    c. Assistance could be sought from the local Atlanta chapter, but I would not expect then to have specialist knowledge of the historical significance of all of the material. It is not reasonable to place this burden on the chapter historian, but they could act as a "recruiter" for this volunteer effort.

    d. Assistance could be sought from the local student body – what connections do ASHRAE have with the local universities? This could be mechanical engineering students, or it could be librarianship students and it could be done as a paid internship for an individual or even a small group, or it could be a larger volunteer group. Either way this would require strict supervision so is probably not viable unless ASHRAE employ the archivist mentioned above and the volunteer labor would be under their strict supervision.

    e. Assistance could be sought from local businesses even if they are not predominantly ASHRAE members, but this would need further control.

11) The Comstock report presents a very light touch approach to finance but if we are serious about preserving our heritage, we should be willing to commit significant resource to it and should also be willing to sanction additional fundraising effort to support this work. There are several ways to do this.

    a. The board could agree to set aside a suitable sum from ordinary activities to fund this work. This is about taking action to maintain a precious resource, but it does not seem to have any real financial support from the Board of Directors. It is a disgrace that this has not already been taken care of five years after moving into the new building. The junk that is blocking the actions outlined above has been lying there for all that time.

    b. If the board are unwilling or unable to support the preservation of ASHRAE's heritage they could approve some additional fundraising provided it was clear that this would not have an adverse impact on income. This fundraising is not the role of the Historical Committee, but they can help with it. A working group to manage this activity should be set up, including members of the Historical Committee but with other relevant officers and staff, empowered to take appropriate action without being hampered by bureaucracy.

    c. One method of fundraising would be to add a check box to the member dues renewal notice saying "Contribute to Preserving Our Heritage" with a suggested donation of $10. Larger amounts could also be offered as an opt-in.

    d. The Society could seek a single donor to sponsor the basement facility in the way that other spaces within the building have been sponsored, and recognition given.

    e. The working group could set up a crowd funding opportunity with a wall within the basement room displaying the names of all the donors.

    f. The working group could petition all chapters to contribute to the Preserving our Heritage fund, with recognition of financial donations recorded.

    g. The Society could approach a university active in the HVACR field and seek funding, hardware and expert support in archiving: this could be in memory of a member of the faculty who was active in ASHRAE, or it could be an ongoing active involvement in supporting the current students. It could be a joint venture between several universities.

    h. The society could ask one of the local universities to take over the management of the collection and treat it as an annex to their own facility. This could be done with the library contents in place, or they could be relocated to the university's facility. This would be most valuable if there were unique unpublished materials in the archive.

12) The Comstock report suggests that once the basement room has been set in order the upstairs archive store can be made available for other uses. I suggest that it should be set up as a study room complete with desks, IT equipment including CD reader, scanner and printer and should not be used for purposes other than library/educational. If it is to be handed over to be repurposed, then the library/archive need to receive something of suitable significance to compensate.

13) I understand that there is significant reluctance to put historical artifacts, pictures or posters on display in the main hallways, breakrooms and other public spaces. This is perhaps fair and reasonable, but it needs to be justified. The Domelre is a good example – is there a concern that this gives a false impression of the Society, being "stuck in the past" and not forward looking? That perception is dangerous and misguided.

Conclusions

The library and archive assets of ASHRAE fall into five distinct groups:

i) There are old and rare books that might be difficult to find elsewhere
ii) There are old materials not published and not available elsewhere
iii) There are sets of conference proceedings and journals that are likely to be difficult to find elsewhere
iv) There are current and historic textbooks, probably available elsewhere but not collated in this way
v) There are materials ranging from the early 1900s to the present day related to ASHRAE in its various historical forms
vi) There are society records, minute books and photographs not available elsewhere

Putting the library and archive assets owned by ASHRAE into good order is not the sole responsibility of the Historical Committee. There ought to be multiple stakeholders with an interest in the different aspects of the task. The following departments of ASHRAE staff have a role to play in this: Marketing, ASHRAE Journal, ASHRAE Handbook, Special Publications, Member Services, Finance, Membership, Chapter Programs, Young Professionals and Students, Conferences, Technology, Research, Publications and Education. The following committees have a role to play in this in addition to the Historical Committee: Members Council (including the Young Engineers Committee), Technology Council (including Research) and the Publishing and Education Council (including Training and Education Committee and Publications Committee).

There will be little to no progress in putting the library and archive together until a dynamic, motivated, funded and equipped group of interested people is formed to make this happen. The questions that this group should address (which as far as I can see have not yet been addressed) are:

i) What do members want the heritage to be?
ii) What are members willing to pay for?
iii) How do ASHRAE plan to serve the needs of the members in this respect?
iv) Who can coordinate the efforts of such a diverse group to achieve a common outcome?

ASHRAE Shaping Tomorrow's Global Built Environment Today

Publications Committee Report to the Products Subcommittee of the Publishing and Education Council

Monday, June 23, 2025, 8:00-9:30 a.m.

Action Items

(none)

Information Items

Major Motions:

1. Publications Committee voted on a Special Publications proposal regarding evaluation of the capabilities of a fledgling energy analysis model and will be sending their response to the submitter.
2. Publications Committee voted on a response to supply to RAC regarding PTAR #0008, Updating *Reference Guide for Dynamic Models of HVAC Equipment* – Phase I, and is forwarding that to RAC for their consideration before the final vote on this PTAR.

Other:

1. Regarding the action item assigned to Publications Committee in Orlando in February 2025 to look into making the Psychrometric Analysis CD available for free and/or forming partnerships with schools to use Psychrometric Analysis or the ASHRAE psychrometric charts as a way of spreading the ASHRAE brand and making the Society known early as a resource and therefore a trusted source for life, the committee
    a. discussed the various products and the sales revenue for each,
    b. was informed by staff that the Psychrometric Analysis CD is being replaced by a download version and an online version,
    c. was in agreement that this might be a good branding opportunity for ASHRAE, and
    d. determined that more discussion with staff is needed to explore offering PDFs of the psychrometric charts for sale and making the online version of Psychrometric Analysis and the potential new PDFs of charts available to students and universities.
2. Updates on the Publications Committee MBOs for the 2024–2025 Society year are included in **Attachment A**.
3. An executive summary of an ASHRAE Publishing Opportunities report, which is the result of the work done on MBOs 1 and 2, is included in **Attachment B**.
4. The Publications Committee MBOs for the 2025–2026 Society year are included in **Attachment C**.

Respectfully submitted,
Megan Tosh, Chair
Publications Committee
21 June 2025

Attachment A

Publications Committee MBOs for Society Year 2024–2025

Chair: Megan Tosh **Date:** 21 June 2025

MBO #	Description	Metric	Initiative #	Goal #	Completion % /Date	Financial Assist Req'd?	MBO Comments
		(how do we determine success?)					
1	Create a process for the Publications Committee to compile information on market needs for publications and communicate that information to potential authors	Update the Reference Manual to describe the process for committee operations	3	1b, 2b, 3a	2025 Annual Meeting	N	Publications Committee receives input on market needs from other committees and organizations, as well as through its own internal evaluations. *Complete*
2	Integrate ASHRAE publications with other ASHRAE product offerings.	Compile a report on product opportunities and identify market gaps	4	1a, 1b, 2c	2025 Annual Meeting	N	Liaise with Training & Education, Certifications, and others to ensure existing publications are fully leveraged and to identify new product opportunities. *Complete*
3	Develop a streamlined communication process with technical committees that support publication	50% response rate from TC chairs by 2025 Annual Conference	3	3b	2025 Winter Meeting	N	Publications Committee to set up a working group meeting with members of TAC to develop a method of communication with TC chairs so publications that have been developed by TCs are adequately maintained and managed. *Complete*

Attachment B

ASHRAE PUBLICATIONS OPPORTUNITIES—EXECUTIVE SUMMARY

Megan Tosh, 2024–2025 Publications Committee Chair
June 21, 2025

Background

Publications Committee undertook a two-year effort to identify how the committee could strategically evaluate where ASHRAE had gaps in our product offerings to members of our industry. Goals included identifying where information to inform analysis could be sourced, ensuring the work could continue in future Society Years, and establishing a pathway for filling product gaps, once identified. Below is a result of seeking information for analysis.

Information was sourced from within ASHRAE, specifically from Chapter Technology Transfer Committee, Training and Education Committee, Government Affairs Committee, Conferences & Expositions Committee, CRC Roundtable reports, and sales data provided by ASHRAE staff. It is noted that this assessment overlooks the needs of members of our industry that are not currently engaging with ASHRAE programs, products, or services as their needs are not necessarily reflected through these sources.

Results Summary: Common Themes

Publications Committee worked within the Society to determine which content produced by ASHRAE is most sought after by the industry members we serve. Three topic areas were clearly the most popular, appearing significantly more frequently in the research than all other topics. In order of prevalence from the information collected for this report:

(1) Systems & Equipment – energy recovery, controls, geothermal, thermal energy storage, chilled water systems, VRF, cogeneration
(2) Energy – decarbonization, Standard 90.1, energy efficiency, building performance and simulation
(3) Indoor Environmental Quality – ventilation, filtration, infectious aerosols, air quality

Regarding these three topic areas of most interest, the following was found:

- Several publications exist on Systems & Equipment and work is needed to streamline redundant publications. Additionally, some topics that appeared popular in this research are not represented in these publications or do not have current publications.
- The Center of Excellence for Building Decarbonization is quickly producing publications that meet industry needs on energy efficiency. Publications Committee will continue to support their efforts and strengthen our liaison relationship. Additionally, Publications Committee will consider how discussion of energy efficiency integrates into the Systems & Equipment publications.
- Almost no publications exist to support the topic of indoor environmental quality. Likewise there is considerable opportunity to supplement the Journal articles, Conference Papers, and

Standards & Guidelines with special publications on indoor air quality including infection control and wildfire smoke mitigation.

Other topic areas that appeared in our research but were less common are listed below.

(1) Basics – equipment applications, design fundamentals
(2) Refrigeration – low GWP refrigerants
(3) Non-Technical – emotional intelligence, workforce development
(4) Applications – healthcare, data centers
(5) Thermal Comfort
(6) Acoustics

Several notable topics did not appear as top areas of interest including, but not limited to: residential, commissioning, tall buildings, existing buildings, district energy systems, laboratories, multifamily, and schools/universities. Development of publications for these topic areas still provides value to members of our industry, however it is not the current primary focus of the Publications Committee.

Future Work

Publications Committee members are to review the full report draft presented at the meeting on Saturday and supply comments, the staff liaison is to refine some points regarding some of the publications mentioned therein, access data for ASHRAE's free publications is to be added, and then a complete ASHRAE Publishing Opportunities report can be finalized and shared with other committees within ASHRAE so the Society can work toward meeting the content demands of the industry and filling the gaps in our product offerings. Future Publications Committee MBOs will use the information in this report to move toward completing these goals, as well.

Attachment C

Publications Committee MBOs for Society Year 2025–2026

Chair: Kurt Monteiro **Date:** 21 June 2025

								Strategic Plan Tally												
MBO #	Description	Measurable Metric	Completion Date	Completion %	Financial Assist?	Staff Assist?	MBO Comments	Initiative #				Goal 1			Goal 2				Goal 3		
		(how do we determine success?)						1	2	3	4	a	b	c	a	b	c	d	a	b	c
1	Create a current trends of popular topics to assist in determining market gaps in publications, buy creating a tool that categories ASHRAE conference topis and their actual attendance, and reviewing the number of downloads of PDFs of ASHRAE Journal Articles and free publications.	Create the list of publications, their potential TCs and carry outreach and list potential authors names.	2026 Annual Meeting	0.		✓		✓	✓	✓	✓		✓	✓	✓		✓		✓		
2	The number of publications being sold is trending downwards, based on the latest sales data. A review to the carried out of the best available methods to deliver content to the membership that would increase engagement and generate revenue, with a focus on the understanding YEA and student members preferred methods of consuming content.	Compile a list of potential content publishing strategies and identify how they can generate revenue to replace the diminishing traditional publications sales revenue.	2026 Annual Meeting	0				✓	✓	✓	✓			✓	✓	✓	✓		✓	✓	✓
3	Create a current trends of popular topics to assist in determining market gaps in publications, buy creating a tool that categories ASHRAE conference topis and their actual attendance, and reviewing the number of downloads of PDFs of ASHRAE Journal Articles and free publications.	Create the excel spreadsheet that requires staff to export their current database of information without requiring any conditioning of data.	2026 Annual Meeting	0		✓		✓	✓	✓				✓	✓				✓		
4	The current ASHRAE publications sales spreadsheet that hundreds of rows that requires constant sorting to understand trends. Create a Dashboard of key metrics to assist the Publications committee in determining sales trends of various publications, to support the committees mandate to keep resources relevant to its membership.	Create a Dashboard in excel that automatically updates based unconditioned ASHRAE publications sales data imported by staff, without the current data conditioning that is required to analyze the data.	2026 Annual Meeting	0			This is building on last years MBO. AI will be used to assist in developing the Dashboard.	✓	✓	✓	✓			✓	✓				✓	✓	
								4	4	4	3	0	1	4	4	1	2	0	4	2	1

Research Journal Subcommittee of PEC
Report to PEC Products Subcommittee
Monday, June 16, 2025

PEC Research Journal Subcommittee	
Voting Members	
Blake Ellis, Chair,	PEC Director/ExO Publications
Jeffrey Siegel	ASHRAE Fellow
Tim Dwyer	ASHRAE Fellow
Non-Voting Members	
Jeffrey Spitler	STBE Editor
Mark Owen - Staff Liaison	Director Publishing & Education
Invited Guests	
Stephanie Loeh	Taylor & Francis, Publisher
Alexa Flood	Taylor & Francis, Publisher
Mary Bolton - ASHRAE Staff	Associate Editor, Special Publications

Motions

None.

Information Items

1. Publishing Report (Attachment A)

Review of action items of May 7, 2025, Research Journal Subcommittee Meeting

#	Responsible	Action Item
1	Taylor & Francis	Check into whether ASHRAE can roll over past Open Access allocations year to year. Taylor and Francis reported that after review with management, it is not possible to utilize unused 2024 allocations in 2025. Taylor and Francis also clarified that allocations are based on the calendar year they are used, not the calendar year of the paper. **Complete.**

2	Taylor & Francis	Formulate a cost estimate for converting *Science and Technology for the Built Environment* (STBE) to an Open Access journal. Taylor and Francis reported that the cross-departmental report on this has not been completed. They will send over the report as soon as possible and are willing to set up a meeting to discuss the report once finalized. **On-Going.**

Ms. Loeh reviewed the Publisher's Report with the subcommittee.

Report Includes:

- Published content statistics
- Content flow & article count
- Production schedule for 2024 & 2025
- Average speed to article publication over the last 12 months
- Average speed of article publications over the last 5 years
- Global circulation statistics
- Most downloads articles in the past 12 months
- Top 11 institutions downloads in the past 12 months
- Article downloads by TFO usage, source, country, and region
- Taylor & Francis development initiatives
- Author satisfaction survey statistics

Citation Analysis including:

- Impact Factor for 2023 – 1.7. 2024 Impact Factor is due by the end of June.
- CiteScore for the last 4 years – 3.5
- Scopus scores for the last 5 years
- The top cited articles over the past 2 years
- Citing sources & regions
- Top altmetric scored articles in the past year

2. Report from Editorial Office (Attachment B)

Dr. Spitler reviewed the Editor's Report with the subcommittee.

Submission Statistics as of June 12, 2025

- 320 submissions started
- 313 submitted
- 32 abandoned (didn't finish checklist or revisions)
- 288 have decision
- 154 desk rejections by JDS
- Common reasons: out of scope, case studies, poor English, lack of technical rigor.
- 68 rejections on recommendation of AE, before or after reviews
- 14 papers still in review
- 52 accepted
- Accepted: 16%; Rejected: 69%; Still in review: 4%; Abandoned: 10%

2024 Special Issues and Topical Sections

- Ground-source Heat Pump Systems (5 papers, Issue 3)
- BPAC/Simbuild 2022 (7 papers, Issue 4)
- Buildings XV Conference (10 papers, Issue 7)
- Combined:
- ASHRAE Conf. Research Papers - 2023 (7 submissions, 3 rejected)
- Decarbonization conference in Athens (3 submissions, 2 rejected)

Future Special Issues and Topical Sections

- ASHRAE Conference Research Papers from 2024 (5 submissions, 1 rejected)
- Ground-source Heat Pump Systems (6 submissions, 1 rejected)
- Clima 2025
- Buildings XVI Conference 2025
- IEA Heat Pump Conference 2026

Future Plans

- Dr. Spitler will be meeting with the Associate Editors in Phoenix.
- Continue efforts moving towards format-free submission.
- Continue to recruit special issues based on conferences.
- Request the Editorial Board to help identify non-conference-based topical issues.

Taylor & Francis

Attachment A
PEC Research Journal Subcommittee Report to PEC
Products Subcommittee

SCIENCE AND TECHNOLOGY FOR THE BUILT ENVIRONMENT

Confidential Publishing Report

Last Updated: June 2025

Highlights

Top Performing Articles (last 12 months)

Top Downloaded Article

Article Title	No. of Downloads
Quantifying leaks from Schrader valves in air conditioning systems	1,152

Top Cited Article

Article Title	No. of Citations
Comparative analysis of the static and dynamic dehumidification performance of metal-organic framewo...	12

Top Altmetric Score

Title	Altmetric Attention Score
Strategies to minimize SARS-CoV-2 transmission in classroom settings: combined impacts of ventilation and mask effective filtration efficiency	382

Highlights

112K 2024 Downloads	79 2024 Volume Year Publications	13 2024 Volume Year OA Publications	1.7 2023 Impact Factor	3.5 2024 CiteScore

(Blank) 2024 Acceptance Rate (%)	(Blank) Median Days Sub. to 1st Decision	26 Median Days Accept. to Online Pub	Q3 2023 Impact Factor Best Quartile	Q2 2024 CiteScore Best Quartile

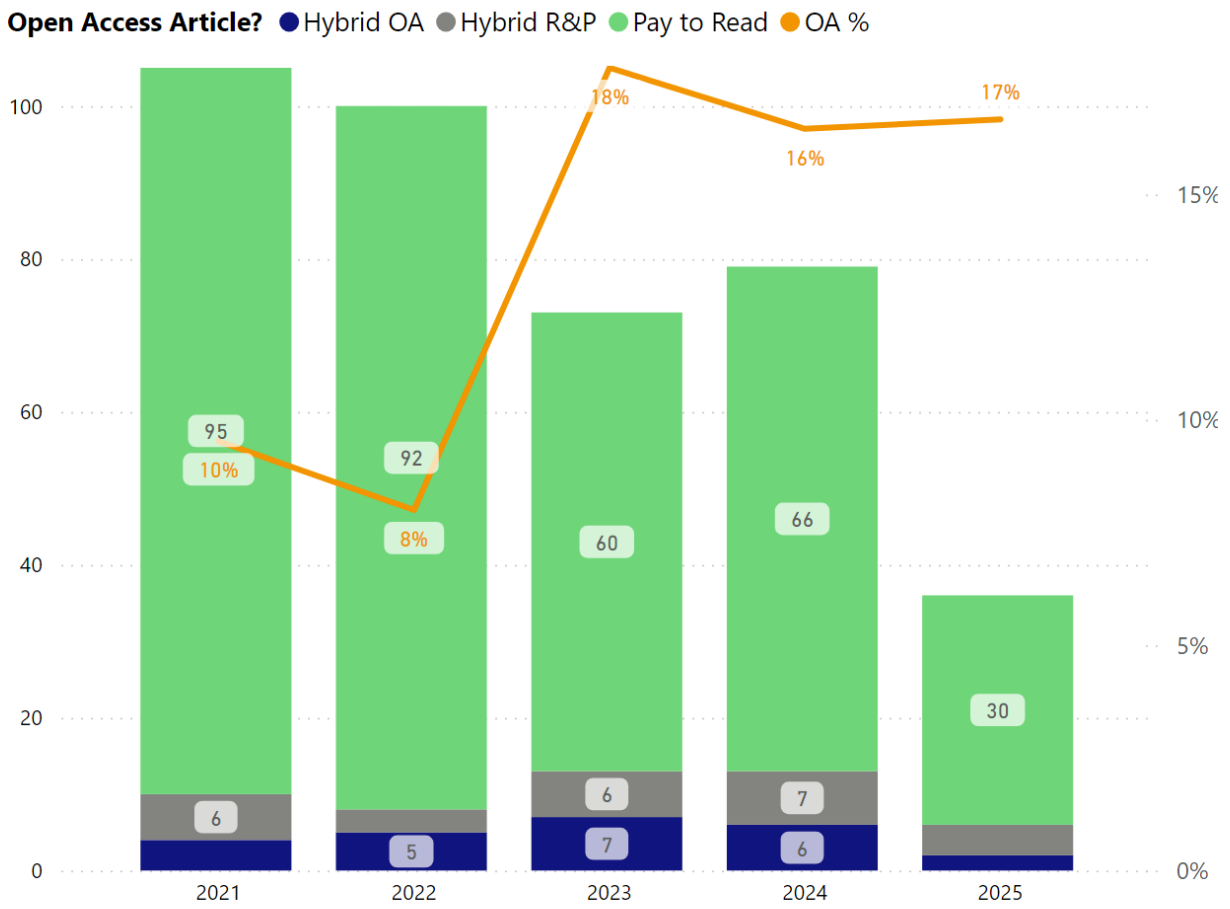
Production

Published Content

Number of Documents by Article Type (last full year and current year)

Article Type	Count
Research Article	111
Editorial	4
Total	**115**

Number of Articles Published by Volume Year - with OA Type Split



Content Flow and Article Count

Manuscript Type	Number of Manuscripts	Number of Typeset Pages
Research Article	15	189

Current Year

Volume Year	Volume #	Min Budget Research Articles	Actual Research Article	# of Online Issues	# of Print Issues
2025	31	105	34	10	2

The oldest article not yet assigned to an issue was received in Production on 27 January 2025.

