



Shaping Tomorrow's
Built Environment Today

MINUTES (DRAFT)
Environmental Health Committee (EHC)
June 27, 2022 - Annual Meeting

These minutes have not been approved and are not the official, approved record until approved by this committee

MEMBERS PRESENT:

Luke Leung, *Chair*
Nick Clements, *Vice-Chair*
Bill Bahnfleth
Brendon Burley
John Cohen
Mark Ereth
Rick Hermans, *BOD Ex-O*
Karel Kabele
Linda Lee
Claressa Lucas
Tim McGinn, *Coord. Officer*
Corey Metzger
Stephanie Taylor
Don Weekes
Marwa Zaatari

MEMBERS NOT PRESENT:

Junjing Yang

ASHRAE STAFF:

Steve Hammerling, *MoTS*
Stephanie Reiniche, *DoT*
Alice Yates, *DoGA*

GUESTS:

Billy Austin
Wade Conlan
Gabrielle Davis
Amir Ebrahimifakhar
Pat Fritz
Carl Grimes
Sarah Haines
Traci Hanegan
Elliott Horner
Rick Karg
Kishor Khankari
Josephine Lau
Frederick Marks
Sarah Maston, *Incoming Coord. Officer*
Stephanie Mayes
Meghan McNulty
Ken Mead, *Incoming Member*
Matt Middlebrooks
Brittany Moser
LanChi Nguyen-Weekes
Andy Persily
Jim Ridenhour
Larry Schoen
Mick Schwedler
Chandra Sekhar
Max Sherman
Dennis Stanke
Walt Vernon
Iain Walker
Pawel Wargocki
Martin Weiland
Steve Welty
Jensen Zhang

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MOTIONS

| No. | Motion | STATUS |
|------------|--|---------------|
| 1 | that EHC initiate a request for an MTG and recruit a list of interested committees that would participate on MTG, develop scope of work, and a list of parameters that would be addressed in an IEQ audit. | PASSED |
| 2 | that EHC approved the EIB on Dynamic Thermal Environment. | PASSED |
| 3 | to co-sponsor program related to work, history and accomplishments of MTG.HWBE and what ASHRAE can do to broaden awareness. | PASSED |
| 4 | that \$500 from EHC budget be made available for EHC member, Stephanie Taylor, to participate in IEQGA interview event. | PASSED |
| 5 | that EHC co-sponsor the TC 3.6 PTAR on state secondary disinfection requirements for resubmission to RAC. | PASSED |

LIST OF ATTACHMENTS

| No. | Attachment |
|------------|---------------------------------|
| A | MBOs 2020-2021 |
| B | BOD Ex-O presentation |
| C | Dynamic Thermal Environment EIB |
| D | GAC report to EHC |

LIST OF ACRONYMS

| | |
|--------|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| AHAM | American Home Appliance Manufacturers |
| AiCARR | Italian Association of Air Conditioning, Ventilation and Refrigeration |
| AIHA | American Industrial Hygiene Association |
| AIVC | Air Infiltration and Ventilation Centre |
| ASA | Acoustical Society of America |
| ASHRAE | American Society of Heating, Refrigerating and Air-conditioning Engineers |
| A&WMA | Air & Waste Management Association |
| BOD | Board of Directors |
| CNV | Chair Not Voting |
| CO2 | Carbon Dioxide |
| DRSC | Document Review Subcommittee |
| EHC | Environmental Health Committee |
| EIB | Emerging Issue Brief |
| ETF | Epidemic Task Force |
| ExO | Ex-Officio |
| FAC | Filtration and Air Cleaning |
| GAC | Government Affairs Committee |
| HWBE | Health & Wellness in the Built Environment |
| IAQ | Indoor Air Quality |
| IAQA | Indoor Air Quality Association |
| IAQP | Indoor Air Quality Procedure |
| IEQ | Indoor Environmental Quality |
| IEQ-GA | Indoor Environmental Quality Global Alliance |

| | |
|--------|---|
| IICRC | Institute of Inspection Cleaning and Restoration Certification |
| ISHRAE | Indian Society of Heating, Refrigerating and Air Conditioning Engineers |
| ISIAQ | International Society of Indoor Air Quality and Climate |
| MBO | Management by Objectives |
| MOP | Manual of Procedures |
| MTG | Multi-disciplinary Task Group |
| PD | Position Document |
| PES | Project Evaluation Subcommittee |
| PMS | Project Monitoring Subcommittee |
| PTAR | Publication Topic Acceptance Request |
| RAST | Reactive Air and Surface Treatment |
| REHVA | Representatives of European Heating and Ventilation Associations |
| ROB | Rules of the Board |
| ROS | Reactive Oxidation Species |
| RP | Research Project |
| SIE | Society for Indoor Environment |
| SGPC | Standing Guideline Project Committee |
| SSPC | Standing Standard Project Committee |
| SY | Society Year |
| TC | Technical Committee |
| TPS | Title Purpose and Scope |
| UL | Underwriters Laboratory |
| VRP | Ventilation Rate Procedure |
| WS | Work Statement |

ACTION ITEMS FROM 2022 ANNUAL MEETING

| No. | Responsibility | Action Item | Status |
|------------|-----------------------|---|---------------|
| 1 | Conlan | Conlan agreed to look into Journal review process and review comments for this article and report back to EHC | |
| 2 | Staff | send latest PD format to PD committee | |
| 3 | Clements | Wargocki invited Clements to send him the draft EIB and attend FAC PD Meeting | |
| 4 | Horner | Horner would develop the submittal details and submit before deadline | |

ACTION ITEMS FROM 2022 WINTER MEETING

| No. | Responsibility | Action Item | Status |
|------------|-----------------------|---|---------------|
| 3 | Burley | Reach out to outside health experts for ideas on next EHC seminar | |

ASHRAE Commitment to Care

The health and safety of all ASHRAE conference attendees is a top priority. Out of respect for our fellow attendees, we commit to wear masks indoors, monitor our health, seek medical attention if symptoms develop and adhere to all ASHRAE Commitment to Care protocols. We are committed to the well-being of one another.”

1. CALL TO ORDER & INTRODUCTIONS

Chair Leung called the meeting to order at approximately 2:30 PM EST. Members and guests introduced themselves. Quorum was confirmed.

2. ASHRAE CODE OF ETHICS COMMITMENT

In this and all other ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, integrity and respect for others, and we shall avoid all real or perceived conflicts of interests.

ASHRAE DIVERSITY AND INCLUSION COMMITMENT

ASHRAE is committed to providing a welcoming environment. Our culture is one of inclusiveness, acknowledging the inherent value and dignity of everyone. We proactively pursue and 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 people regardless of age, gender, ethnicity, physical appearance, thought styles, religion, nationality, socioeconomic status, belief systems, sexual orientation or education.

3. REVIEW OF AGENDA

Guest Max Sherman requested time on agenda for a presentation on Indoor Air Quality Standard / Contaminants of Concern under agenda item **5.D.b.**.

4. MINUTES

Minutes from Winter and Spring Meetings are already approved.

5. CHAIR’S REPORT (Leung)

A. Past EHC meetings since the 2022 Winter meeting:

- Feb. 24, 2022
- Mar. 23, 2022
- Apr 28, 2022
- May 26, 2022

B. Motions from Past Meetings

- a. Motion to initiate new ASHRAE PD on Human Health and Wellness in Built Environment [on DRSC agenda for TOR]
- b. Motion to co-sponsor WS-1928, *Improving test methods to measure air cleaner