Production Schedule (Volume Years 2024 and 2025)

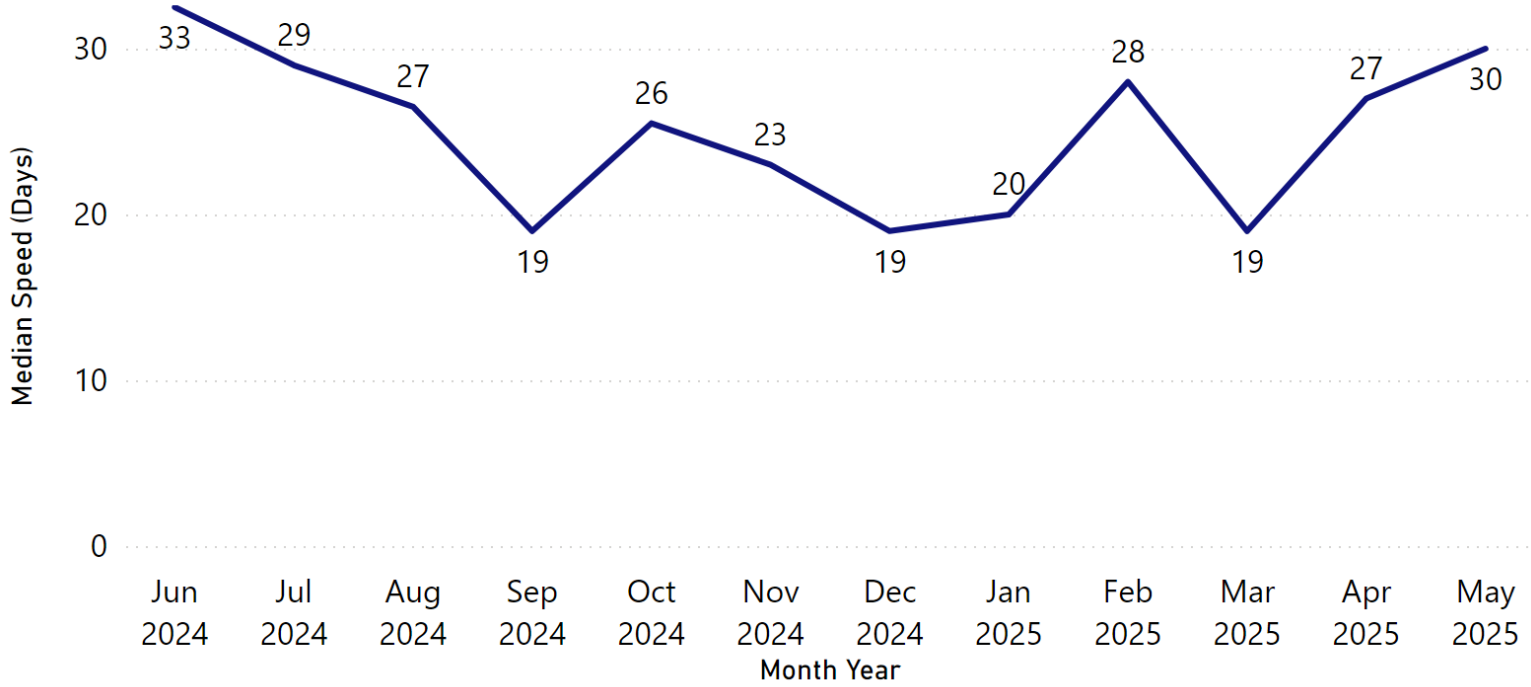
Online Issues

Issue Number	2024	2025
01	30 January 2024	30 December 2024
02	20 February 2024	06 February 2025
03	31 March 2024	26 February 2025
04	31 March 2024	28 March 2025
05	07 May 2024	02 May 2025
06	05 July 2024	01 July 2025
07	13 August 2024	01 August 2025
08	23 August 2024	02 September 2025
09	18 September 2024	01 October 2025
10	04 November 2024	30 October 2025

Print Issues

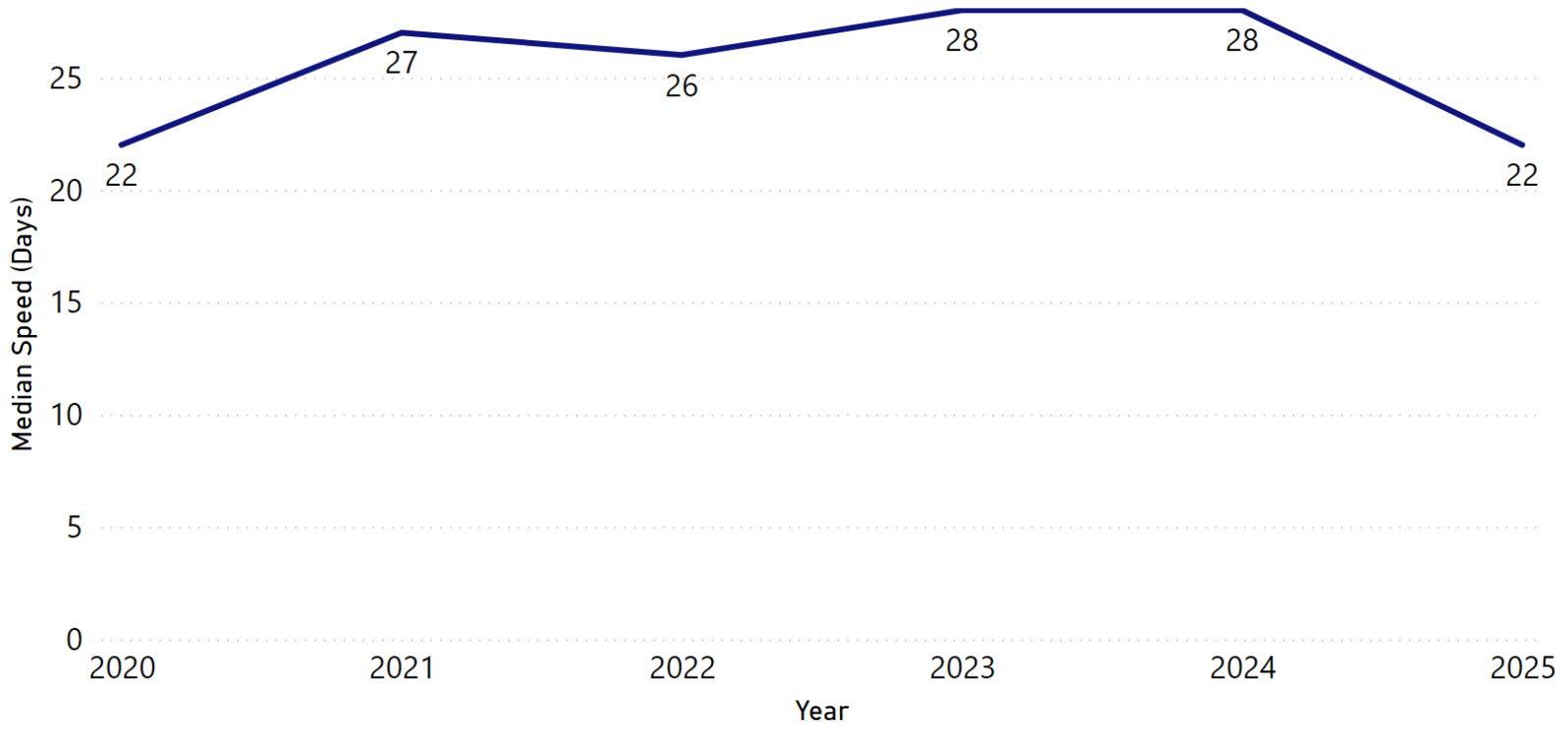
Issue Number	2024	2025
01-05	07 June 2024	27 May 2025
06-10	02 December 2024	20 November 2025

Average Speed of Article Publication (last 12 months)*



* median days from entered into Central Article Tracking System (CATS) to online publication.

Average Speed of Article Publication*



* median days from entered into Central Article Tracking System (CATS) to online publication.

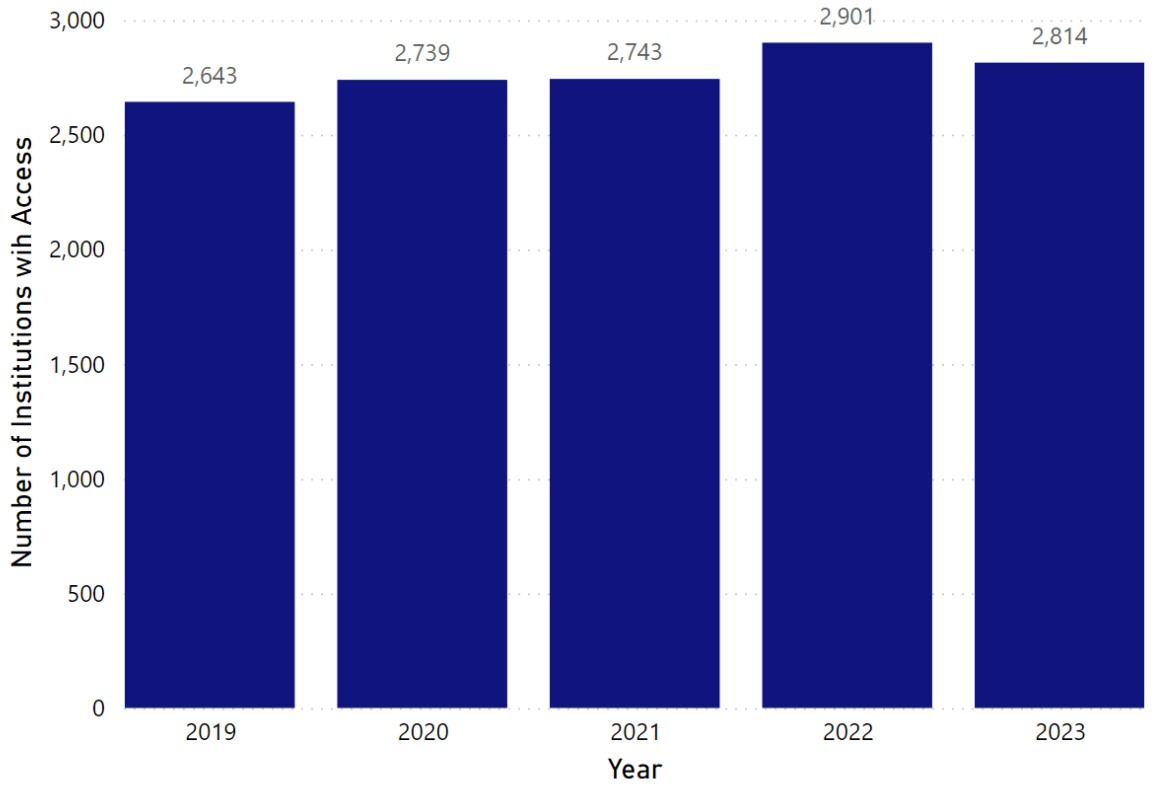
Global Reach & Usage

Global Reach - Circulation

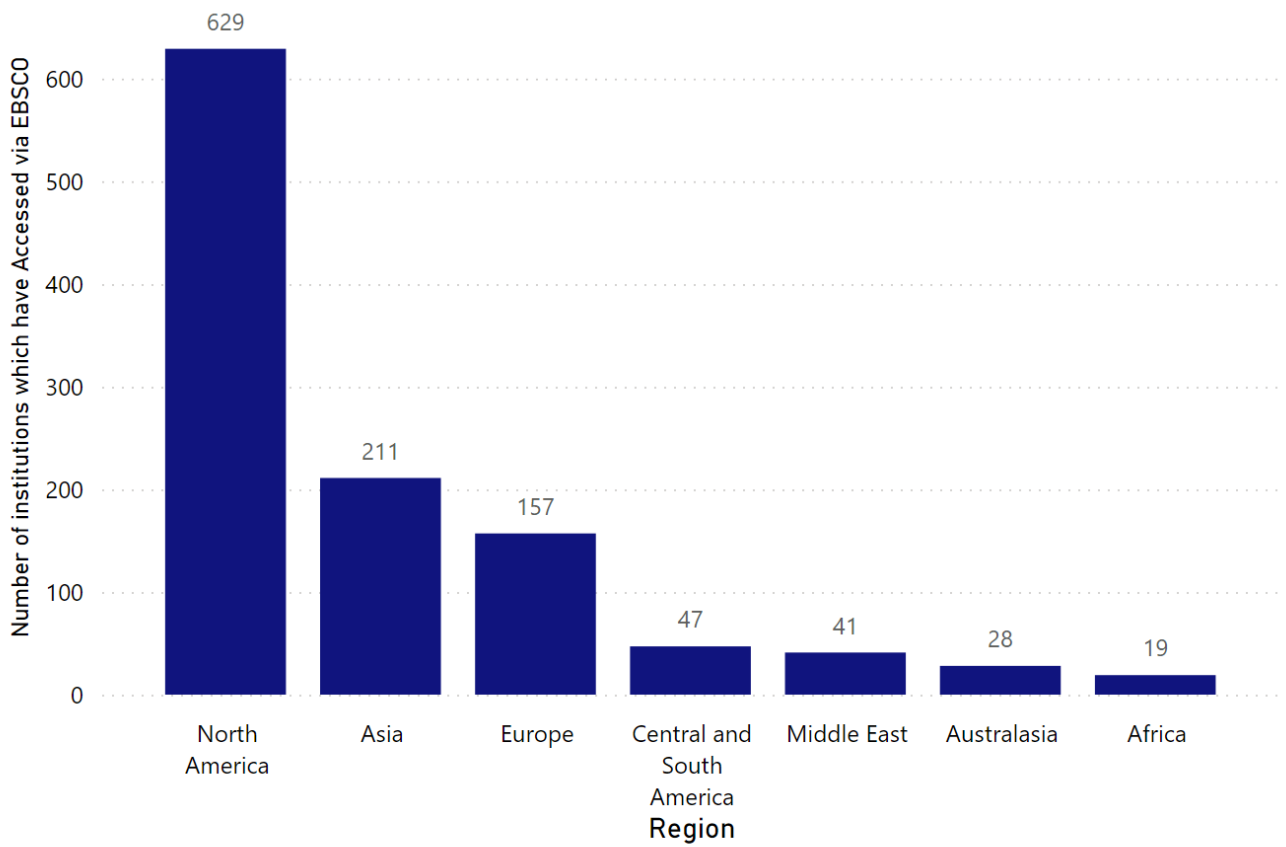
Collection Year	Subject Collection
2020	Engineering, Computing & Technology
2021	Engineering, Computing & Technology
2022	Engineering, Computing & Technology
2023	Engineering, Computing & Technology
2024	Engineering, Computing & Technology

Collection Year	Library Package
2020	ST Library
2021	ST Library
2022	ST Library
2023	ST Library
2024	ST Library

Number of Institutions with access via Sales Deal, Subject and Non-Sales Deal subscriptions



EBSCO Coverage 2024 by Region



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

Latest Update Date

Data is updated monthly and goes up to the end of:

April 2025

Article Title	First Author	Volume and Issue	Open Access?	Number of Downloads
Quantifying leaks from Schrader valves in air conditioning systems	Theresa Pistochini	Volume 30 Issue 9	Yes	1,152
Open building operating system: a grid-responsive semantics-driven control platform for buildings	Marco Pritoni	Volume 31 Issue 3	Yes	1,137
Data analysis and interpretable machine learning for HVAC predictive control: A case-study based imp...	Jianqiao Mao	IAQ 2020: Indoor Environmental Quality Performance...	Yes	940
Model-based data center cooling controls comparative co-design	Milica Grahovac	2022 Building Performance Analysis Conference and ...	Yes	903
Developing and testing low-cost air cleaners for safer spaces during wildfires	Elliott Gall	Volume 30 Issue 9	Yes	862
Development of near-optimal advanced control sequences for chiller plants with water-side economizer...	Wangda Zuo	Volume 31 Issue 1	Yes	855
Research on the effect of the refrigerant charge in a variable capacity heat pump	Jaime Sieres	Volume 30 Issue 6	Yes	799
Laboratory and field validation of the performance benefits and costs of thin triple-pane windows in...	Patricia Kaye Gunderson	Buildings XV Conference Special Issue; Guest Edito...	Yes	771
The borehole thermal energy storage at Emmaboda, Sweden: First distributed temperature measurements	Randi Kalskin Ramstad	Volume 29 Issue 2	Yes	721
A simulation analysis on the internal and external application of new silica-aerogel-based (Quartzen...	Sana Sayadi	Volume 31 Issue 1	Yes	710

Additional timeframes available on: PR Dashboard (atypon.com)

Top Institutions by Downloads (Past 12 Months)

Latest Update Date

Data is updated monthly and goes up to the end of:

April 2025

Institution Name	Total No of Downloads
Xian Jiaotong University	1,521
Texas A & M University System	1,166
Hong Kong Polytechnic University	970
Seoul National University	910
Carleton University	855
Tsinghua University	855
Purdue University	786
Oak Ridge National Laboratory	738
Purdue University Calumet	736
Machine Science Info Institute	734
University of California, Berkeley	698

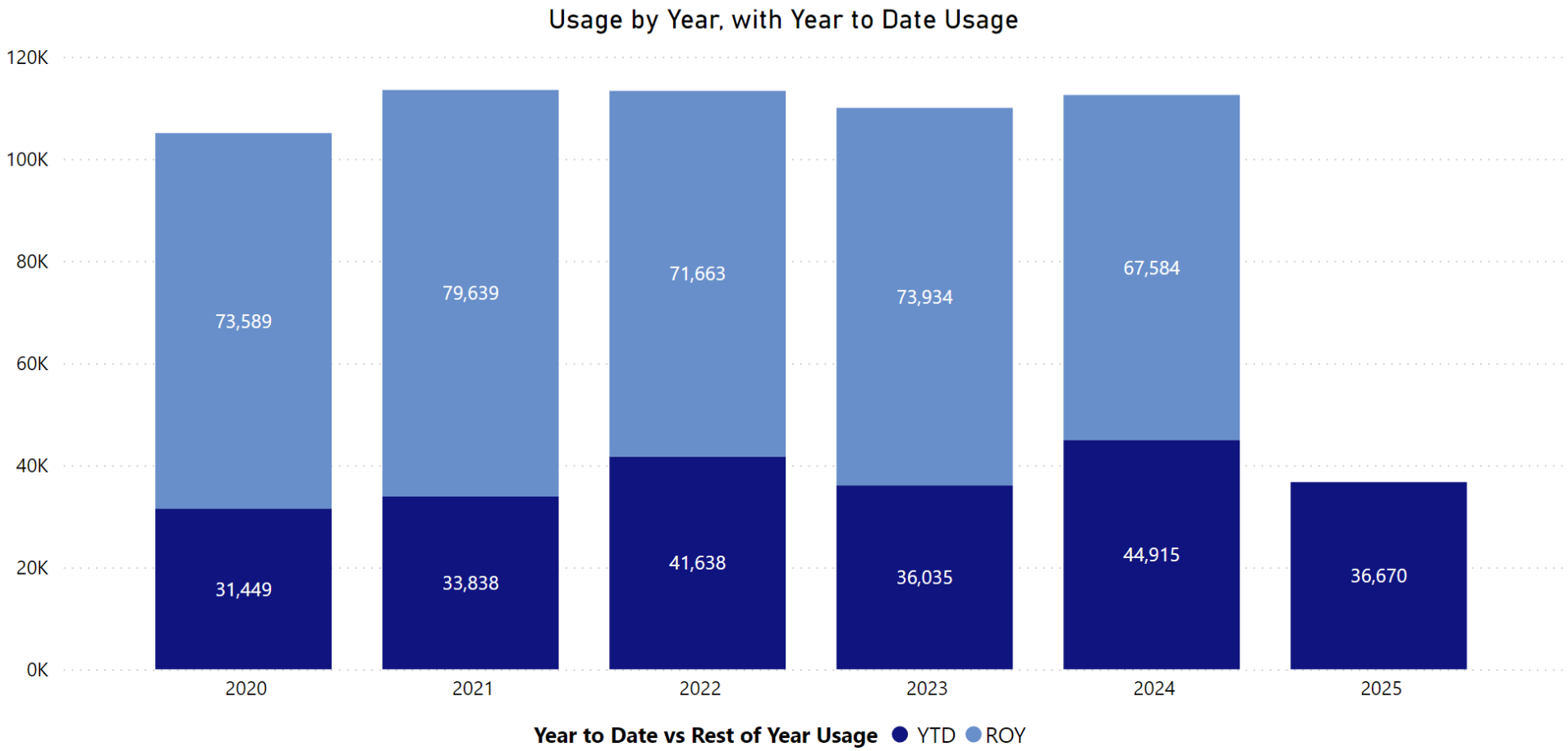
Note: Consortia have been removed from this table.

Article Downloads - Taylor & Francis Online (TFO) Usage

Latest Update Date

Data is updated monthly and goes up to the end of:

April 2025



-18%

% Change Usage YTD

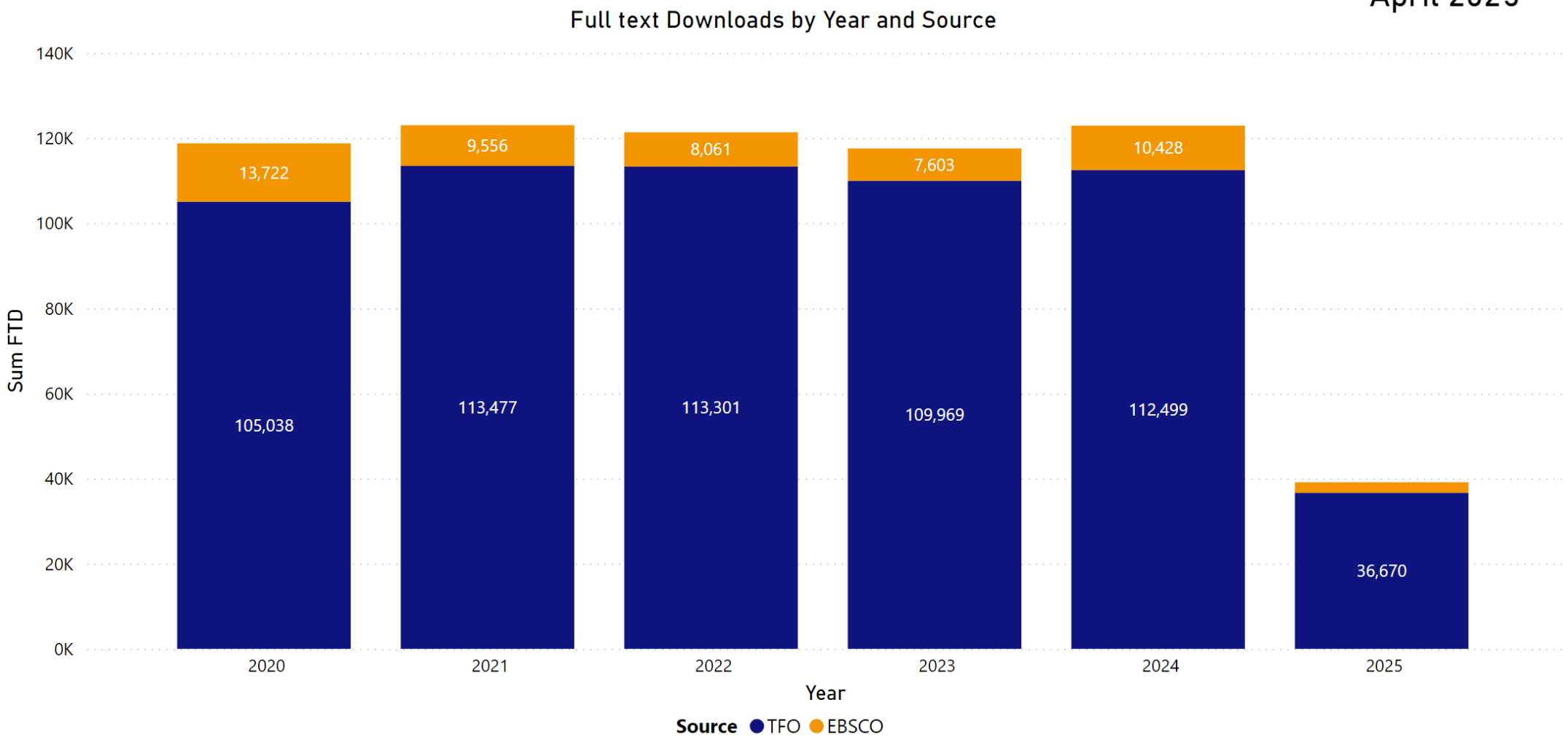
Article Downloads - Usage by Source

Please note that PMC, JSTOR, and EBSCO usage data may not be updated until mid-month.

Latest Update Date

Data is updated monthly and goes up to the end of:

April 2025



Article Downloads - Usage by Country & Region

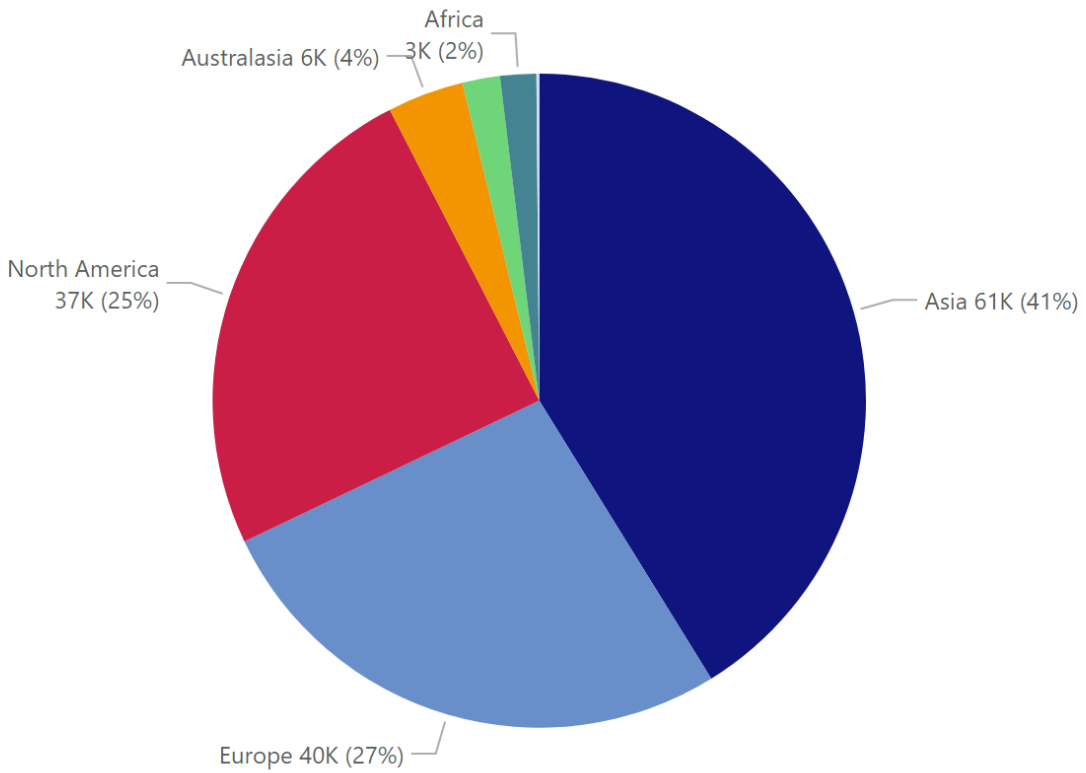
Latest Update Date

Data is updated monthly and goes up to the end of:

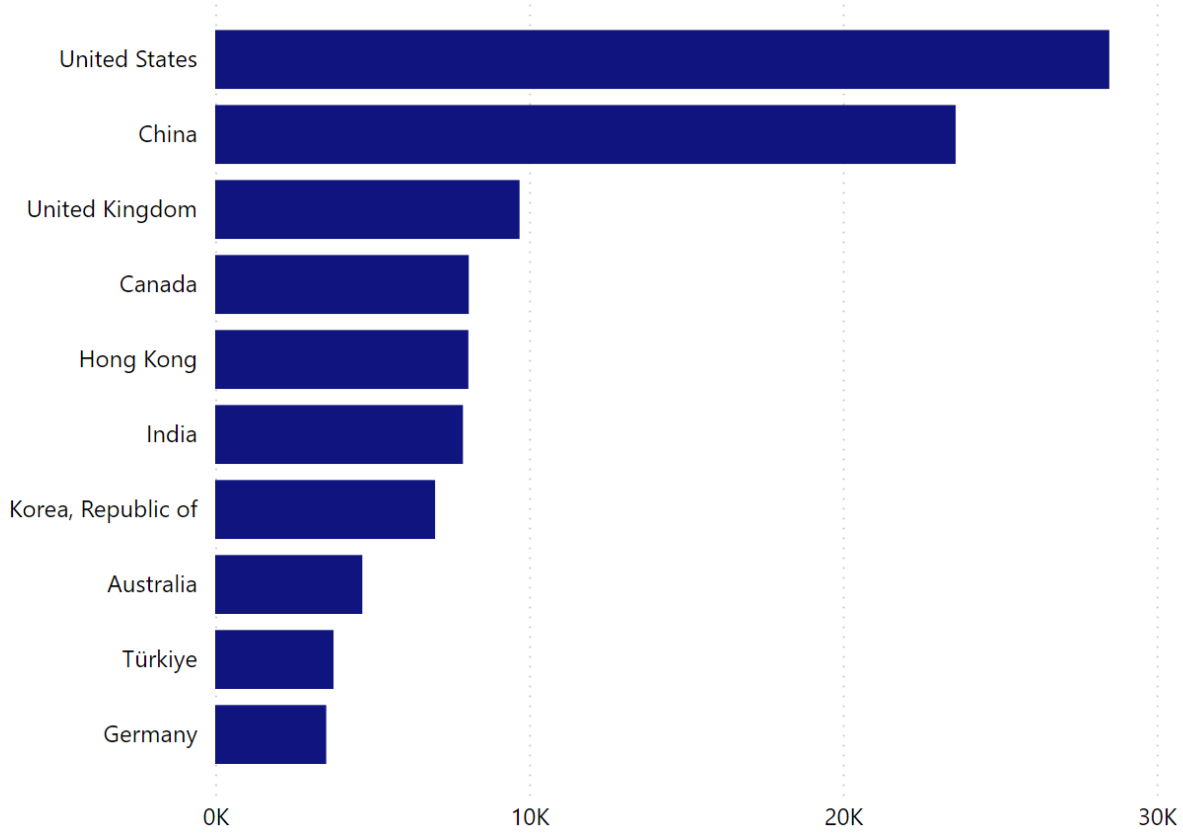
April 2025

Usage shown is for the last full year, plus the current year.

Full Text Downloads by Region



Full Text Downloads by Country



Development Initiatives

Taylor & Francis is committed to providing access to knowledge to researchers in resource-constrained regions.

For more information on the development initiatives that T&F is involved with, please visit:

- Development Initiatives
- Corporate Responsibility
- SDG Online
- STAR Programme

research4life

inasp

RISING SCHOLARS

Special Terms for Authors and Researchers
STAR

STAR (Special Terms for Authors and Researchers)

- Provides eligible researchers and authors in over 100 countries free access to articles across all T&F journals
- Celebrating 15 years in 2025 (Press Release here)
- Supports authors who don't have access to the resources of a university or other research institution, including independent researchers, retired academics, and professionals working for NGO

Opportunities for your journal

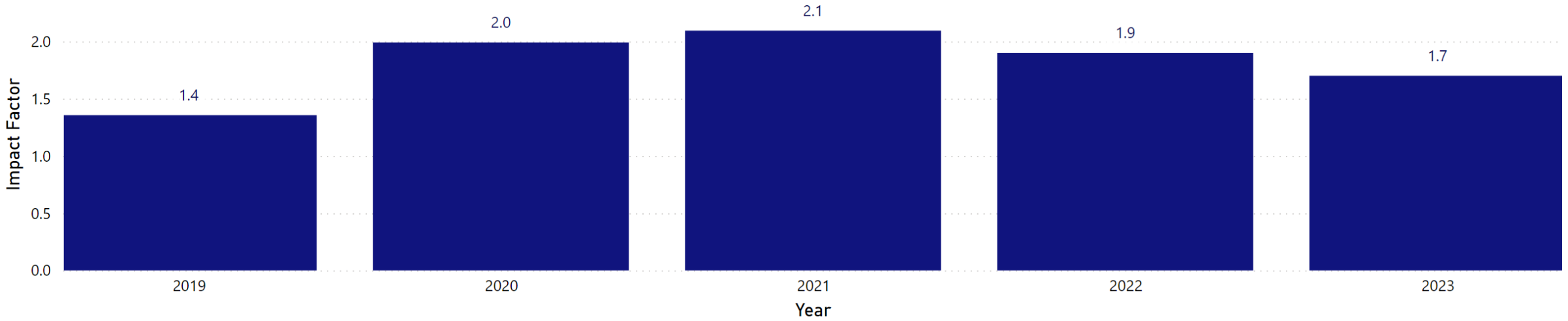
- Engage with a wider geography of authors and diversify your journal network
- Lever for increased readership, submissions, citations, and overall reputation
- We encourage Editors to raise awareness of STAR within their research community
- Please contact your Portfolio Manager to discuss these opportunities

Citation Analysis

Citation Metrics (Impact Factor)

Year	Impact Factor	Impact Factor Rank	5 Year IF	Article Influence	Eigenfactor
2019	1.4	42 / 63 CONSTRUCTION & BUILDING TECHNOLOGY - SCIE, 47 / 61 THERMODYNAMICS - SCIE, 96 / 130 ENGINEERING, MECHANICAL - SCIE	1.5	0.354	0.00183
2020	2.0	39 / 62 THERMODYNAMICS - SCIE, 41 / 66 CONSTRUCTION & BUILDING TECHNOLOGY - SCIE, 78 / 135 ENGINEERING, MECHANICAL - SCIE	1.8	0.418	0.00218
2021	2.1	39 / 63 THERMODYNAMICS - SCIE, 47 / 68 CONSTRUCTION & BUILDING TECHNOLOGY - SCIE, 78 / 137 ENGINEERING, MECHANICAL - SCIE	2.1	0.416	0.00215
2022	1.9	45 / 68 CONSTRUCTION & BUILDING TECHNOLOGY - SCIE, 46 / 63 THERMODYNAMICS - SCIE, 92 / 136 ENGINEERING, MECHANICAL - SCIE	1.9	0.360	0.00200
2023	1.7	45/78 THERMODYNAMICS, 51/92 CONSTRUCTION & BUILDING TECHNOLOGY, 107/183 ENGINEERING, MECHANICAL	1.9	0.341	0.00100

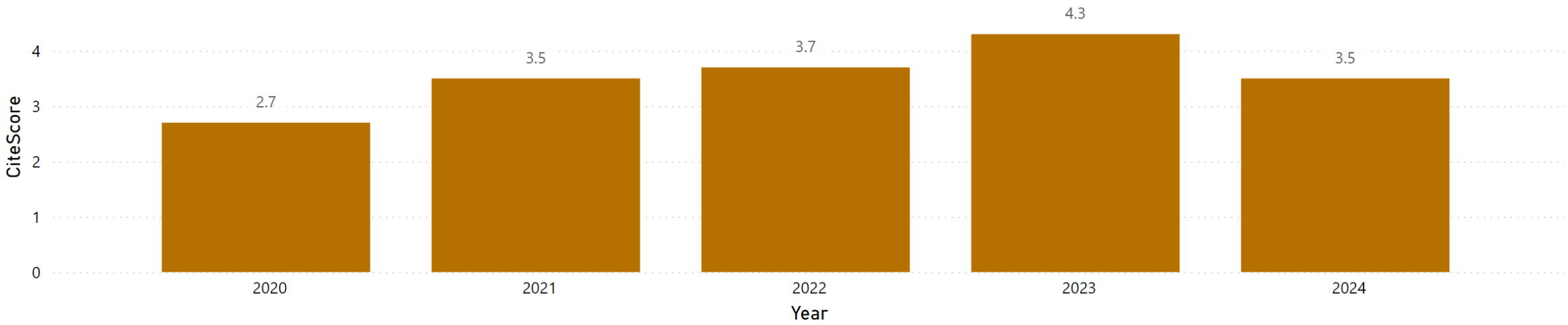
Impact Factor by Year



Citation Metrics (Scopus)

Year	CiteScore	CiteScore Rank	SNIP	SJR
2020	2.7	39 / 83 Fluid Flow and Transfer Processes, 70 / 185 Building and Construction, 70 / 146 Environmental Engineering	0.920	0.510
2021	3.5	38 / 87 Fluid Flow and Transfer Processes, 73 / 173 Environmental Engineering, 79 / 211 Building and Construction	0.808	0.493
2022	3.7	40 / 92 Fluid Flow and Transfer Processes, 72 / 200 Building and Construction, 85 / 184 Environmental Engineering	0.706	0.471
2023	4.3	37 / 96 Fluid Flow and Transfer Processes, 74 / 223 Building and Construction, 89 / 197 Environmental Engineering	0.702	0.461
2024	3.5	44 / 97 Fluid Flow and Transfer Processes, 91 / 239 Building and Construction, 100 / 219 Environmental Engineering	0.664	0.451

CiteScore by Year



Top Cited Articles (Published Online in the Past 2 Years + YTD)

4.7%

% Self-Citations

Article Title	Author Name	Published Online Year	Number of Citations	Altmetric Score
Comparative analysis of the static and dynamic dehumidification performance of metal-organic framewo...	Win-Jet Luo	2023	12	
Experimental comparison of R290 and R600a and prediction of performance with machine learning algori...	Oguzhan Pektezel	2023	8	
Within- and cross-domain effects of environmental factors on students' perception in educational bui...	Francesca Cappelletti	2023	8	
A simulation-based approach for evaluating indoor environmental quality at the early design stage	Arefeh Sadat Fathi	2023	7	
CFD modeling of room airflow effects on inactivation of aerosol SARS-CoV-2 by an upper-room ultravio...	Youngbo Won	2023	7	
Empirical analysis of the prevalence of HVAC faults in commercial buildings	Eliot Crowe	2023	7	
How to ensure occupant comfort and satisfaction through deep building retrofit? Lessons from a Danis...	Lucile Sarran	2023	7	
All-air vs. radiant cooling systems: Analysis of design and operation factors that impact building c...	Atila Novoselac	2023	6	
Development of a crankshaft driven single long NiTi tube compressive elastocaloric cooler	Siyuan Cheng	2023	6	
Origins of whole-building energy simulations for high-performance commercial buildings: Contribution...	Jounghwan Ahn	2025	4	
Origins of whole-building energy simulations for high-performance commercial buildings: Contribution...	Jounghwan Ahn	2023	3	

Data is collected from Dimensions

Citing Sources & Regions

Published online in the past 2 years + YTD data, citations from any time

Citing Journal	Citing Articles - Sources
Building and Environment	27
Energy and Buildings	23
Science and Technology for the Built Environment	21
Journal of Building Engineering	12
Applied Thermal Engineering	8
Energy	7
Sustainability	7
Buildings	6
Energies	6
Applied Energy	4
International Journal of Refrigeration	4
Renewable and Sustainable Energy Reviews	4
Journal of Physics Conference Series	3
Results in Engineering	3

Country name	Citing Articles - Countries
China	69
United States	63
Canada	28
India	22
Italy	16
Türkiye	13
United Kingdom	12
Malaysia	10
France	8
Korea, Republic of	8
Denmark	7
Netherlands	6
Saudi Arabia	6
Spain	6

Data is collected from Dimensions

Altmetric Analysis

Altmetric Analysis – Top Altmetric Scores (Past Year)

Badge	Altmetric Attention Score	Article Title	Publication Date
	382	Strategies to minimize SARS-CoV-2 transmission in classroom settings: combined impacts of ventilation and mask effective filtration efficiency	July 2021
	195	Associations of bedroom temperature and ventilation with sleep quality	May 2020
	129	IAQ and energy implications of high efficiency filters in residential buildings: A review (RP-1649)	January 2019
	111	Airborne transmission of SARS-CoV-2 in indoor environments: A comprehensive review	September 2021
	83	Energy and ventilation performance analysis for CO2-based demand-controlled ventilation in multiple-zone VAV systems with fan-powered terminal units (ASHRAE RP-1819)	October 2020
	19	The Effects of Outdoor Air Supply Rate and Supply Air Filter Condition in Classrooms on the Performance of Schoolwork by Children (RP-1257)	February 2011
	8	Experimental and numerical study on the thermal plumes of a standing and lying human in an operating room	August 2021
	6	Miscibility of POE and PVE oils with low-GWP refrigerant R-1234ze(E)	October 2016
	6	Optimization of HVAC Control System Strategy Using Two-Objective Genetic Algorithm	February 2011
	6	Agglomeration Control of Ice Particles in Ice-Water Slurry System Using Surfactant Additives	February 2011

Overview and Source Breakdown of Altmetric Attention (Past Year)

Total Mentions

80

Total mentions for research outputs in this report.

Outputs with Mentions

33

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

ATTENTION SOURCE BREAKDOWN

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

5
Total News Mentions

0
Total Blog Mentions

11
Total X Mentions

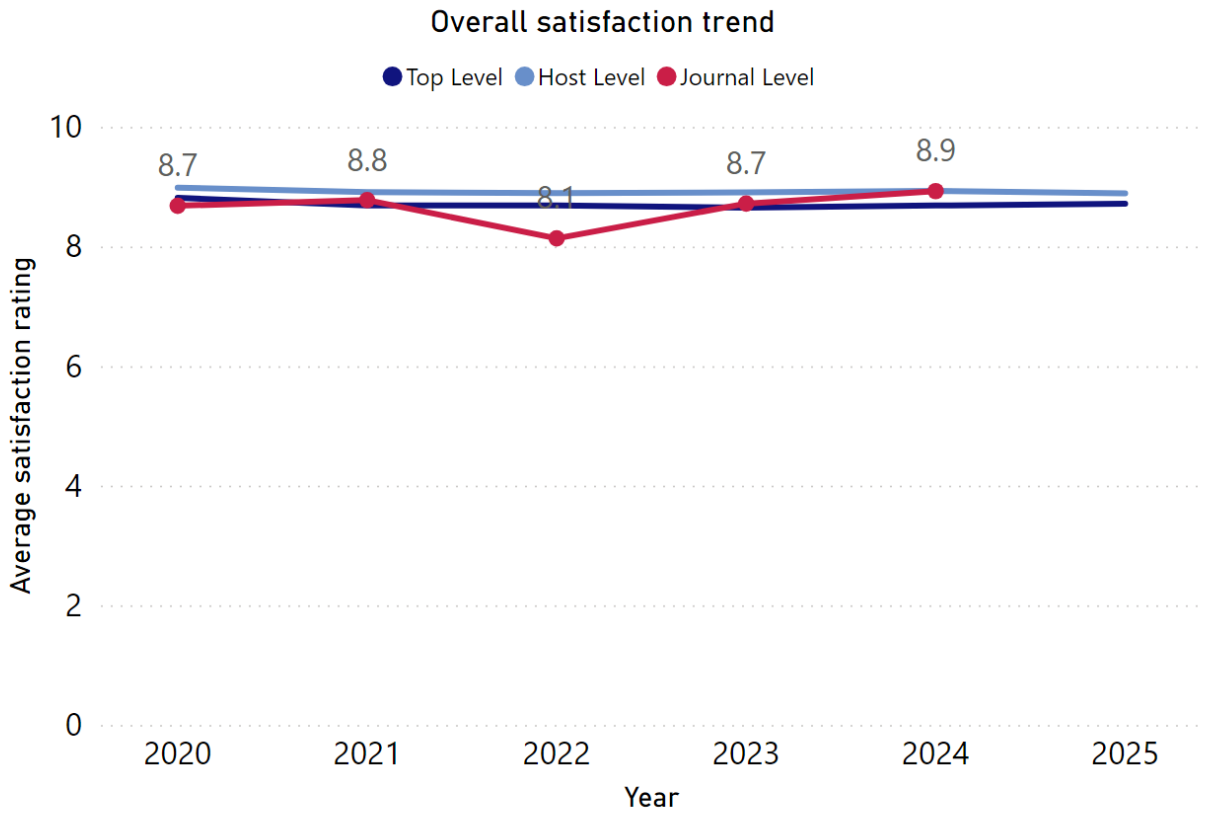
0
Total Facebook Mentions

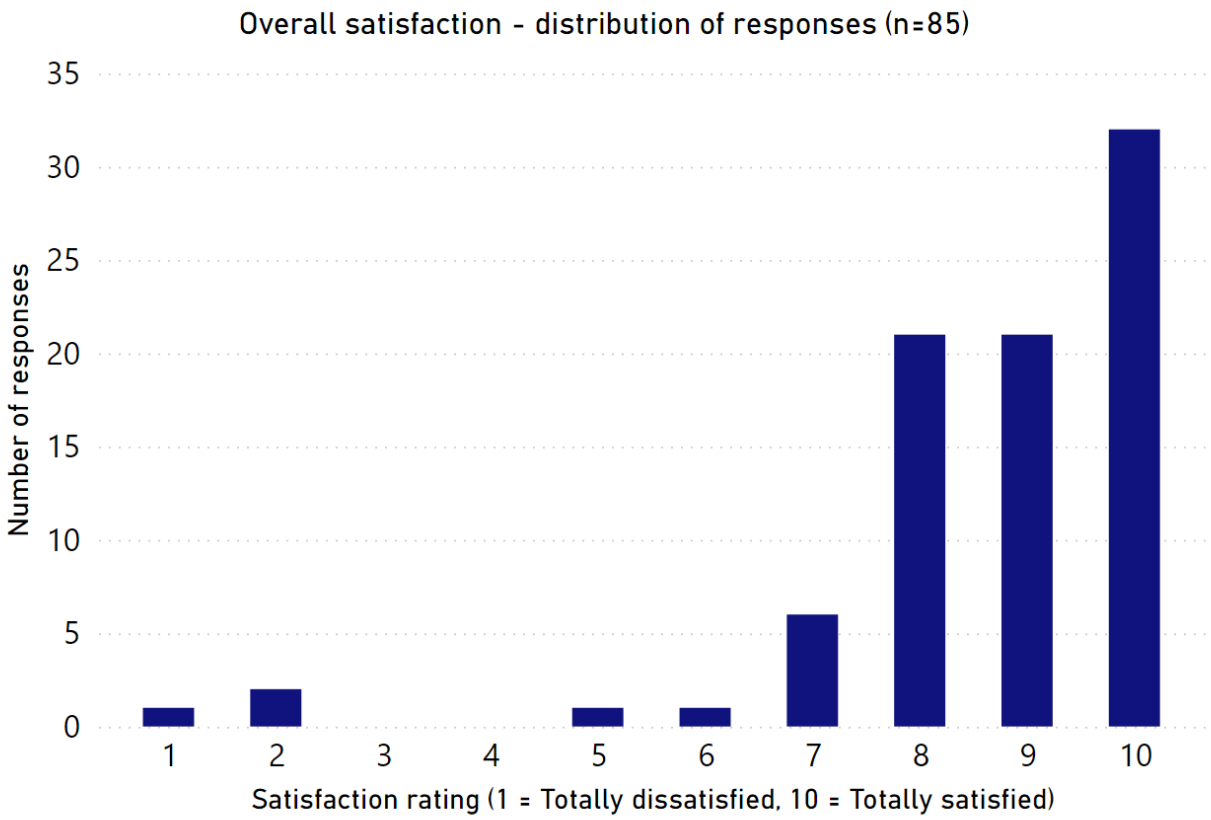
First Altmetric Shareable Link

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

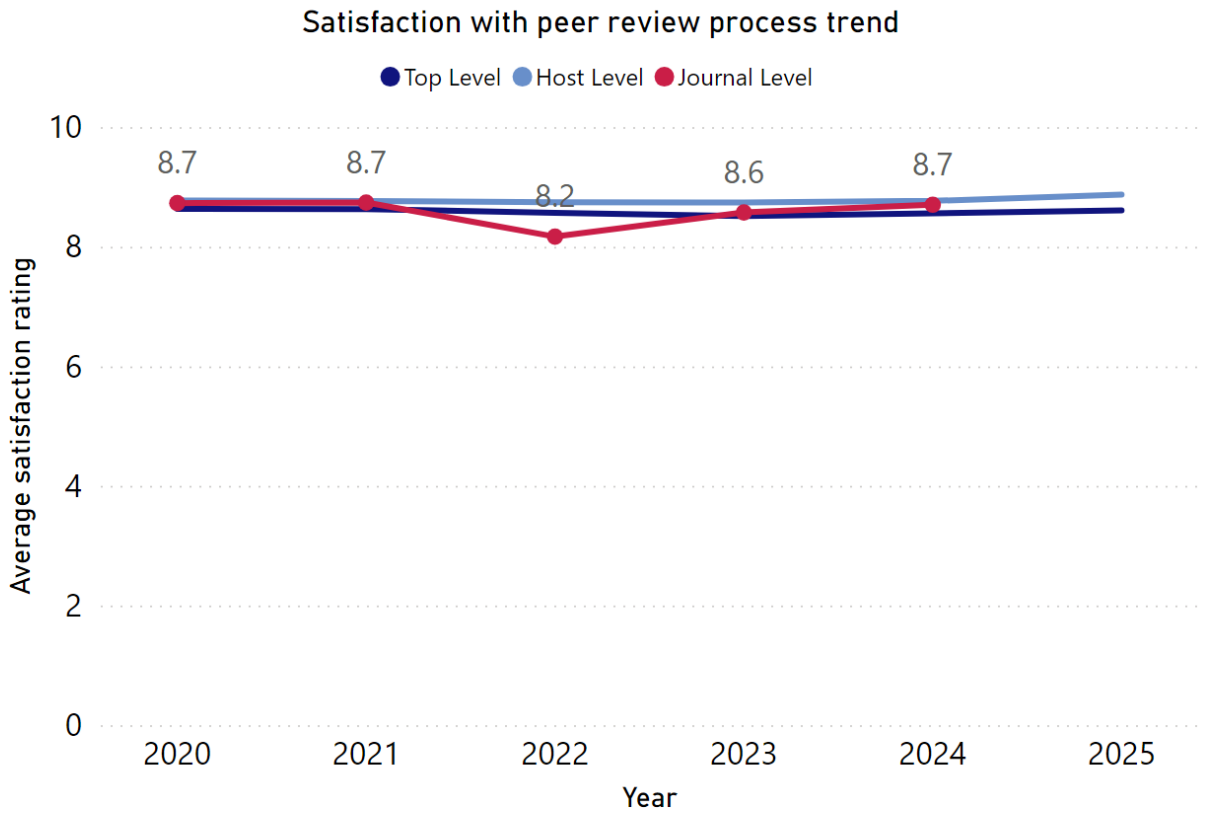
Author Survey

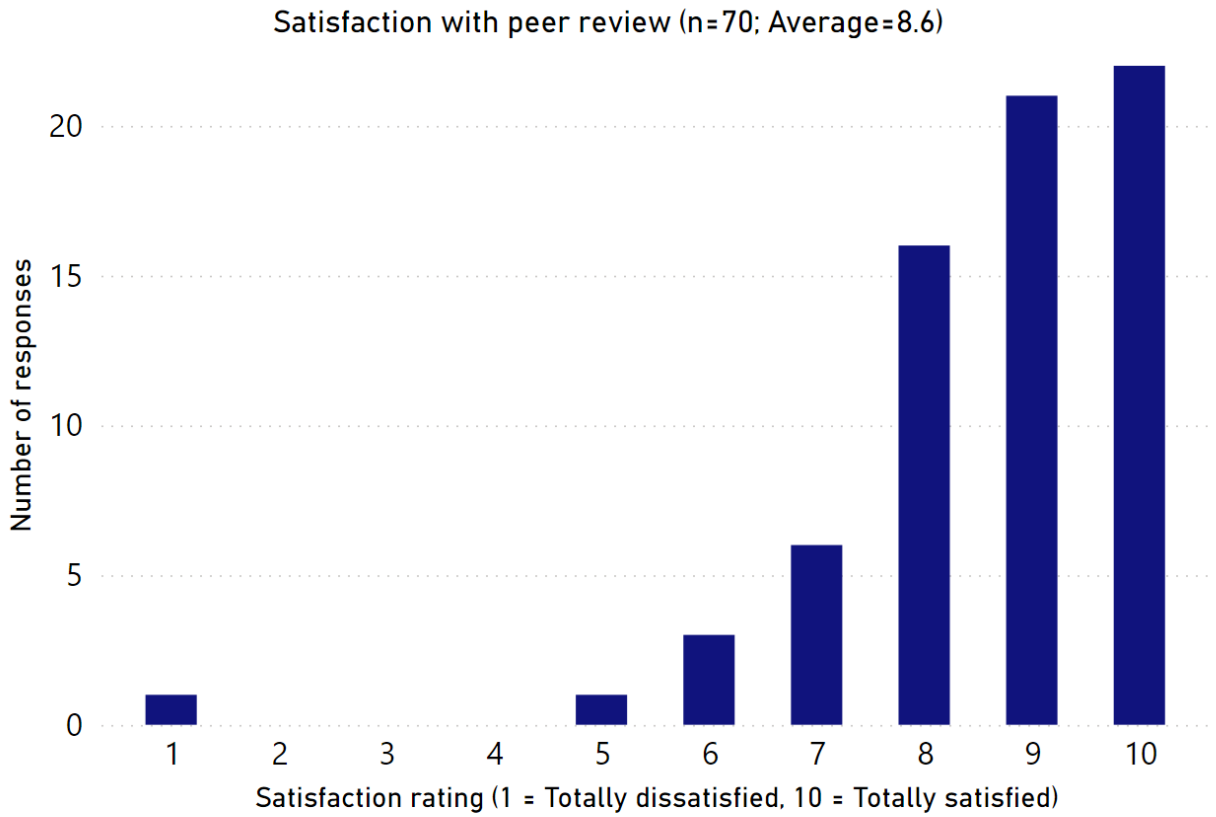
Author Survey - Overall Satisfaction





Author Survey - Satisfaction with Refereeing Process





Resources

EDITOR RESOURCES
Supporting Taylor & Francis journal editors

http://editorresources.taylorandfrancisgroup.com/

AUTHOR SERVICES
Supporting Taylor & Francis authors

http://authorservices.taylorandfrancis.com

LIBRARIAN RESOURCES
Taylor & Francis supporting librarians

https://librarianresources.taylorandfrancis.com/

PUBLISHING PARTNERSHIP PROGRAM

https://forms.monday.com/forms/c14a9c82ad09f355de7d5d9bcc84b80e?r=use1

Sign up for updates, tips and talking points from **Author Services**, **Editor Resources** and Librarian Resources websites straight to your inbox:

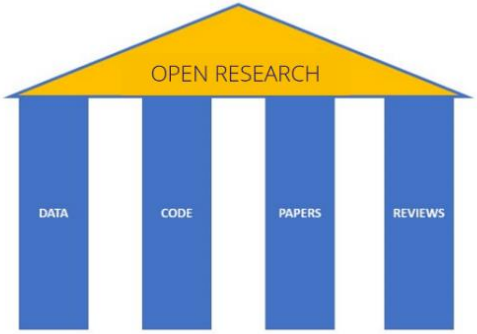
https://authorservices.taylorandfrancis.com/category/insights/

@tandfonline
@tandfnewsroom

@TaylorandFrancisGroup

Open Research at Taylor & Francis

• **Open Research** (sometimes called 'open scholarship' or 'open science') is an umbrella term focusing on making research **transparent** and **reproducible**. It describes the movement to make all the outputs of scholarly activity available for others to read and build upon, improving trust in research. In addition to Gold Open Access licensing options and sharing of early versions (preprints), open research provides routes for researchers to make all outputs of research open and accessible, from the peer review comments to the data and code.



• Journals can take an active role in facilitating Open Research practices. Find out more about the initiatives Taylor & Francis offers:

- Data Sharing Policies
- Open Science Badges
- Registered Reports
- Methods
- Data Notes
- Preprints

•If you are interested in hearing more about Open Research, please contact us **here.**

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

Contact Points for Queries and Support

Editorial Queries & Support

Your Editorial contact is your main point of contact for general journal or editorial queries, support and requests.

Portfolio Manager: Stephanie.Loeh@taylorandfrancis.com

Production Queries & Support

For queries and requests regarding papers that have been accepted in peer review and transferred to production, or papers which have been published, please direct these to the email address above.

UHVC-production@journals.taylorandfrancis.com

Peer Review Queries & Support

Any questions or requests related to peer review, such as amendments to email templates or information on the status of papers, should be directed to the email address above.

journalshelpdesk@taylorandfrancis.com

Attachment B
PEC Research Journal Subcommittee Report to
PEC Products Subcommittee

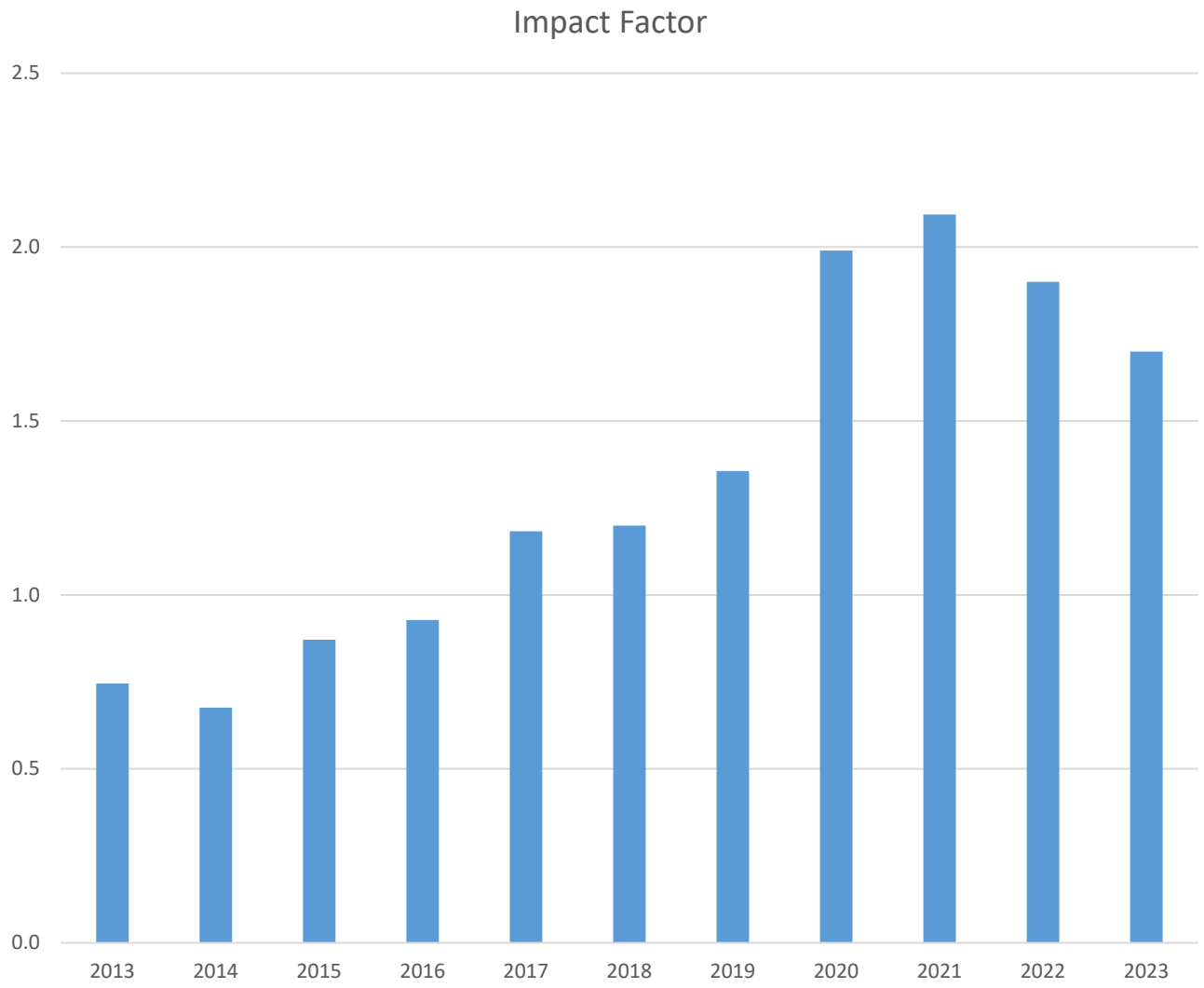
Science and Technology for the Built Environment

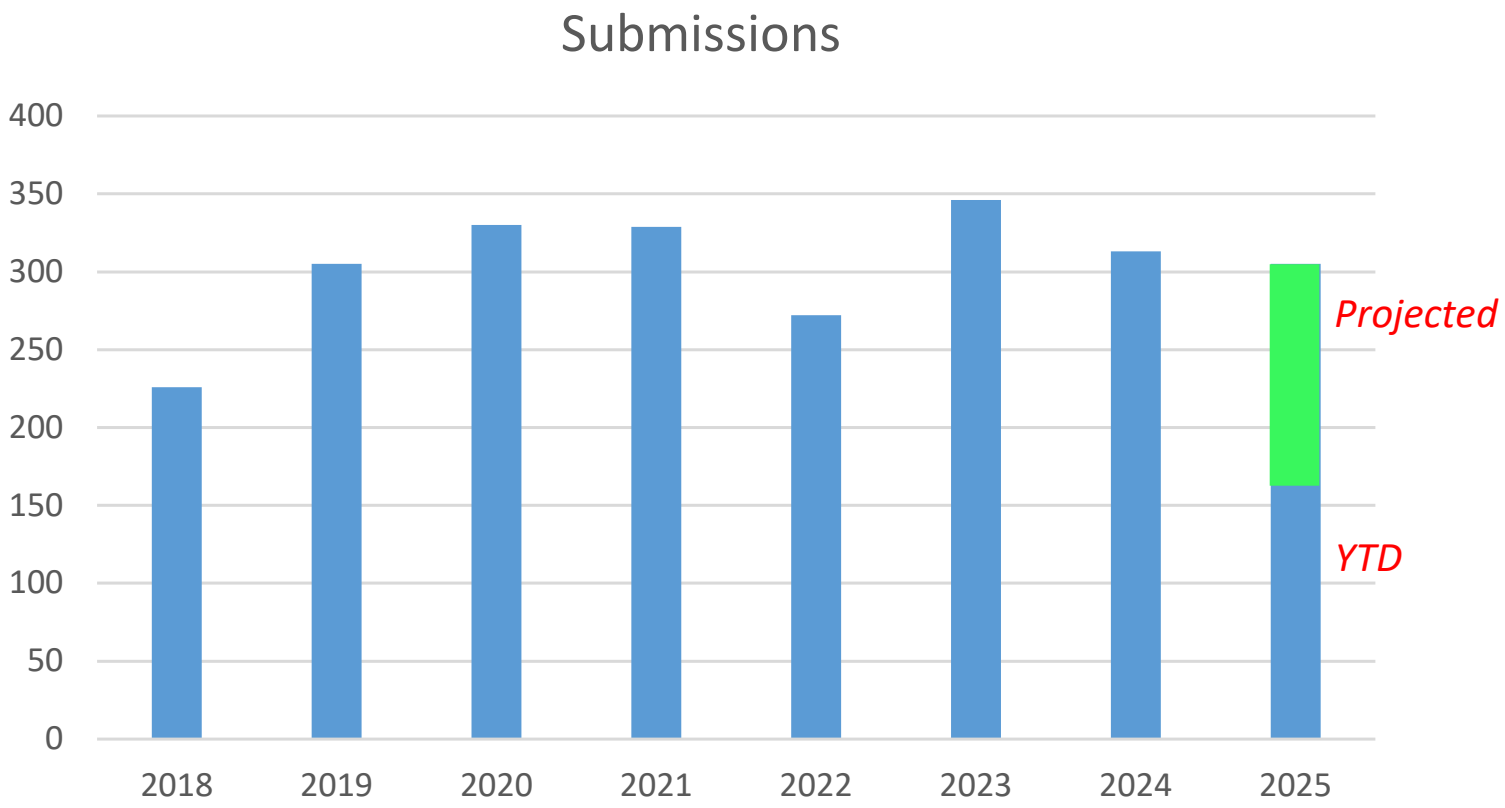
Jeffrey D. Spitler

June 16, 2025

Numbers in red from June 2024

Usage		Citation metrics		Speed/acceptance
110K • **112K** annual downloads/views	1.9	• **1.7 (2023)** Impact Factor		• **26** days avg. from acceptance to online publication
	1.9	• **1.9 (2023)** 5 year IF		
	3.7	• **4.3 (2023)** CiteScore (Scopus)		*28 days*
	Q2	• **Q2** CiteScore Best Quartile		
	0.706	• **0.702 (2023)** SNIP		
	0.471	• **0.461 (2023)** SJR		


Impact Factor
2.5
2.0
1.5
1.0
0.5
0.0
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023


Submissions
400
350
300
250
200
150
100
50
0
2018
2019
2020
2021
2022
2023
2024
2025
Projected
YTD

2024 (as of June 12, 2025)

- 320 submissions started
- 313 submitted
- 32 abandoned (didn't finish checklist or revisions)
- 288 have decision
- 154 desk rejections by JDS
  - Common reasons: out of scope, case studies, poor English, lack of technical rigor.
- 68 rejections on recommendation of AE, before or after reviews
- 14 papers still in review
- 52 accepted
- Accepted: 16%; Rejected: 69%; Still in review: 4%; Abandoned: 10%

Special Issues & Topical Sections

- 2024 Special Issues and Topical Sections
  - Ground-source Heat Pump Systems (5 papers, Issue 3)
  - BPAC/Simbuild 2022 (7 papers, Issue 4)
  - Buildings XV Conference(10 papers, Issue 7)
  - Combined:
    - ASHRAE Conf. Research Papers - 2023 (7 submissions, 3 rejected)
    - Decarbonization conference in Athens (3 submissions, 2 rejected)
- Future Special Issues and Topical Sections
  - ASHRAE Conference Research Papers from 2024 (5 submissions, 1 rejected)
  - Ground-source Heat Pump Systems (6 submissions, 1 rejected)
  - Clima 2025
  - Buildings XVI Conference 2025
  - IEA Heat Pump Conference 2026

Editorials

- Awaiting an obituary editorial on Reinhard Radermacher, from Vikrant Aute.

Misconduct allegations

- No formal complaints.
- One apparently AI-generated review caught by Associate Editor

Associate Editors

- 4 Associate Editors have terms expiring (highlighted)
- Still have one slot for the right candidate.
- Current roster:

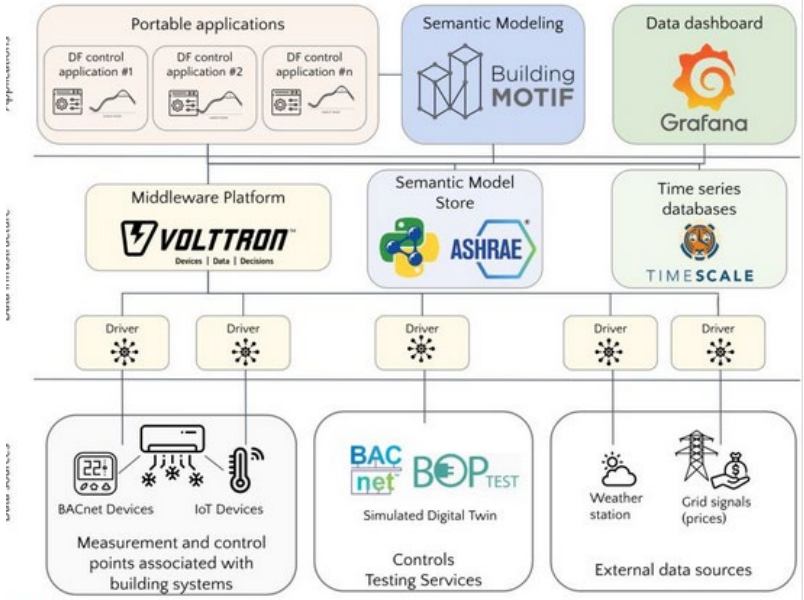
Name	Department	Institution	Country	Term expires
Jie Cai	School of Aerospace and Mechanical Engineering	University of Oklahoma	USA	6/30/2026
Kristen Cetin	Department of Civil and Environmental Engineering	Michigan State University	USA	6/30/2026
Richard De Dear	Faculty of Architecture	The University of Sydney	Australia	6/30/2027
Brian Fronk	Department of Mechanical Engineering	Pennsylvania State University	USA	6/30/2026
Saqib Javed	Building Services Division	Lund University	Sweden	6/30/2026
Yong Chan Kim	Department of Mechanical Engineering	Korea University	South Korea	6/30/2025
Clayton Miller	Department of the Built Environment	National University of Singapore	Singapore	6/30/2026
Liam O'Brien	Department of Civil and Environmental Engineering	Carleton University	Canada	6/30/2026
Zheng O'Neill	Mike Walker '66 Department of Mechanical Eng.	Texas A&M University	USA	6/30/2025
Rajan Rawal	Faculty of Technology	CEPT University	India	6/30/2026
Jørn Toftum	Department of Civil Engineering	Technical University of Denmark	Denmark	6/30/2025
Shengwei Wang	Department of Building Services Engineering	The Hong Kong Polytechnic University	Hong Kong	6/30/2026
Bin Yang	School of Energy and Safety Engineering	Tianjin Chengjian University	China	6/30/2026
John Zhai	Dept. of Civil, Environmental, and Architectural Eng.	University of Colorado-Boulder	USA	6/30/2026
Jianshun "Jensen"	Department of Civil and Environmental Engineering	Syracuse University	USA	6/30/2025
Claudio Zilio	Department of Management and Engineering	University of Padova	Italy	6/30/2026

Social Media

- ~50% increase in Followers since January.

Science and Technology for the Built Environment ✓ Following
420 followers
1w •

New research published in Science and Technology for the Built Environment (#STBE) introduces a groundbreaking open-source platform for grid-interactive efficient buildings (#GEBs). ...more

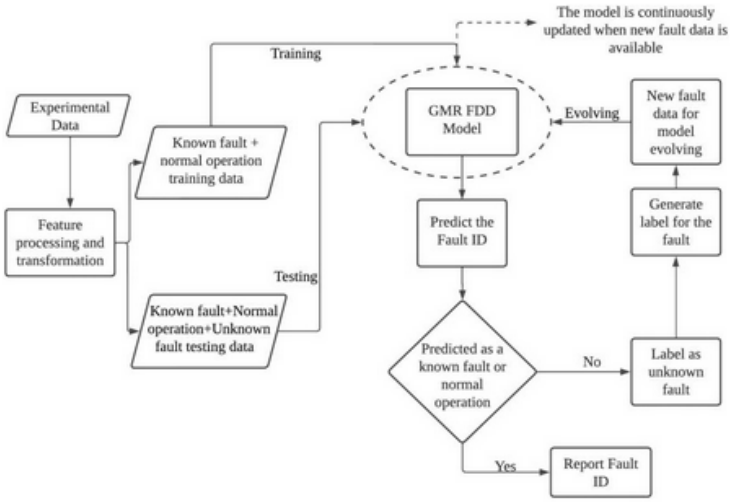


You and 65 others 3 comments · 5 reposts

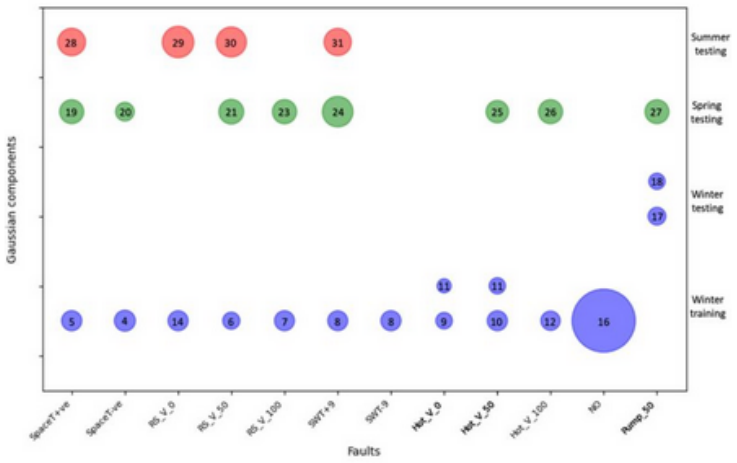
Like Comment Repost Send

Science and Technology for the Built Environment
621 followers
2d •

New research published in Science and Technology for the Built Environment (#STBE) presents an adaptive fault detection and diagnosis (#FDD) framework fc radiant slab heating and cooling systems using Gaussian Mixture Regression ...r



Schematic diagram of evolving GMR-based FDD approach.



The GMR FDD model with a Gaussian component for each fault and size of the component after evolving with the winter, spring, and summer data.

Logistical Problems (LaTeX)

- LaTeX submissions remain problematic.
- Mark Owen sent Stephanie agreement on Feb. 1, 2024.
- As of May 23rd, awaiting contact from “Peer Review team”
- We have a partial work-around for LaTeX submissions.

Logistical problems (low backlog)

- Backlog is improved, but still low:
- January 2023: 5 papers in backlog.
- June 2023: 6 papers in backlog.
- December 2023, after filling 2024.01 lineup:
  - 20 papers total.
- August 2024, after allocating 20 papers to 2024.06 and 2024.07:
  - 12 papers total.
- January 2025, after allocating 15 papers to 2025.01, 02:
  - 18 papers
- June 2025: after allocating 7 papers to 2025.06: 11 papers

Miscellaneous problems

- Obtaining timely, high-quality reviews remains challenging. (Even with the reviewer board!)
- AI – continues to come up sporadically:
  - AI-assembled nonsensical paper
  - Overly general reviews that appear to be AI-generated.

Other initiatives

- Reviewer board – continuing, but consider name change to “Junior Editorial Board” or…?
- Assigning open access paper slots – still on my list.

General Plans

- Meet with Associate Editors in Phoenix.
- Continue with moving towards format-free submission.
- Continue to recruit special issues based on conferences.
- Will ask the Editorial Board to help identify non-conference-based topical issues.

PEC - Professional Development Subcommittee
Report to Fiscal and Planning Subcommittees

Monday, June 23, 2025

Motions

None.

Information Items

1. Certification Committee Report shown in Attachment A.

2. TEC Report shown in Attachment B.

Certification Committee Report
to Professional Development Subcommittee of PEC
Meeting of June 23, 2025

Motions

None.

Information Items:

1. **Record Certification Applications** [MBO 2]

ASHRAE will receive a record **750+** applications in 2024-25, which is a **9% increase** over the 2023-24 record total.

2. **ISO/IEC 17024:2012 Accreditation** [MBO 4.1]

Following ANSI National Accreditation Board (ANAB) assessor team evaluation of ASHRAE's Reaccreditation application, ASHRAE Certification programs have been granted **reaccreditation** under the ISO/IEC 17024:2012 accreditation standard for another five-year cycle.

In addition, the Certified Decarbonization Professional (CDP) certification was awarded accreditation.

3. **Certification Exam Administration** [MBO 19]

The Certification Committee has planned with the ASHRAE Meetings department an **onsite exam administration** at the 2026 Winter Conference to take place at the AHR Expo, leveraging complimentary ALI courses and marketing in order to maximize registrations.

4. **2025-28 Exam Subcommittee Members** [MBO 4.3]

Approved slate of nominees and alternates for eight Exam Subcommittees for the 2025-28 term. The slate was developed from a pool of 107 self-nominations.

5. **Certification Committee 2024-2025 MBOs are included as an attachment.**

Respectfully submitted,
Suz Ann Arroyo, Certification Committee Chair
June 23, 2025

MBO Submission to Planning

Council: Publishing & Education
Committee: Certification

MBO #	Description	Metric
		(how do we determine success?)
1	Attain 80% recertification rate for the 2024 renewal class.	If 80% attained
2	Grow the number of certification applications by 10% over the 2023-24 total of 694, to a total of 763 applications.	If 763 applications attained
3	Achieve 400 sales and selection as renewing full Member benefit of BCxP Study Guide.	If uptake of 400 achieved
4	Achieve 350 sales and selection as renewing full Member benefit of BEMP Study Guide.	If uptake of 350 achieved
5	Achieve 500 sales and selection as renewing full Member benefit of CHD Study Guide.	If uptake of 500 achieved
6	Achieve 300 sales and selection as renewing full Member benefit of CDP Study Guide.	If uptake of 300 achieved
7	Leverage grass roots channels for enhanced communication.	If grass roots channels leveraged.
8	Collaborate with YEA Committee and Staff to identify and pursue opportunities to position ASHRAE Certification as career development goal.	If opportunities are identified and pursued to position ASHRAE Certification as a career development goal for YEA Members.
9	Cross-promote certification and online, instructor-led training (fall and spring) for each certification program on ashrae.org.	If cross promotion takes place.
10	Manage certification programs against the ANSI/ISO/IEC 17024 accreditation standard.	If ASHRAE maintains its accreditation.
11	Conduct BEMP, HBDP, and HFDP exam development against JTA updates and launch new exam forms.	If exam development takes place and new exam forms are launched.
12	Recruit 2025-28 class of Exam Subcommittee members.	If the 2025-28 class of Exam Subcommittee members is recruited.
13	Pursue opportunities to strengthen the Security of Examination Materials (ANSI 7.4) procedure for Item Development.	If the Security of Examination Materials (ANSI 7.4) procedure for Item Development is strengthened

	Monitor and report on developments in the security of remote proctoring.	
14		If developments in the security of remote proctoring are reported to the Certification Committee
15	Monitor the effectiveness of certification programs and recommend and implement any steps to improve program effectiveness.	If the effectiveness of certification programs is monitored and any recommended steps to improve program effectiveness are implemented
16	Evaluate the certification and recertification application fee schedule and recommend any possible updates in the 2025 Winter Conference meeting.	If this evaluation takes place.
17	Conduct strategic planning every two years at Annual Conference.	If ongoing strategic planning is conducted.
18	PEC MBO #3: Develop new products & services aligned with Strategic Plan initiatives 1 & 2 (ETF & TFBD).	If CDP certification and CDP Study Guide are developed.
19	Organize exam administration at Winter Conference.	If there are 10 exam candidates.
20	Determine need and demand for leveraging ASHRAE AMS as location for logging PDHs in order to enhance customer experience.	If need and demand are identified.

Chair:	Suz Ann Arroyo
Vice-chair:	Badri Patel

Initiative #	Goal #	Completion % /Date	Financial Assist Req'd?
4	2	3/31/2025	No
4	3	6/30/2025	No
4	3	6/30/2025	No
4	3	6/30/2025	No
4	3	6/30/2025	No
4	3	6/30/2025	No
4	2	6/30/2025	No
1	1	6/30/2025	No
3	1	6/30/2025	No
4	2	6/30/2025	Budgeted
4	2	6/30/2025	Budgeted
4	2	6/30/2025	No
3	3	6/30/2025	No

3	3	9/30/2024	No
4	3	6/30/2025	No
4	3	1/31/2025	No
3	3	6/30/2025	No
1	1	6/30/2025	No
4	2	1/31/2025	No
3	2	9/30/2024	No

MBO Comments	Initiative #				Strategic Goal 1	
	1	2	3	4	a	b
76% attained in 2024, compared to 77% recertification rate attained in 2023. 76% = average for certification programs with 3-year renewal periods.				x		
On track to achieve this MBO. 669 applications processed through May, 2025, versus 583 in May of SY 2024.				x		
Through 5/31, uptake of 337.				x		
Through 5/31, uptake of 268.				x		
Through 5/31, uptake of 480.				x		
CDP Study Guide to be publsihed likely in August, 2025.				x		
Certification to present at 6/20 CTTC meeting in Phoenix.				x		
Per YEA staff and volunteer leaders, “YEA Connections” e-newsletter, YEA social media, and YEA webinar are possible opportunities.	x				x	
Completed for fall 2024 instructor-led ALI courses, and fall and spring Global Training Center courses.			x		x	
Reaccreditation granted 6/10/2025. Year 1 Reapplication application submitted to ANSI on 12/9/2024. Two non-conformities closed.				x		
Beta BEMP and HBDP exams are being administered in June, 2025. Passing score workshops to take place in July.				x		
Slate for approval in 6/21 Certification Committee meeting.				x		
			x			

Conducted annually in September. Staff attended annual ANSI National Accreditation Board (ANAB) Client Day meeting on September 24, 2024. Developments: 70-80% of Certification bodies now use remote proctoring. The use of remote proctoring is increasing, even though the number of non-conformities has not decreased. There is a 60-70% incidence of NCRs during annual surveillance reviews which result from remote proctoring security failures.			x			
Task Force meeting held on Jan. 27.				x		
Fees increased approximately 25% 7/1/2024.				x		
Next strategic planning to be held June 21, 2025.			x			
SY 2023-24 JTA for HFDP supported ETF efforts. CDP certification launched by 6/30/2024, supporting TFBD efforts.	x				x	
COMPLETED. With only 2 applications received, this exam administration was cancelled.	**2**	**0**	**4**	**12**	**3**	**0**

Plan Tally					
Goal 2			Goal 3		
a	b	c	a	b	c
		x			
			x		
			x		
			x		
			x		
			x		
x					
	x				
x					
x					
			x		

			x		
			x		
			x		
			x		
3	**1**	**1**	**10**	**0**	**0**

TRAINING AND EDUCATION COMMITTEE

REPORT TO THE PROFESSIONAL DEVELOPMENT COMMITTEE
ASHRAE 2025 Annual Conference - Phoenix

Information Items

1. ALI courses for 24-25 are slightly below the previous year at 3,120 registrants. E-learning, AGT, and SDL registrations are all higher than the previous year.
    a. Total revenue for all learning types is currently at $2,096,200.

2. Phoenix has 10 ALI courses scheduled with 99 registrants. This is slightly lower than Indianapolis (125). Total revenue for ALI courses at the Annual meeting is $20,698.

3. eLearning revenue for 24-25 is tracking to exceed the fiscal performance of the 23-24 fiscal year. December is still the largest month, but there has been improvement in the slower months (summer).

4. AGT is working with local municipalities in the UAE to present 6 courses for the 25-26 year, as well as courses at a large CRC.

    a. Prices have increased 10%. 23 courses have been offered with 252 registrants.
    b. 3 HVAC Design Level I and II courses
    c. Free Arabic webinar with 543 registrants (135 members, 408 nonmembers)

5. The TEC Committee has developed a reaffirmation and sunset procedure and approved the documentation. Courses focusing on COVID have been sunsetted, and there are two that are going to be reaffirmed in the coming months. [MBO 1]

6. The TEC Committee is developing a franchise model for courses that allows multiple presenters to teach ALI courses. This will allow for translation to different languages, units, and regions. The franchise guidelines have been developed and are in the final draft review. The finalized guidelines will be used to pilot the process for a few selected courses. [MBO 2]

7. The TEC Committee has reviewed the RFP process and updated the procedure for clarity in the TEC Reference Manual. [MBO 3]

8. The TEC Committee is working to develop and send out a survey to all who have taken ASHRAE courses to understand what courses people want, as well as any concerns. [MBO 4]

9. TEC has reviewed and approved several courses since the Winter meeting. Several courses are moving forward to RFP stage. This includes a course for A2L refrigerants, CDP exam prep, and public speaking.

10. LMS update – we have a vendor and are working through the construction. Members will be able to search, filter, see course groupings, and view a transcript. It integrates with the current website platform.

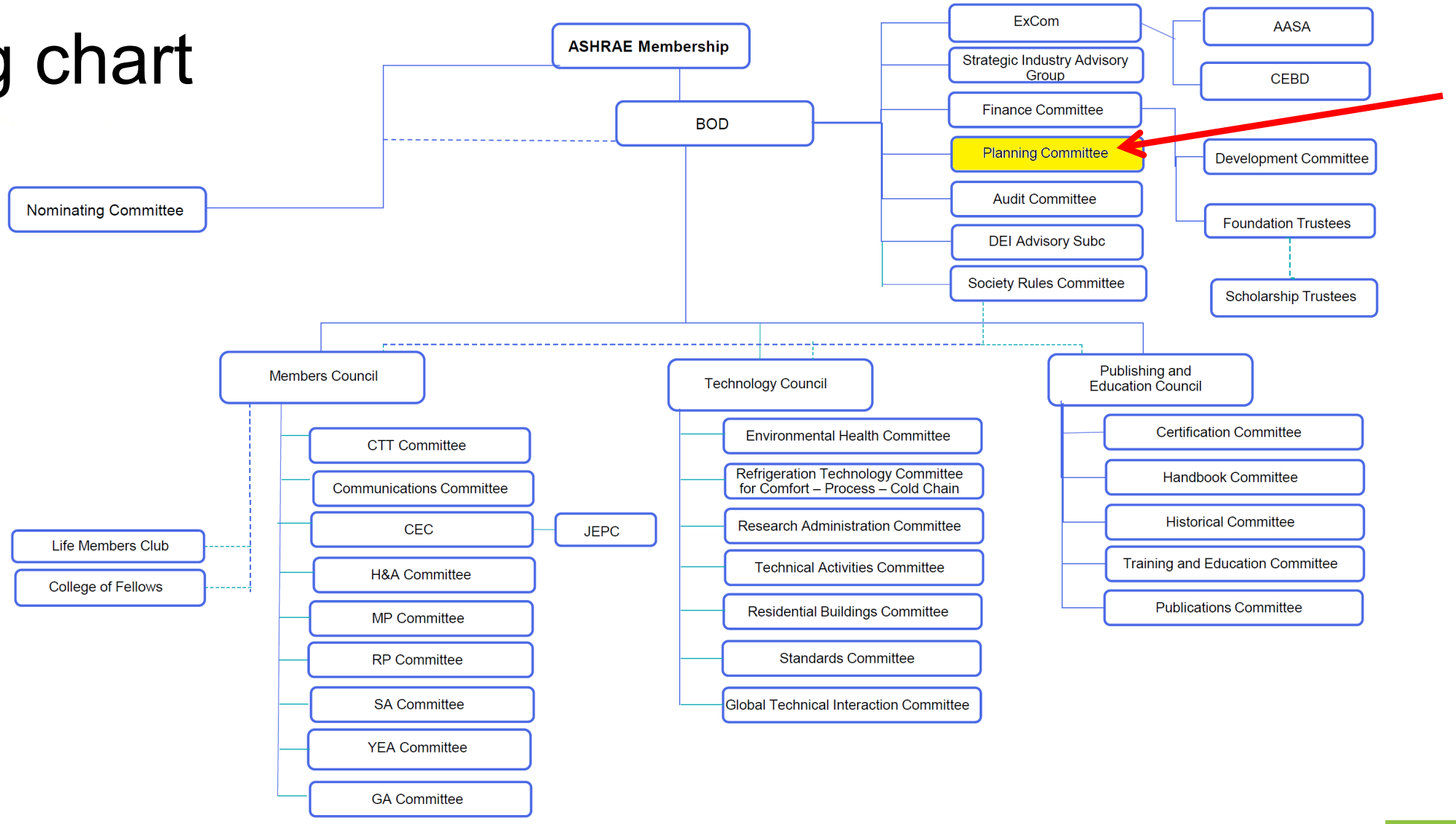
Respectfully submitted,
Kim Pierson, Training and Education Committee Chair
June 22, 2025

Planning Committee

(PLC)

Who is the Planning Committee?

- Org chart



What does the Planning Committee do?

- Role
  - The role of the Planning Committee (PLC) is to assist the Board of Directors (BOD) and the **organization** in the development of strategic thinking for the future.
  - The PLC uses an approved method of **soliciting continuous strategic planning from the councils and committees** for use in advising the Board of Directors on ideas which may be considered for changes to the strategic goals and directions of the Society.
  - On a regular basis the PLC:
    - Reports on Findings & Recommendations
    - Provides Gap Analysis on Strategic directions & goals of committees

What does the Planning Committee do?

- Subcommittees

Innovation and Implementation Subcommittee:

- Oversee Strategic Plan implementation
- **Teams with ASHRAE Councils and Committees** to ensure each develops appropriate timelines for implementation, metrics to measure success, and a method to measure progress related to the strategic plan
- Develops methodology to **identify gaps** and overlaps in implementing the Strategic Plan
- **Solicits creative ideas from the membership**, makes strategic assessments, identifies strategies, develops and recommends new initiatives to the PLC to adopt as strategic goals
- Makes recommendations for next year, three (3) year, five (5) year, ten (10) year, and twenty (20) year goals.

What does the Planning Committee do?

Validation and Documentation Subcommittee (is responsible for):

- **Receiving, reviewing, and quantifying each Council and Committee's MBOs.**
- Receiving the Continuous Strategic Planning (CSP) **input from the committees and councils** and presenting them to the full PLC for consideration by the Board of Directors at the Fall BOD meeting.
- Updating the survey, reviewing the responses, and compiling summary information and potential actionable items from the annual Membership Survey.
- Utilizing the metrics and Key Performance Indicators (KPIs) to evaluate the success and progress of the Strategic Plan and presenting them for the full PLC Annual Meeting.

What does the Planning Committee do?

- Strategic Plan

The Planning Committee (PLC) is responsible for ASHRAE's long-range and strategic planning activities **on a continuing basis**. The PLC role is to assist the Board of Directors (BOD) and the organization to think strategically in planning for the future.

Healthy, Sustainable and Resilient Communities

Providing a healthy, productive and resilient indoor environment, while minimizing greenhouse gas emissions, is critical to today's built environment. Further, global stakeholders' leveraging of ASHRAE's standards and technical resources presents an opportunity for ASHRAE to solidify global leadership in supporting healthy, sustainable and resilient communities. ASHRAE prioritizes timely identification of industry trends, expedient content development, and forges key partnerships to advocate and collaborate with industry.

Empowered Workforce

The development of a skilled, competent, and solutions-oriented workforce is critical to addressing the challenges facing the built environment and the HVAC&R industry, today and in the future. ASHRAE continues to provide educational and professional development resources. Our members and industry partners need these tools to implement key initiatives such as decarbonization, resiliency, and indoor environmental quality goals and policies. ASHRAE, with the support of our chapters and regions, partners with key industry stakeholders in tackling the unique workforce challenges facing the industry globally.

Organizational Agility

ASHRAE's ability to serve communities, the industry, the current and future workforce, and provide value to its volunteer members, is dependent on forward-looking products, services, and solutions. ASHRAE will use emerging technologies to support the development of resources and knowledge flow between ASHRAE's chapters, regions, technical bodies, and the industry, harnessing organizational and operational efficiencies.

Emerging Technologies

In today's rapidly evolving landscape, emerging technologies are revolutionizing the built environment and HVAC&R industry, expanding numerous career opportunities. By combining technological advancements such as AI with human creativity, both seasoned professionals and new talent can collaborate to drive industry-wide progress. Advanced automation and AI-enabled systems propel energy efficiency and smart buildings, enhance comfort and IEQ, improve operations and maintenance, and deliver holistic and sustainable solutions for industry professionals. ASHRAE engages in a thoughtful process to evaluate and prioritize opportunities to leverage new technologies.

How does the Planning Committee affect you?

- The Planning Committee (PLC) helps ASHRAE Committee and TC's design their goals and MBO's to align with the ASHRAE Strategic Plan.

How can the Planning Committee help you?

- Members of the Planning Committee (PLC) are available to help discuss anything related to ASHRAE's Strategic Plan, or even regarding your MBO's (and how they align with the Strategic Plan)

- Members of PLC are available to carry your suggestions / inputs back to PLC.

Contact Information

- Billy Austin, baustin@shultzeg.com
- Chandrias Jolly, CJolly@ashrae.org

ASHRAE GTIC

Global harmonization towards Sustainability and Decarbonization

June 2025

Global Technical Interaction Committee (GTIC)

Purpose- GTIC shall be responsible for harnessing the technical resources of ASHRAE to influence international standards and maximize the global impacts of ASHRAE standards and other technical work products on the practice of HVAC&R and the built environment.

ASHRAE®
GTIC

GTIC – Internal and External Coordination of ASHRAE Technical Resources

GTIC is responsible for:

- Harnessing ASHRAE technical resources by Impacting International Standards globally
- Maximize the global influence of ASHRAE technical resources and services thru:
  1. **Developing, implementing, and managing** processes information flow and coordination between; Chapters, TCs, PCs, and TAGs.
  2. **Considering a global perspective** when developing and maintaining ASHRAE Technical Resources
  3. **Facilitating the engagement** of ASHRAE members around the world
  4. **Adapt/Adopt** ASHRAE Codes, Standards, and professional training resources globally
  5. **Informing ASHRAE Leaders and Members** of the potential impact of GTIC activities
  6. **Making recommendations on new activities** to increase ASHRAE global relevance
  7. **Facilitating a two-way knowledge exchange** to enable the adoption/adaptation of ASHRAE Technical resources globally
  8. **Promoting ASHRAE Standards** through organizations, such as ISO and IEC

ASHRAE®
GTIC

2024 Industry Roundtables Critical Issues

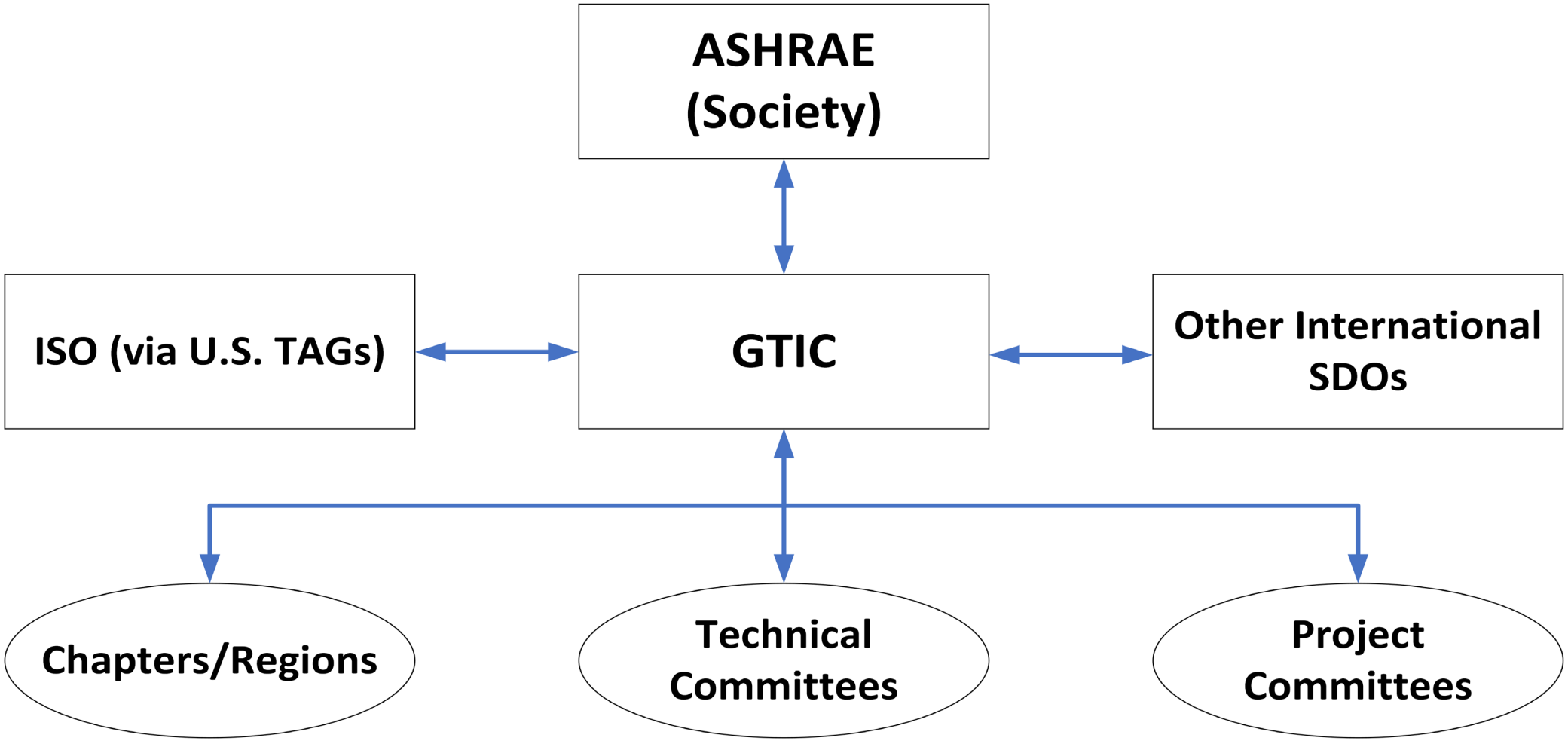
Recommendations to Publishing & Education Council

Training and education, for young professionals is critically needed!

- Leverage emerging technologies and formats to create accessible training materials for young HVAC professional
  - Develop further training programs focused on HVAC fundamentals
    - Adapt ALI courses to be region/country specific
      - Develop resources to educate general public
        - Encourage and support research activities thru Regions to develop technical documents that meet their specific needs

ASHRAE GTIC

Global Technical Interaction Committee (GTIC)



ASHRAE®
GTIC

Subcommittees – Focus Areas

- RCIS - Region and Chapter Interactions Subcommittee
- TCIS - Technical Committees Interactions Subcommittee
- PCIS - Project Committees Interactions Subcommittee
- SPS – Special Projects Subcommittee

ASHRAE®
GTIC

Regions and Chapters Interaction Subcommittee (RCIS)

Objective – To engage chapter members in standards development and other technical activities

Responsibilities:

- Developing and maintaining a bi-directional flow of information between chapters and society level committees.
- To provide information about the technical needs of chapters and/or regions that is relevant to develop technical works or standards at the society level.

ASHRAE®
GTIC

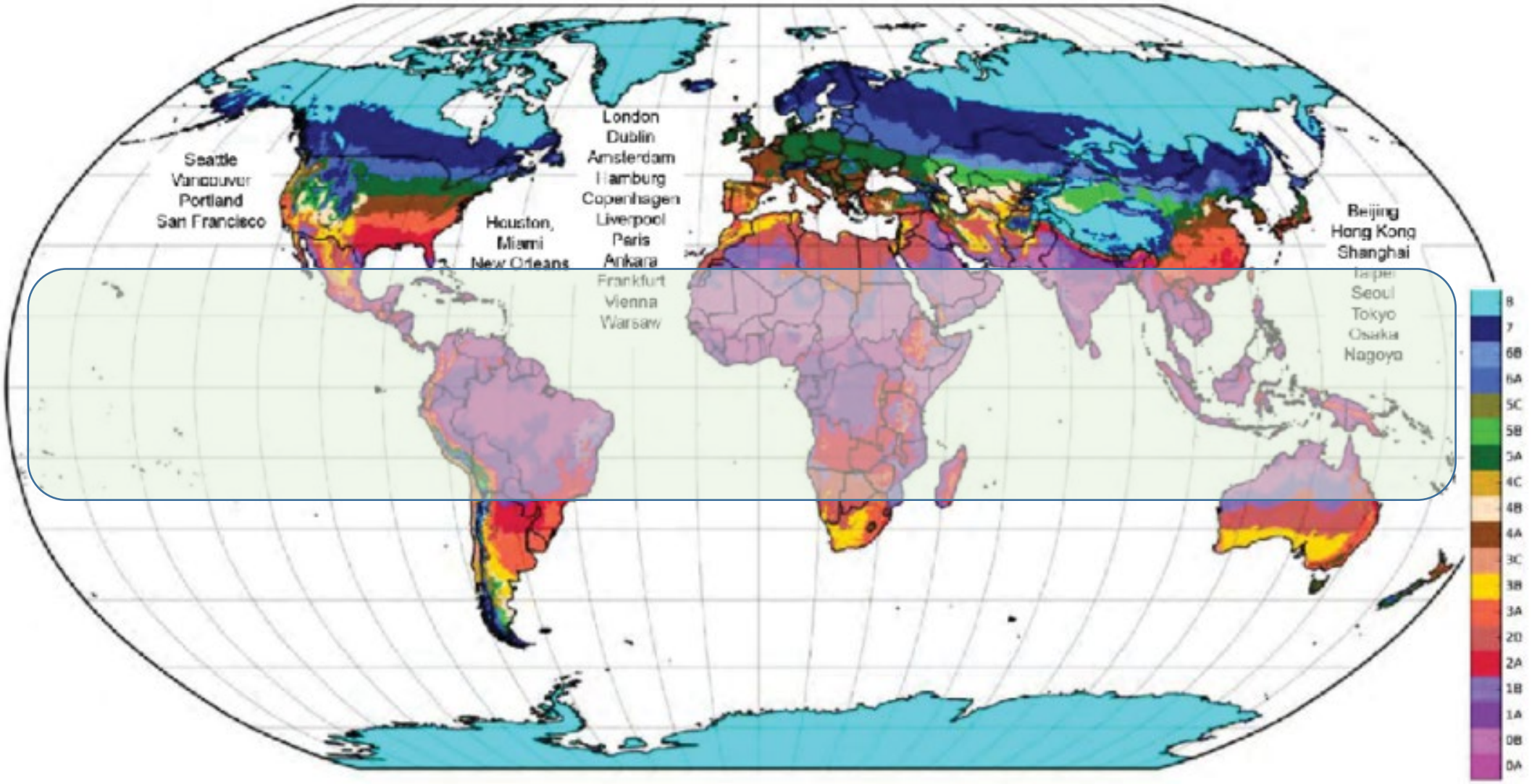
Global Technical Interaction Committee (GTIC – Regions - Global Relevance

Regional Liaisons – This team force will support GTIC activities representing ASHRAE Regions :

- ✓**Region 8-** South Florida, South & Central America, Caribbean
- ✓**Region 12-** South & Central America, Caricom, South Florida
- ✓**Region 13-** Asia Far East
- ✓**Region 14-** Europe
- ✓**Region 15-** India, Bangladesh, Sri Lanka
- ✓**Region At-Large-** North & South Africa, Asia

GTIC

Climate Zones ASHRAE - 2013



ASHRAE®
GTIC

Global Technical Interaction Committee (GTIC)

- Region VIII – Eleazer Rivera (eleazar.rivera.mata@gmail.com)
- Region XII – Leandro Astorga (lag@energy-tracking.com)
- Region XIII – Bill Wang (bill.wang@ctci.com)
- Region XIV – Samir Hernandez (hernandez_samir@hotmail.com)
- Region XV – Akshay Nutan Pahade (apahade@outlook.com)
- Region-At-Large – Maged Fouad Hashem (maged@mag-group.com.eg)

ASHRAE®
GTIC

GTIC – Training Manual for CRIA

GLOBAL TECHNICAL INTERACTIONS COMMITTEE

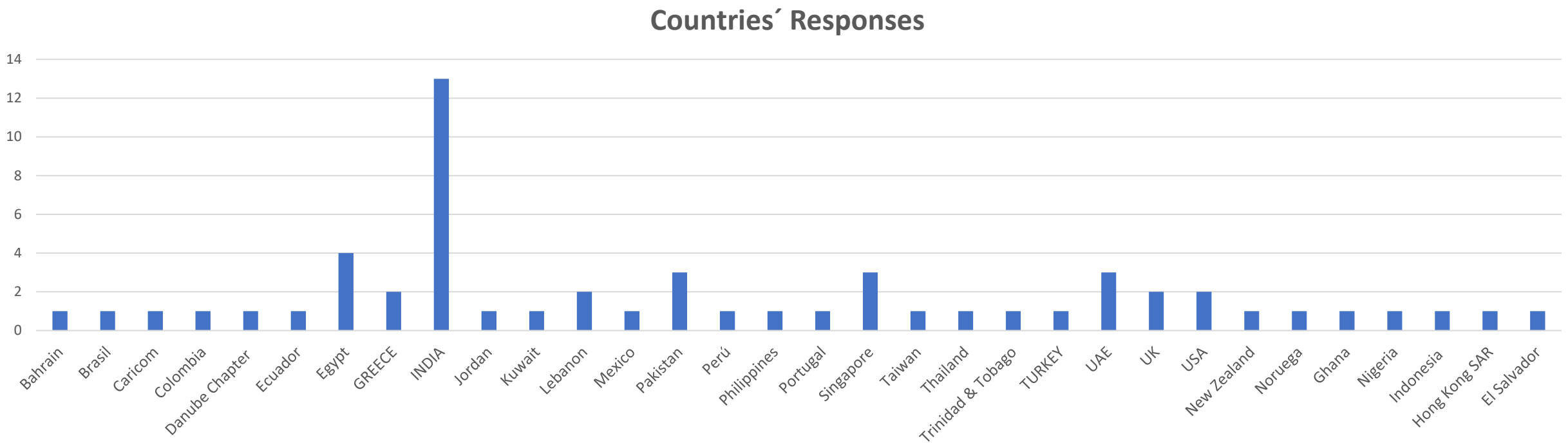
TRAINING MANUAL FOR CHAPTER AND REGION INTERACTION ACTIVITIES

ASHRAE®
GTIC

Country Survey Responses
Country wise
Report: 24-Oct-2024

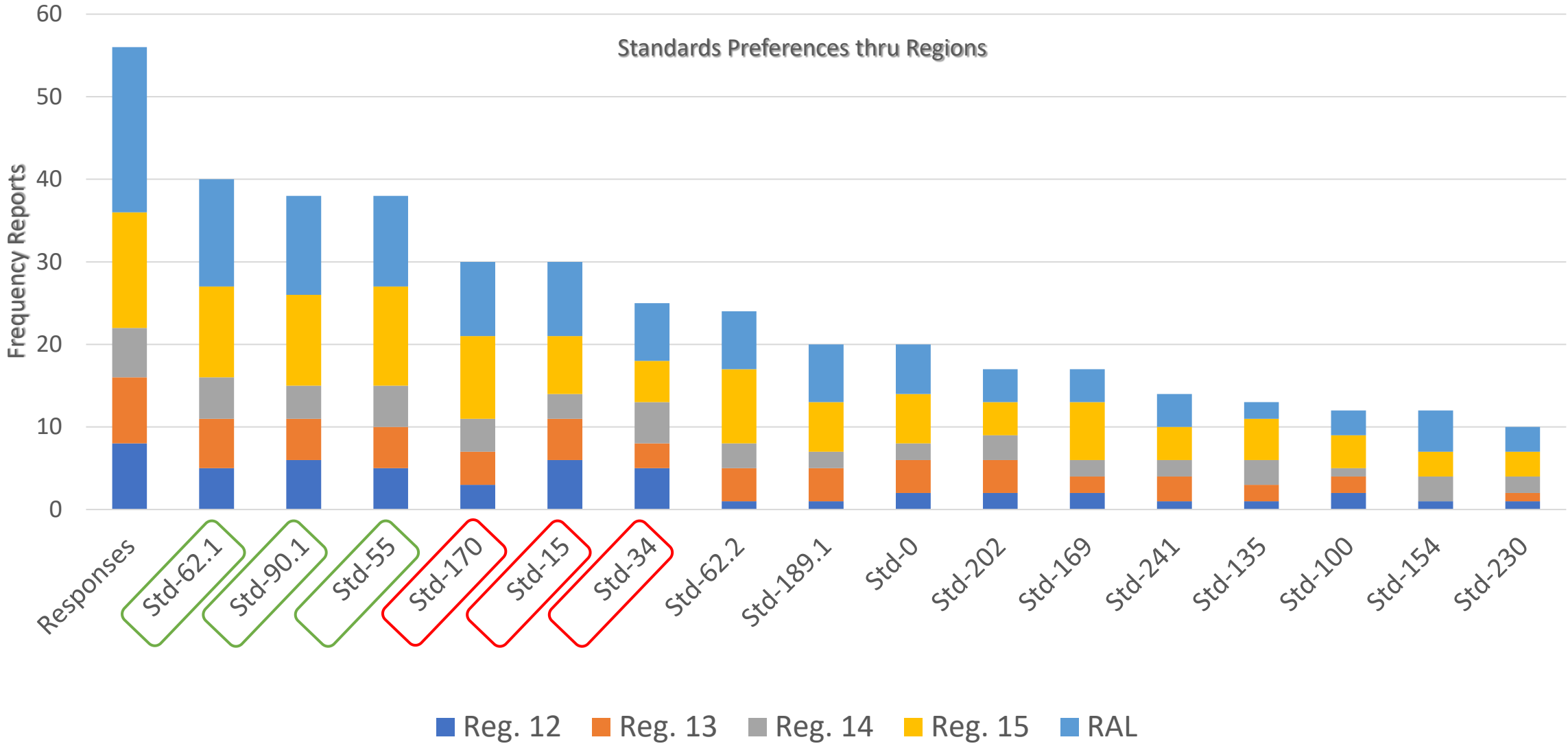
ASHRAE GTIC

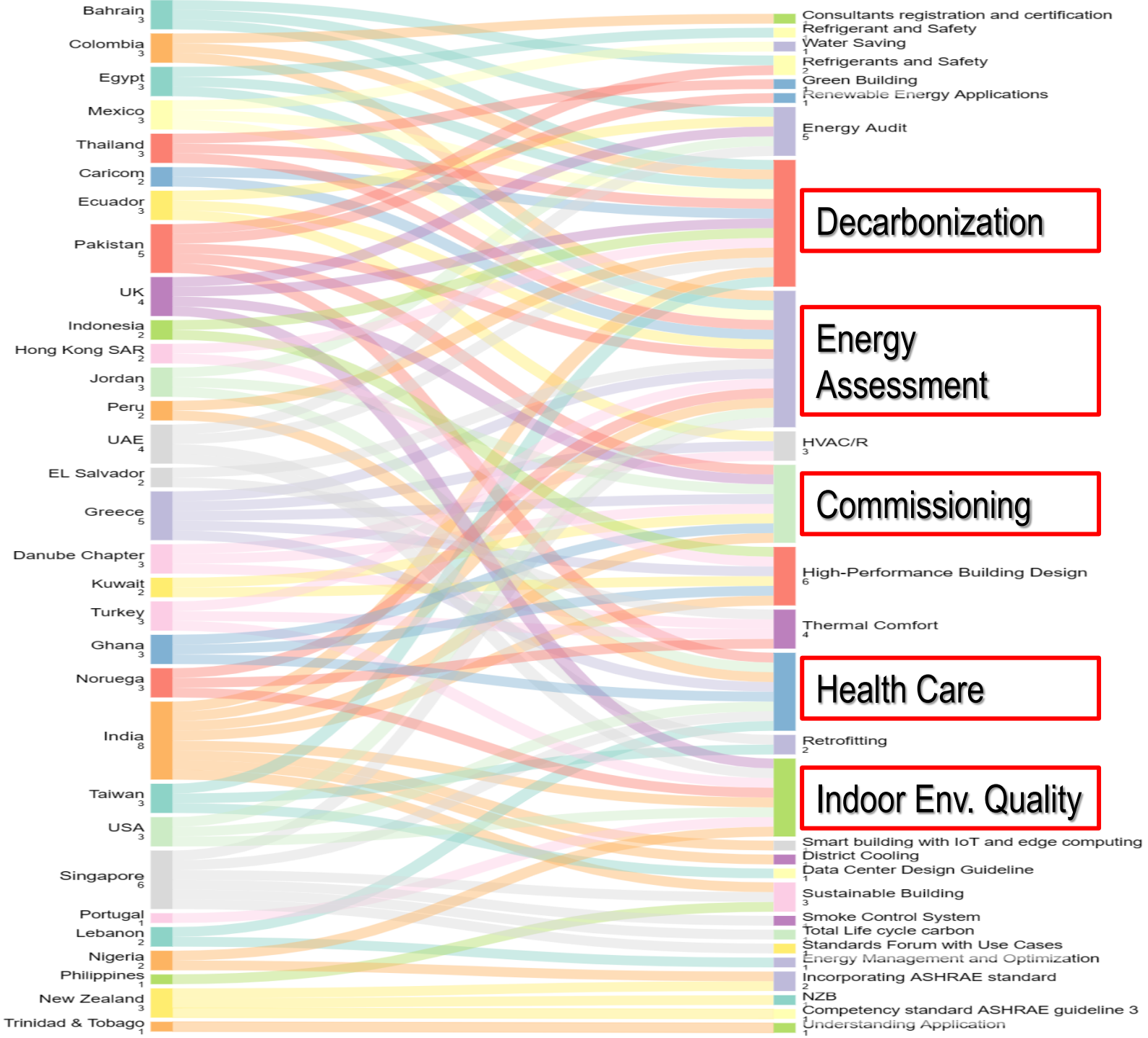
Total- 57 responses
32 Countries



ASHRAE Standards use thru Regions

ASHRAE GTIC





ASHRAE®

GTIC

Top 3 topics of importance across Countries

ASHRAE®

GTIC

Thank you for your valuable support as we all in ASHRAE engage in Decarbonization and Energy Efficiency objectives for the benefit of future Generations!

GOVERNMENT AFFAIRS COMMITTEE
Report to Pub-Ed Council
From Meeting of June 20, 2025
~ Annual Conference – Phoenix, AZ~

Information Items

1. Public Policy Priorities for Society Year 2025-26: The GAC approved the Public Policy Priorities (PPPs) for Society Year 2025-26. These PPPs were subsequently approved by ExCom and the Board of Directors, and will be posted online by July 1.

2. Government Outreach Events (GOE): The GAC set a goal of 100 Government Outreach Events to be held during Society Year 2023-2024. As of June 13, a total of **153** Government Outreach Events have been reported as being conducted in the 24-25 Society Year. These GOEs comprise **426 discrete meetings** involving **375 ASHRAE members** and **638 government officials** and their staff. **These numbers are likely to increase even more** as we review and verify the GOE reports received through June 30. A year in review video of this Society Year's Government Outreach Events can be seen at this link here.

3. Public Policy Issue Briefs (PPIBs): The GAC unanimously approved revisions to 11 existing PPIBs listed below. These PPIBs were submitted to Tech Council, and GAC addressed their comments; no substantive changes were made. The updated PPIBs will be posted online by July 1.

    a. Building Decarbonization
    b. Building Energy Benchmarking, Assessments, and Performance Targets
    c. Climate Change and the Built Environment
    d. Consensus Standards: Expert Solutions to Meet Global Needs
    e. Environmental Tobacco Smoke and Electronic Nicotine Delivery Systems
    f. Indoor Air Quality
    g. Refrigerants and Their Responsible Use
    h. Resiliency in the Built Environment
    i. STEM Education and HVAC&R Workforce Development
    j. Indoor Carbon Dioxide, Ventilation and Indoor Air Quality
    k. Wildfire Smoke from Wildfires and Prescribed Burns: Implications for Indoor Environmental Health

4. Letters and Testimony: In SY24-25, Government Affairs has submitted **65 documents** (letters, testimony, and responses to Requests for Information and other regulatory proposals). To view those documents, you can visit this website.

5. SMEs for GOEs Pilot Program: This pilot program identifies and recruits Subject Matter Experts (SME) within ASHRAE who can communicate technical information effectively to government officials and policymakers. The program establishes a pool of SMEs with specific expertise who would be able to provide technical support and information for government briefings, legislative

testimony, and/or responses to government requests for information. We encourage applicants to this program, and the online application can be found here.

Please understand that this program is still under development, and the GAC is working through details for implementation of this Pilot Program. Thanks to many of you who applied to this program, and thanks for your patience as we work to implement it effectively!

6. ASHRAE Government Affairs Updates: If you want to stay informed on government news of relevance to ASHRAE members, please sign up for this bi-weekly newsletter here: https://www.ashrae.org/about/government-affairs/government-affairs-updates

Shaping Tomorrow's Global Built Environment Today

180 Technology Parkway, Peachtree Corners, GA 30092 ▪ Tel 404.636.8400 ▪ Fax 404.321.5478 ▪ www.ashrae.org

Rhiannon Masterson
Acting Director, Member Services
rmasterson@ashrae.org

June 12, 2025

TO: Chandra Sekhar, Publishing and Education Council Chair
Kenneth Fulk, Publishing and Education Council Incoming Chair

Dear Chandra and Kenneth,

During the 2025 Spring CRCs the following motion was referred to Publishing and Education Council and Members Council.

Motion referred to Publishing and Education Council for Recommendation to the Board:
Please add this motion to your next meeting agenda (in Phoenix if possible) and provide your recommendation to the Board by the 2026 Winter Conference in Las Vegas.

1. **Spring 2025 CRC Motion, Region XI, Regina Chapter – Motion 25-11-1:** To move the Historical Committee from Publishing and Education Council to Members Council.

   Background: The historical Committee is currently under Publishing and Education Council and the committee sponsors, encourages and conducts research into the history of heating, ventilation, air conditioning and refrigeration; encourages authorship and publication of historical articles locates, identifies and determines location for display or availability of items of historical significance; and encourages regional and chapter historians to gather historical information and artifacts. If this committee was under Members Council, the committee would also focus on the grassroots side of Society. There is a vast divide between the work and objectives of the Historical Committee and the expectations of the Regional and Chapter Historians, to the point that replies to Regional and Chapter inquiries of the Historical Committee are delayed or go completely unanswered. Further, this disconnect between the Historical Committee and the grassroots (e.g. Regions and Chapters) is made publicly obvious by the resources on the Society Historical Committee's webpage being so old and out of date. In at least one case, the PowerPoint presentation is so outdated as to have the previous ASHRAE logo from nearly a decade ago still on it. Grassroots involvement in this committee would keep the Historical Committee much more in tune and in contact with the Grassroots and would likely result in a better historical archive and more participation in the Gold Ribbon and Lou Flagg awards programs. This would in turn incentive Chapters to appoint active Chapter Historians.

   Fiscal Impact: None

Shaping Tomorrow's Global Built Environment Today

180 Technology Parkway, Peachtree Corners, GA 30092 ▪ Tel 404.636.8400 ▪ Fax 404.321.5478 ▪ www.ashrae.org

Staff Impact: Change in roles for staff members and possibly adding extra time at the Annual and Winter Conferences.

CRC Vote: 11-0-0 CNV

If you have any questions, please let me know.

Thank you,

Rhiannon Masterson
Acting Director, Member Services
ASHRAE

CC: Bill McQuade, Members Council Chair
Sarah Maston, Members Council Incoming Chair
Lizzy Seymour, Members Council Staff Liaison
Mark Owen, Publishing and Education Council Staff Liaison

ASHRAE Roundtables Review and Findings
January 2025

Notes have been collected for some 12 roundtable discussions held between January and October 2024. The roundtable reports are available on the BOD Basecamp here. Appendix A provides a simple executive summary of each roundtable. (Note: Other roundtable discussions may have occurred, but notes were not available.)

Fully 4 of the 12 roundtable discussions (33%) were held outside of the U.S. The locations are listed below in the order in which they were held.

1. Central Florida Chapter (Region XII), Orlando, FL, January 2024
2. Region VIII CRC Dallas, TX, April 2024
3. Region XI CRC Spokane, WA, May 2024
4. Region V CRC Cincinnati, OH, July 2024
5. Region IX CRC Boise, ID, August 2024
6. Region III CRC Bethlehem, PA, August 2024
7. Region I CRC Albany, NY, August 2024
8. Region X CRC Phoenix, AZ, August 2024
9. Region II CRC Toronto, ON, Canada, August 2024
10. Region XIV CRC London, UK, September 2024
11. Region XV CRC Udaipur, India, September 2024
12. Region-at-Large CRC Karachi, Pakistan, October 2024

Executive Summary

The notes from the 2024 Industry Roundtables all reflect an important need for better education, training and industry collaboration to address both short-term and long-term challenges in the HVACR industry. Most roundtables discussed focusing on preparing the next generation to meet the demands of a rapidly changing industry. A stronger connection between industry and academia is needed.

It is worth noting that the three earlier roundtables were conducted during President Scoggin's term in which the Society Theme was "Challenge Accepted: Tackling the Climate Crisis." The ten later roundtables were conducted during President Knight's term in which the Society Theme is "Empowering Our Workforce: Building a Sustainable Future." Topics covered in roundtables may have been dependent on the participants and the current Society theme.

Six common themes emerged from the feedback received during the Roundtables, providing opportunities for each of the councils to explore to better serve the needs of our members.

- **Publishing and Education Council** – Training and education, particularly for young professionals entering the industry is critically needed. Publishing and Education Council may consider:

    - Leveraging emerging technologies and alternative formats to create training materials that may be more accessible for young professionals
    - Developing additional training programs focused on HVAC fundamentals
    - Adapting ALI courses to be region/country specific
    - Developing resources to better educate the general public

- **Members Council** - Acknowledging President Knight's theme of workforce development, many of the discussions centered around the need to engage with students and young professionals, supporting and encouraging them in their career journey in the built environment. Members Council may consider:
    - Developing programs that focus on showing students (K-12, post-High including trade/technical schools) the impact they can have by choosing careers in the built environment
    - Encouraging chapters to include technical training on HVAC fundamentals
    - Encouraging collaboration with other industry organizations
    - Exploring alternative training options, such as podcasts, videos, hands-on technical tours
    - Developing a program to help facilitate internships for engineering students

- **Technology Council** – Decarbonization, IEQ and refrigerant regulations are issues that members at all levels need guidance on. Technology Council may consider:
    - Continuing to develop resources and practical guides on decarbonization, IEQ and refrigerants for manufacturers, design professionals, contractors, building owners/facility managers and building scientists
    - Providing guidance on how emerging technologies like AI can be used to improve productivity and optimize system performance
    - Providing more opportunities for technicians/operators to get involved in ASHRAE

These are just a few recommendations gleaned from the feedback received during the Roundtables. A summary of each of the discussions can be found below. We invite all councils, along with Planning Committee, PEAC and TRAC to review these notes to see what other opportunities there may be to better serve our members as MBOs are developed moving forward.

Critical Issues in the Industry

The 2024 roundtables highlighted several critical issues within the HVACR industry:

- The role that the industry is taking on reducing carbon emissions and adopting sustainable practices, through decarbonization and electrification
- Refrigerant regulations
- The growing generational gap in the workforce
- The lack of HVAC education presence in undergraduate curriculum
- The need for more collaboration between technicians, building owners, engineers, and architects on projects
- New, more interactive and engaging tools to train and educate new and young professionals

Some of the critical issues addressed at roundtables in 2024 were also addressed in roundtables in previous years. See Appendix B for the 2022-2023 roundtables summary with updates/additions from 2024 roundtables highlighted.

Decarbonization, Sustainability and Resiliency

ASHRAE can empower organizations, students, individuals and the general public to make carbon emission reduction goals. Educating all stakeholders (design engineers, architects, commissioners, technicians, building owners/operators, facility managers, etc.) on the importance of their work and the role it plays in reducing carbon is critical. The work the team does together makes a difference on every project.

Some regions in the US and globally are using the term "Resiliency" to encompass decarbonization, IEQ and sustainability practices. One roundtable suggested incorporating carbon calculations into all ASHRAE standards.

Refrigerant Regulations

The industry faces an overwhelming amount of regulatory information, creating confusion about which guidelines to follow for refrigerant regulations and safety. The challenges of flammable refrigerants, their impact on different sectors, and ongoing phaseouts further add to the complexity.

Education and Training

Several roundtables discussed the lack of specific HVAC training at colleges and universities around the world and the need for dedicated curricula. Workforce development initiatives such as vocational training, internships and professional mentorship programs can help bridge the gap between formal education and real-world skills. One roundtable suggested creating a university course that utilizes hands-on training of the universities HVAC system since all colleges and universities have large HVAC systems located on campus. On-the-job training and real-world experience were expressed as critical in learning this industry and currently there is a lack of this type of education in the HVACR space. On-the-job training also involves relationship skills that are needed for all the roles to work together on a project (i.e. technician/contractor, building owner/operator, facility manager, design engineer and architect). One roundtable suggested developing a "year in the field" approach to teaching engineering students about the practical side of the industry.

Training and education delivery was also discussed at most roundtables. There is consensus on evolving delivery methods to better engage the younger generation such as short YouTube training videos, podcasts, utilizing LinkedIn Learning platforms, interactive training tools such as VR and gamification. One roundtable even suggested creating a buildings/HVAC version or modification to Minecraft to support interest and understanding starting with an even younger audience.

Education and training must also be tailored geographically based on the needs of the audience. For example, Canada Net Zero goals are hard to achieve due to cost and implementation strategies while in the Middle East and Africa, there are challenges on how the HVACR industry is adapting to the rapidly changing climate conditions.

Industry Collaboration

The industry is currently working in silos based on their role and job title. Collaboration is key in moving the industry forward as well as motivating and educating the next generation to choose a profession within the HVACR industry. Industry collaboration with academia is needed to integrate HVAC curriculum and education into MEP programs. Collaboration and better communication between the different roles within the industry (engineers, technicians, building owners, etc.) is critical to understanding new technology and proper design and maintenance of building systems.

ASHRAE Standards are excellent and very valuable but mostly address design issues. Industry collaboration is needed to expand content in ASHRAE Standards to include commissioning and installation direction.

Development of New Tools

ASHRAE has incredible resources such as the ASHRAE Handbook, Standards and Guidelines. Many roundtables indicated that while the more seasoned professionals rely on these tools, the younger generation is looking for more efficient, quicker ways to access information, guidance, and data. One roundtable suggested having the TCs create short videos about their Handbook chapters for quicker content consumption. Another roundtable suggested a small language model AI tool for ASHRAE publications. Creating an ASHRAE Reddit Forum was another idea from a roundtable.

Additionally, there are opportunities to leverage emerging technologies such as AI not only improve access to technical resources, but to improve processes and optimize system performance. ASHRAE can take on a leadership position in how AI can be used in our industry.

Engaging and Retaining the Younger Generations

Several roundtables discussed inspiring the next generation, starting as early as with K-12 students, by messaging the "why" HVACR matters and how it can impact the world. If ASHRAE can message and show the real-world impact of HVAC systems, particularly in terms of sustainability and climate change, more young people will want to explore careers in the HVACR industry. K-12 STEM activities, career fairs, and design competitions were cited as successful outreach programs and events throughout the regions.

Roundtable Process

Market intelligence gained from roundtables is very valuable. Conducting roundtables should be adopted as the best practice for all CRCs. The Roundtable Reports Review Committee (R3C) should provide to the Executive Committee and Planning Committee summaries from roundtables held immediately preceding the Spring and Fall CRCs at the Winter Conference. The Executive Committee will allocate items to the appropriate Councils for consideration. Councils will use the roundtable reports to inform their MBOs and action items. Society Planning Committee will use the roundtable reports to inform Strategic Plans and support development of Council MBOs. Roundtable notes should be archived on the BOD basecamp.

Guidelines for conducting ASHRAE Industry Roundtables were updated in July 2024 and can be found on the BOD basecamp here. The guidelines include an overview, goals, attendance, invitees, coordination and discussion questions. R3C should review and update this guidance and distribute to DRCs and RMCR by the Annual Conference.

Appendix A. Abbreviated Roundtable Highlights

- **Central Florida Chapter (Region XII) Orlando, FL, January 2024**
  - Critical needs impacting our industry include technical and cost illiteracy associated with high performance building construction and renovations and reliability including IEQ.
  - ASHRAE can support the industry by providing resources to better education the public with general education of the importance of reducing carbon emissions and understanding the climate impacts.
  - Empowering organizations and even individuals (starting with students) to make carbon emission reduction goals. This includes educating facility technicians, maintenance personnel and commissioning agents who normally do not connect their work to carbon. Supervisors need to be better educated on that connection.
  - ASHRAE can support workforce development by reaching out to technical schools and supporting technicians to development.
  - Connect the dots to technicians that their work matters in addressing climate change – not just installing and servicing HVAC systems.

- **Region VIII CRC Dallas, TX, April 2024**
  - Critical issues impacting our industry include refrigerant regulations.
  - Another critical issue is there is too much information available without a clear and consistent message on which guidance to follow (i.e. ICC, ASHRAE, state-wide/county-wide minimal energy code, Building Codes, UL, etc).
  - Standards are being written by academics and then "tossed to engineers/operators to implement.
  - Additional education to the younger generation of students and professionals with more direct HVAC education.
  - Suggestions include an undergraduate curriculum on HVAC, Reddit Forum on ASHRAE, More Fundamentals Training resources that could be pushed down to the Chapter and use Chapter Leaders to train.
  - ASHRAE materials are great for the trainer but not for the student/trainee.
  - Chapter leaders could be certified to train chapter members on fundamentals and systems training so that chapter members get industry training baked into their chapter meetings.
  - Interactive pieces of the ASHRAE Handbook are needed.

- **Region XI CRC Spokane, WA, May 2024**
  - Most critical condition in our industry is the lack of well-trained engineers in the 35-45 age range.
  - Inexperienced new hires are the norm.
  - Colleges are more focused on non-building related mechanical engineering.
  - Better candidates are usually people who have experience on job sites (not just a degree).
  - ASHRAE can help by providing background on how codes are developed so that people think more critically when applying standards.
  - Not enough people are trained to service VRF systems therefore people are backing away from these systems.
  - ASHRAE could develop a "year in the field" approach to teaching engineering students about the practical side of their work.
  - It is important for owners and contractors to work together and stay engaged with one

another to support long-term success.
    - A joint ASHRAE/AIA effort to coordinate work between disciplines.
    - ASHRAE should create a standard for the various options/templates for the sequence of operations to support technicians.
    - One idea might be for ASHRAE to create a curriculum for a local ASHRAE member/professional to teach 30-minute sessions in advance of Chapter Meetings. Perhaps utilize TCs that develop applications and fundamentals handbook.
    - A suggestion for ASHRAE to provide educational content in short YouTube- type videos for easy consumption (ASHE does something like this).

- **Region V CRC Cincinnati, OH, July 2024**
    - Focus on decarbonization/resiliency changes how projects are approached.
    - Sustainability practices of the past are now mainstream and part of the project implementation.
    - "Resiliency" is a term that is more used in this region of the country and is also catching on in Asia as well. It encompasses decarbonization, IEQ, and energy sustainability.
    - Building owners are only concerned with budget and meeting minimum code requirements.
    - Incorporate carbon calculations into all ASHRAE standards.
    - AI, machine learning/automation, digital visualization need investment from our industry.
    - Using AI to train new workers faster but also keep "old-school" understanding of plans and projects must be maintained in training.
    - ASHRAE can increase passion in the industry by more K12 STEM activities, show real-life impact, focus on cutting edge technologies and teach kids/youth how to change the world through HVAC.
    - Required HVAC courses in university curriculum is a must. Right now HVAC is just a footnote in Mechanical Engineering classes. There is a disconnect between the need in society versus emphasis in college.
    - Disconnect between design engineers and building owners. What is designed is ignored because the owners can't operate the systems.
    - Messaging should be to younger generations that the industry can help save the world. Buildings have a long-lasting impact due to their long lifetimes.

- **Region IX CRC Boise, ID, August 2024**
    - A critical issue in the industry includes the increasing costs associated with labor and projects which stalls or limits projects.
    - There is a growing gap between industry professionals with 5-20 years of experience that is causing labor shortages which increases project time and expense. A&E firms are beginning to bring in vocational training, even at the high school level, to offset some of the labor shortages.
    - There is a missing opportunity in industry training related to the "why."
    - Too few schools offer HVAC/Buildings specific programs. Most universities only offer one semester of HVAC course work.
    - There needs to be better messaging from ASHRAE on why HVAC is important to the world.
    - Encourage more ASHRAE-specific career fairs at Student Branch schools.
    - ASHRAE Design Challenges have been successful at local colleges/universities to get students engaged in the work of the industry.

- Make more co-op internships available within the industry.
- There isn't enough time to train and mentor younger professionals. There is too much to do and all projects seem to be urgent recently, which doesn't allow time to train.
- More "real world" experience is needed for example, taking students and young professionals into the mechanical room and on job sites.
- More interactive training available (i.e. VR).
- AI needs to be integrated. The Handbook is great, but searching through a 1,000-page handbook for an answer is the research of the past.
- Programs for technical people are needed. ASHRAE scholarships don't allow for support of people in technical schools.
- ASHRAE does networking and mentoring well.
- If people in the industry aren't engineers, they feel like they don't have a place at ASHRAE and therefore don't become members.
- There is a need for more programming for owners and facility managers.

- **Region III CRC Bethlehem, PA, August 2024**
  - Critical issues in the industry include lack of personnel and basic understanding of fundamentals, technology and equipment.
  - Another issue is the building owners awareness of products and applications. Regulations and equipment are changing rapidly which is creating compatibility issues.
  - Idea to create applications that field personnel can use to help make job site decisions.
  - ASHRAE Standards are great, but they only address design issues, more support is needed with commissioning and installation direction.
  - Training is needed for those installing the systems that engineers are designing. There is a big disconnect between the two.
  - Learning materials are changing for the younger generation. They aren't using handbooks and books anymore. They learn in shorter segments with 15 minute videos on specific topics.
  - Ideas include:
    - Subscription based podcasts, YouTube channels of training content
    - Consider providing a free number of PDHs each year to members
    - Get the Lucy books adopted into K-5 curriculum
    - A "Minecraft" game of sorts that's dedicated to buildings and is used as a training tool for the younger generations.
    - TCs provide content for short educational videos to cover Handbook chapters
  - Another issue the industry is facing is flammable refrigerants and how they impact various aspects of the industry.

- **Region I CRC Albany, NY, August 2024**
  - Critical issues in the industry include attracting and retaining new people, electrification and finding new ways to decarbonize while making smart decisions, and trying to get building owners back-to-basics training and IAQ knowledge.
  - Contractors have picked up more design work recently at the expense of design firms.
  - More focus should be on existing buildings to save energy within existing structure.
  - More student knowledge and engagement with ASHRAE. Professors are not pushing ASHRAE so students don't really know what it is or why ASHRAE is important. There are limited HVAC specific college courses available.

- Companies are having to do the bulk of the fundamentals training with employees who are right out of college since college courses don't dive deep enough into HVAC.
- Creating shorter, detailed videos to capture the educational content (not long manuals or handbooks).
- Training needs to showcase how this industry aligns with their ideals of environment and health
- AI tools are needed for ASHRAE members specific to ASHRAE.
- New technology is needed, other than heat pumps, to meet decarbonization goals.
- Hands-on training strategies are also needed.
- LinkedIn learning has proven to be successful in some areas of this region.
- Encourage facility internships at colleges and universities. Every university has a large HVAC system.

- **Region X CRC Phoenix, August 2024**
  - Refrigerant phase outs is the most critical issue.
  - Another issue is electrification and high ambient temperatures.
  - Rely on ASHRAE Fundamentals Training to train employees right out of college who did not get much HVAC/Buildings training with college courses.
  - Lack of college courses available for HVAC at local universities.
  - Education takes a lot of time. Are there ways we can deliver education in different methods for easier consumption?
  - Internships are critical for graduates. How can ASHRAE be involved?

- **Region II CRC Toronto, August 2024**
  - Critical issues are climate change, the many solutions for decarbonization yet issues implementing, and the industry is working in silos.
  - Building owners and operators need more training to understand the impact on building performance related to actions on the equipment. There needs to be more connection between the design engineers and this group.
  - ALI courses and instructors should be tailored to the region/country. Some courses and instructors are very US-based and aren't tailoring presentations to support international audiences.
  - There is a trend of drifting operating performance once consulting firms leave the projects.
  - Universities do not have courses that cover equipment.
  - Need to bridge the gap between building operations and design. How can ASHRAE help building owners plan and educate them about energy efficiency.
  - Net Zero targets in Canada are a big challenge when balanced with realistic plans and costs.
  - ASHRAE needs education on publishing data benchmark on buildings. ASHRAE should be guiding the industry on benchmarking data.
  - Small language model for Handbooks.

- **Region XIV CRC London, September 2024**
  - Critical issue in Europe is lack of government leadership.
  - There are gaps between "official paths" and actual policy implementation.
  - Training gaps in the workforce are fundamentals and bridge the gap between technicians and engineers.

- ASHRAE can incorporate new ideas into existing standards to help the industry.

- **Region XV CRC Udaipur, India September 2024**
  - Critical need for ASHRAE is MEP curriculum in last semester of engineering programs.
  - ASHRAE needs to connect with students in their last year of university.
  - Training for technicians is needed for installation and commissioning of the MEP system.
  - The salary gap between IT and engineers in India is great and most young professionals gravitate toward the IT industry because of the salary.
  - ASHRAE certification for installation or another area more geared toward technicians could be beneficial.
  - Government policy amendments to encourage decarbonization are needed.

- **Region-at-Large CRC, Pakistan, October 2024**
  - ASHRAE should invest more in AI:
    - AI usage in the HVACR industry is limited and not effectively advancing technology.
    - Education on how to use AI related to air conditioning is lagging.
  - Rapidly changing climate conditions leading to severe weather are impacting the economy and HVCAR needs to adapt more quickly.
  - Focus education to mirror current workforce and focus on technical and vocational training for technicians.
  - Training programs are needed for mid-level engineers and technicians that offer certification.
  - Enrollment in mechanical engineering programs is declining as students are invested in more money-making fields.

Appendix B. 2022-2023 Roundtable Summary
Updates from 2024 Roundtables are highlighted.

Broaden ASHRAE's Target Audience

The need to broaden ASHRAE's community to include both owner/operators and technicians/ contractors was cited at several roundtables again in 2024.

- According to the December 2024 membership dashboard, ASHRAE has 4,652 contractor members and 2,918 design/build members for a total of 7,570 or 14% of 54,486 members. Despite being the 3rd largest segment of ASHRAE's membership behind design engineers and manufacturers/reps, ASHRAE offers few programs designed specifically for contractors.
- Lack of qualified technicians is seen as a universal problem at roundtables. Advance MEP systems cannot be deployed without skilled technicians for both installation and service. Refrigeration technicians in particular are cited as being in low supply as demand for cooling grows globally.
    - The transition to mildly flammable, low GWP refrigerants underscores the need to provide training to both current and new technicians.
    - More complex mechanical and control systems will require technicians with higher skill sets.
- Improved communication between the owner/operator and the design communities is critical to accelerate the transition to healthier and more sustainable buildings. Increase owner/operator participation in ASHRAE is cited as benefiting the mechanical design community and ASHRAE's mission. One roundtable suggested bringing contractors, technicians, and building owners into project committees to bring their perspectives during the standard writing process.

Practical Guidance/Tools Needed

ASHRAE is the undisputed top global technical resource for HVAC systems. However, the Society lacks guidance on practical implementation of complex design best practices. Standards and handbooks are best-in-class, but simplified guidance is needed to bridge the gap between theory and implementation. Participants of the 2024 roundtables offered solutions such as creating short YouTube videos to cover content for each chapter in the ASHRAE Handbook, podcasts, VR and gamification (such a Minecraft modification focused on buildings and HVAC systems), and LinkedIn Learning.

This issue is linked to workforce development. The 'gray tsunami' of retirements drives the next generation's need for practice implementation guidance. Traditional delivery of technical information such as printed/electronic handbooks is not appealing to younger generations. Videos, apps, online tools, and interactive training is considered more valuable than complex printed guidance.

Similarly, guidance is needed on how to navigate through ASHRAE's volumes of technical guidance, training programs, publications and standards. Roundtable participants often cited difficulty in finding relevant information.

Young current and prospective members learn differently (interactively) and respond to being challenged. Practical solutions must be delivered in new ways to have broad appeal. A few roundtables suggested training local chapter members or leaders to be "certified" to teach industry basics to ASHRAE young and members for 30 minutes before Chapter Meetings begin so that local industry professionals can attend Chapter Meetings but also receive some industry training with peers in addition to networking

Labor Shortages are a Universal Issue

Workforce development was cited as a key issue at virtually every roundtable. Note that the workforce development conversation was prompted by questions in some roundtables rather than being volunteered independently by roundtable participants.

There was a universal call to improve the understanding of and the appeal of careers in HVAC&R ("convince me to be an HVAC&R engineer").

- Short videos
- Training needed to accelerate the learning curve of those new to HVAC&R.
- Tie HVAC&R buildings engineering to solving the climate crisis.
- Message to younger audience (K-12 even) and general public about the impact HVAC&R jobs have on the environment and the future of the world.

Chapters/Regions Need Flexibility, Resources for Localized Solutions

Challenge and opportunities differ widely in regions around the world, underscoring the importance of empowering and resourcing Chapters/Regions to provide localized benefits and services.

The degree to which language is a barrier for standards, training, etc. varies widely. For example, English is not a barrier in India but is considered an issued in Brazil and Turkey. Grid limitation is a significant issue driving energy efficiency in Monterrey. Declining population in Japan exacerbates HVAC&R workforce shortages.

Canadian roundtables noted the importance of ASHRAE courses being tailored to the region (i.e. climate, regulations, carbon emission and net zero goals, policies, etc.). The roundtable in India discussed their struggle with government advocacy and adoption of ASHRAE Standards and guidance.

The cost of ASHRAE products and services is a well-documented and growing issue for many countries, often driven by inflation, political turmoil and current valuations.

Practical Refrigerant Transition Strategies and Training is Needed

The transition to low-GWP refrigerants is paced differently around the globe. Standards and regulatory timelines are not aligned. Several roundtables underscore the importance of aligning refrigerant strategies.

A strong need for comprehensive training on the design and maintenance of systems using mildly-flammable refrigerants. The need for that training varies widely by region based on the regulatory timing. It is needed for design, but more significantly needed for technician/contractor/owner operation and maintenance.

Networking is Universally Valued

Multiple roundtables underscored the value of connecting with ASHRAE's global network of building professionals as a primary benefit of ASHRAE. The Society would be well-served to identify and increase opportunities for networking throughout the Society. Creating opportunities for cross-discipline networking between designers, contractors, researchers, building owners, and manufacturers was recommended as being particularly valuable.

ASHRAE®

Shaping Tomorrow's Global Built Environment Today

Industry Roundtables

2024 Critical Issues Summary and recommendations for Councils

ashrae.org

August 2024

2024 Industry Roundtable Critical Issues

January – October 2024

Florida, Texas, Washington, Ohio, Idaho, Pennsylvania, New York, Arizona

Toronto, London, Udaipur, and Karachi

- **Role of the Industry**
  The role that the industry is taking on reducing **carbon emissions** and **adopting sustainable practices**, through **decarbonization** and **electrification**

- **Refrigeration Regulations**
  The industry faces an overwhelming amount of regulatory information, creating confusion about which guidelines to follow for refrigerant regulations and safety. The challenges of flammable refrigerants, their impact on different sectors, and ongoing phaseouts further add to the complexity.

- **Workforce**
  The growing generational gap in the workforce.

- **HVAC in Higher Education**
  The lack of HVAC education presence in undergraduate curriculum.

- **Industry Collaboration**
  The need for more collaboration between technicians, building owners, engineers, and architects on projects.

- **New Educational Tools**
  New, more interactive and engaging tools to train and educate new and young professionals

Recommendations to Publishing & Education Council

Training and education, particularly for young professionals entering the industry is critically needed. Publishing and Education Council may consider:

- Leveraging emerging technologies and alternative formats to create training materials that may be more accessible for young professionals
- Developing additional training programs focused on HVAC fundamentals
- Adapting ALI courses to be region/country specific
- Developing resources to better educate the general public

Recommendations to Members Council

Acknowledging President Knight's theme of workforce development, many of the discussions centered around the need to engage with students and young professionals, supporting and encouraging them in their career journey in the built environment. Members Council may consider:

- Developing programs that focus on showing students (K-12, post-High including trade/technical schools) the impact they can have by choosing careers in the built environment
- Encouraging chapters to include technical training on HVAC fundamentals
- Encouraging collaboration with other industry organizations
- Exploring alternative training options, such as podcasts, videos, hands-on technical tours
- Developing a program to help facilitate internships for engineering students

Recommendations to Technology Council

Decarbonization, IEQ and refrigerant regulations are issues that members at all levels need guidance on. Technology Council may consider:

- Continuing to develop resources and practical guides on decarbonization, IEQ and refrigerants for manufacturers, design professionals, contractors, building owners/facility managers and building scientists

- Providing guidance on how emerging technologies like AI can be used to improve productivity and optimize system performance

- Providing more opportunities for technicians/operators to get involved in ASHRAE

ASHRAE Strategic Planning:
Strategic Plan & Initiatives

December 2024

McKinleyAdvisors

Draft Strategic Plan

McKinleyAdvisors

MISSION STATEMENT | 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.

ORGANIZATIONAL VALUES | Collaboration, Commitment, Diversity, Excellence, Integrity, Volunteerism

2025 – 2028 Strategic Goals	Objectives
1. ASHRAE **leads globally** in advancing solutions to improve IEQ and address climate change	a. Lead the development of widely adopted standards to support indoor environmental quality, decarbonization, and resilience. b. Develop alliances and diverse working groups that position ASHRAE to lead and collaborate globally in identifying challenges, defining solutions, and developing approaches to address them. c. Develop resources based on member needs and industry trends.
2. Pursue **impact-focused engagement** - targeting stakeholders to support a strong workforce and maximize utilization, adherence, and trust of ASHRAE's global expert resources	a. Tailor and target engagement and resources to ASHRAE members and defined key stakeholders b. Provide guidance to targeted stakeholders on impactful ways to maximize the positive downstream effect of their engagement on the built environment c. Empower professionals in their journey to maximize industry impact in support of ASHRAE's mission and vision d. Pursue partnerships to amplify the impact of ASHRAE's mission and support the HVAC&R and built environment workforce.
3. Increase the **accessibility** of ASHRAE content, resources, and member opportunities	a. Identify and address structural, content, and financial barriers to access b. Align communication and delivery methods and formats to enhance accessibility and effectiveness of content, resources, and volunteer opportunities c. Strengthen communication channels with and through chapters and regions to empower contribution to the Society as thought partners in adapting resources to local context and needs

Outcomes

ASHRAE's member and volunteer base maximizes the organization's reach, foresight, leadership position, and organizational knowledge.	A broad group of stakeholders leverage ASHRAE's resources to make decisions and meet objectives that positively affect the environment.	A viable, thriving industry makes a positive global impact.

Key Enablers

Research: The value of ASHRAE's resources is grounded in unbiased data, developed through rigorous research methods.	**AI**: The use of AI enables ASHRAE to improve data collection, automate internal operations, and promote agility.	**Global Network**: ASHRAE's global network convenes the industry to generate unparalleled knowledge and content.

Draft Strategic Initiatives

McKinleyAdvisors

Strategic Initiatives

Healthy, Sustainable and Resilient Communities

Empowered Workforce

Organizational Agility

Emerging Technologies

Healthy, Sustainable and Resilient Communities

Providing a healthy, productive and resilient indoor environment, while minimizing greenhouse gas emissions, is critical to today's built environment. Further, global stakeholders' leveraging of ASHRAE's standards and technical resources presents an opportunity for ASHRAE to solidify global leadership in supporting healthy, sustainable and resilient communities. ASHRAE prioritizes timely identification of industry trends, expedient content development, and forges key partnerships to advocate and collaborate with industry.

Empowered Workforce

The development of a skilled, competent, and solutions-oriented workforce is critical to addressing the challenges facing the built environment and the HVAC&R industry, today and in the future. ASHRAE continues to provide educational and professional development resources. Our members and industry partners need these tools to implement key initiatives such as decarbonization, resiliency, and indoor environmental quality goals and policies. ASHRAE, with the support of our chapters and regions, partners with key industry stakeholders in tackling the unique workforce challenges facing the industry globally.

Organizational Agility

ASHRAE's ability to serve communities, the industry, the current and future workforce, and provide value to its volunteer members, is dependent on forward-looking products, services, and solutions. ASHRAE will use emerging technologies to support the development of resources and knowledge flow between ASHRAE’s chapters, regions, technical bodies, and the industry, harnessing organizational and operational efficiencies.

Emerging Technologies

In today's rapidly evolving landscape, emerging technologies are revolutionizing the built environment and HVAC&R industry, expanding numerous career opportunities. By combining technological advancements such as AI with human creativity, both seasoned professionals and new talent can collaborate to drive industry-wide progress. Advanced automation and AI-enabled systems propel energy efficiency and smart buildings, enhance comfort and IEQ, improve operations and maintenance, and deliver holistic and sustainable solutions for industry professionals. ASHRAE engages in a thoughtful process to evaluate and prioritize opportunities to leverage new technologies.

Emerging Trends and Research Gaps in Environmental Health

2025

An Environmental Health Committee Report to ASHRAE Technology Council

This report is prepared as a part of the MBO's assigned to Environmental Health Committee. Based on the feedback from the members of the EHC a list of recent trends and research gaps in the environmental health field and their impact on HVAC&R industry was prepared.

Microplastics as a source of particulate matter

Microplastics are an emerging environmental contaminant found in air, water, soil, and biota. Despite rising concern over their potential health and ecological impacts, the absence of standardised methods for sampling and analysis remains a major barrier to understanding their distribution, abundance, and effects. Current techniques vary widely depending on the sample matrix, particle size, and study objectives, with methods including enzymatic digestion, spectroscopic analysis, forensic fiber techniques, and thermal decomposition.

No single analytical approach is suitable for all environmental conditions, and even similar sample types may require different processing depending on characteristics such as particle density or organic content. Given this complexity, harmonization—rather than full standardization emerges as a more achievable short-term objective. Harmonization focuses on using consistent reporting units, quality control protocols, and transparent documentation of analytical procedures.

This allows data comparability across studies and supports monitoring of spatial and temporal trends in microplastic pollution. It supports future regulatory standards, particularly in sectors such as water treatment and public health. Collaborative method development and shared best practices will be essential to advance the field.

Chlorine flushing as a source of chloroform

Chloroform, a volatile disinfection byproduct formed during the chlorination of water, is now recognised as an indoor air pollutant of concern. Recent studies have shown that routine use of chlorinated water in homes—particularly during activities like showering, washing, or cooking—can release chloroform into the indoor environment through volatilisation. This process can be intensified during chlorine flushing of water distribution systems, a standard maintenance practice aimed at ensuring water safety. Studies show

indoor chloroform concentrations may exceed outdoor levels by up to tenfold, posing potential inhalation risks.

Evidence suggests that chloroform emissions during residential water use are not only common but also underreported. In some cases, indoor exposure may surpass that from drinking water ingestion. Elevated concentrations have also been documented in facilities using chlorinated water, such as swimming pools and laundries. As concern grows over indoor air quality, chloroform emissions from municipal water treatments and household activities represent an emerging trend in environmental health research, highlighting the need for better ventilation strategies and exposure risk assessments.

Wildfires

Recent research highlights the varying health impacts of particulate matter (PM) produced by wildfires, depending on the materials burned. While vegetation fires generate organic carbon particles, wildfires that consume buildings, vehicles, and other urban infrastructure release more complex and potentially more hazardous pollutants. These may include heavy metals, volatile organic compounds, and synthetic chemicals not typically present in natural biomass.

This variability in composition suggests that not all wildfire smoke poses equal health risks. In urban-interface fires, the inhalation of toxic combustion products may have more severe respiratory and systemic health effects compared to exposure to smoke from forested areas. As climate change increases both the frequency and scale of wildfires, understanding the source-specific toxicity of emitted particulate matter is becoming a critical area of public health research and regulatory concern.

Using Disability Adjusted Life Years for justifying and setting standards

Over the past few decades, the field of public health has developed a unified metric of harm called the Disability Adjusted Life Year, or DALY, that includes both quality of life lost to illness or disease and life lost to premature death. DALYs are now the standard metric for evaluating public health programs, international aid, and government regulations. IEQ researchers and ASHRAE standards committees are now starting to use DALYs in their work. DALYs solve two problems for us:

First, DALYs can help justify IEQ standards. We can show that improving IAQ prevents harm, i.e. 'purchases' life and health, for a good price compared to other health regulations. This is true even in situations where improved standards are not profitable for business owners.

Second, DALYs can be used to make better standards. At minimum, we can use them to set thresholds based on the harm that a contaminant would cause. The cutting edge of standards, as demonstrated in the revised 62.2 Standard, is to define good IEQ as

minimizing the total harm caused, and create a 'harm budget' that the environment cannot exceed.

Sensors

In 2025, the deployment of real-time air quality monitoring devices within buildings is becoming standard practice for new, and existing, buildings (during renovations). The combination of real-time monitoring, smart ventilation, and predictive modeling is a game-changer for indoor and outdoor air quality management. With open data platforms aggregating sensor data, it also enhances transparency and public awareness. These devices, when integrated with smart ventilation systems, can provide tenants with assurance of a healthy indoor environment. These advancements will directly impact building regulations, sustainability initiatives, or tenant well-being.

The integration of real-time data collection and advanced modelling techniques is revolutionizing the scope of air quality monitoring. With the proliferation of open data platforms and networks of sensors deployed across urban and rural areas, it is now possible to compile live measurements from numerous devices. These datasets feed into sophisticated models that provide a comprehensive understanding of air quality over a large area. Such developments empower governments, researchers, and the public with the ability to track pollution levels dynamically, to predict air quality trends, and to develop effective mitigation strategies. New research using the data obtained from sensors will enhance understanding and use of controls, and will enable building owners to control the indoor environmental quality in their buildings. Sensor accreditation, currently underway at the American Industrial Hygiene Association Laboratory Accreditation Program (AIHA LAP), will become important since there is currently no formal, recognized process to validate the performance of direct-reading sensor devices. This validation will potentially undermine the health and safety of the individuals they intend to protect.

Sensor networks are increasingly being integrated with artificial intelligence (AI) platforms. These systems combine real-time data with predictive modelling, occupancy patterns, and weather forecasts to optimize building operations. However, concerns remain over algorithm transparency, data privacy, and the real-world validation of AI tools. Formal testing protocols and performance standards are needed to ensure health and safety are not compromised.

As these technologies develop, collaboration between environmental health researchers, building engineers, and AI specialists will be essential to ensure that both sensor data and AI systems support healthier indoor environments.

Heat Stress

Rising global temperatures are increasing the frequency and severity of heatwaves, with significant implications for vulnerable populations indoors. While thermal comfort and

temperature thresholds are well established in building design, there is growing interest in early biomarkers of physiological heat stress, particularly in settings such as schools, care homes, and hospitals.

Heat shock proteins (HSP70, HSP90) are consistently upregulated in response to elevated core body temperature and cellular stress. They are detectable in blood, saliva, and potentially urine, and rise before clinical symptoms appear. Their use as early warning indicators is well supported by studies in occupational and athletic settings. Other markers—such as cortisol, inflammatory cytokines (IL-6, TNF-α), and oxidative stress indicators—may complement this molecular profile, offering a fuller picture of subclinical stress during heat events.

There is an opportunity to integrate physiological screening with environmental monitoring. A pilot study could track HSP70 levels in children or elderly individuals during a heatwave, alongside hydration, symptoms, and indoor environmental data. This could support the development of heat stress risk tools for caregivers, enabling targeted interventions before occupants become clinically unwell.

These developments underline the need for better integration between building performance metrics and occupant health monitoring, especially as climate change intensifies thermal exposure risks indoors.

Novel Airborne Diseases

Health agencies are increasingly focused on several emerging airborne disease threats. A key concern is the recent mutation of avian influenza A (H5N1), with cases in North America showing changes that could increase transmissibility to humans. Risk remains low, but pandemic potential requires ongoing monitoring.

Human metapneumovirus (HMPV), a respiratory virus similar to RSV, is also drawing attention due to rising cases in China and the U.S. Although seasonal, spikes in infections and severity—particularly among children and older adults—suggest the need for enhanced surveillance.

In Central Africa, an unidentified illness dubbed ‘Disease X’ has raised alarm. This illness affects primarily young children, and the symptoms include fever, cough, and severe anemia. Its cause and transmission route remain unknown, but potential airborne spread is under investigation.

Finally, the World Health Organization has revised its definitions of airborne transmission to better guide responses to both familiar and novel pathogens. Together, these developments reflect growing concern about the adaptability of respiratory viruses, underscoring the importance of early detection, global coordination, and preparedness for future outbreaks.

Fungal Pathogens and Indoor Risk

Candida auris is an emerging fungal pathogen of global concern. Since its first identification in 2009, *C. auris* has caused difficult-to-control outbreaks in hospitals across five continents, including in several EU countries. Spain and the UK have reported hundreds of cases, many linked to nosocomial transmission in intensive care settings. *C. auris* is often resistant to multiple antifungal drug classes and can persist on surfaces and equipment, making it highly suited to healthcare environments.

Recent research supports the hypothesis that *C. auris* emerged from environmental origins, potentially accelerated by global warming. Wild-type isolates from the Andaman Islands differ genetically and phenotypically from clinical strains—showing slower growth at mammalian temperatures and lower antifungal resistance. This supports the idea that thermal adaptation, in response to rising global temperatures, allowed *C. auris* to cross the endothermy barrier (the high body temperature of mammals and birds restricts many fungal species, making them less likely to cause infections) and become pathogenic to humans.

In the EU, outbreaks have demonstrated the organism's potential for rapid intra- and inter-facility spread. Laboratory misidentification, limited decolonization strategies, and persistent environmental contamination all contribute to outbreak difficulty. The ECDC recommends targeted infection control measures, including screening, isolation, and rigorous disinfection with fungicidal agents. Many member states have yet to fully implement surveillance systems or reference laboratory capacity.

The emergence of *C. auris* highlights a broader concern: fungal pathogens with environmental reservoirs and high thermal tolerance may become increasingly common in buildings. Indoor environments that serve vulnerable populations—especially hospitals and care homes—should monitor emerging fungal risks as climate trends, antifungal use, and healthcare practices continue to evolve.

Second Hand Emissions from Non-Tobacco Sources

Second-hand exposure to smoke from non-tobacco sources, such as marijuana and hookah, is now an emerging health concern. While tobacco smoke is known for indoor air pollution and health risks, recent studies show that marijuana smoke may produce even higher levels of fine particulate matter ($PM_{2.5}$). Some studies indicates that second-hand marijuana smoke can emit over three times more $PM_{2.5}$ than tobacco cigarettes, raising concerns about respiratory and cardiovascular risks for bystanders, particularly in poorly ventilated spaces.

Similarly, hookah use generates substantial second-hand smoke exposure. A single smoking session can emit significant quantities of pollutants including carbon monoxide, volatile organic compounds, and particulates. Despite the water filtration process, emissions from hookah smoke still contain harmful substances that can linger in indoor environments, affecting non-users nearby.

These findings challenge the perception that non-tobacco smoking is less harmful and point to a need for updated health policies. As social and legal norms around marijuana and hookah evolve, understanding and addressing second-hand exposure risks is becoming more important for indoor air quality management and health protection.

Tradeoffs between De-carbonization, Energy Efficiency, and Indoor Environmental Quality

Balancing sustainability goals with indoor environmental quality (IEQ) is an emerging challenge in building design and environmental health. De-carbonization and energy efficiency measures are accelerating, but they do not always align with efforts to protect occupant health. This tension is increasingly recognized and reflected in phrases such as '*Sustainability Without Compromise*', '*Healthy Energy Efficiency*', and '*Energy-Efficient IAQ*'.

Despite this attention, frameworks to evaluate and manage trade-offs between energy use, carbon reduction, and indoor environment quality remain limited. Progress will be difficult without clear principles that prioritize human health within sustainability targets. Collaboration between environmental health researchers, building scientists, and policymakers is needed to develop standards that safeguard both planetary and human health.

CERTIFICATE

of

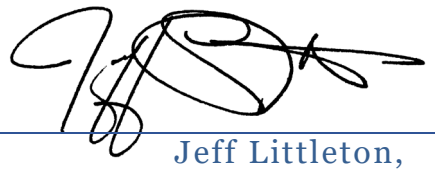
APPRECIATION

AWARDED TO

Norman Grusnick

Historical Committee
2024-2025

In grateful recognition of devoted service to the growth and progress of ASHRAE



Chandra Sekhar, 2024-25
Publishing & Education Council

Jeff Littleton,
ASHRAE Executive Vice President

JUNE 2025

CERTIFICATE

of

APPRECIATION

AWARDED TO

Joseph L. Furman

Handbook Committee
2024-2025

In grateful recognition of devoted service to the growth and progress of ASHRAE

Chandra Sekhar, 2024-25
Publishing & Education Council

Jeff Littleton,
ASHRAE Executive Vice President

JUNE 2025

CERTIFICATE

of

APPRECIATION

AWARDED TO

Blake Ellis

Research Journal Subcommittee
2024-2025

In grateful recognition of devoted service to the growth and progress of ASHRAE

Chandra Sekhar, 2024-25
Publishing & Education Council

Jeff Littleton,
ASHRAE Executive Vice President

JUNE 2025

CERTIFICATE

of

APPRECIATION

AWARDED TO

Kurt Monteiro

Publications Committee
2024-2025

In grateful recognition of devoted service to the growth and progress of ASHRAE

Chandra Sekhar, 2024-25
Publishing & Education Council

Jeff Littleton,
ASHRAE Executive Vice President

JUNE 2025

CERTIFICATE

of

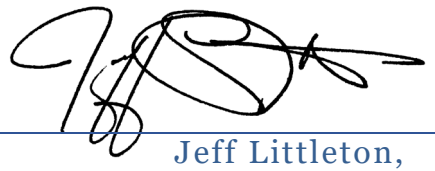
APPRECIATION

AWARDED TO

Suz Ann Arroyo

Certification Committee
2024-2025

In grateful recognition of devoted service to the growth and progress of ASHRAE



Chandra Sekhar, 2024-25
Publishing & Education Council

Jeff Littleton,
ASHRAE Executive Vice President

JUNE 2025

CERTIFICATE

of

APPRECIATION

AWARDED TO

Kimberly Pierson

Traning and Education Committee

2024-2025

In grateful recognition of devoted service to the growth and progress of ASHRAE

Chandra Sekhar, 2024-25
Publishing & Education Council

Jeff Littleton,
ASHRAE Executive Vice President

JUNE 2025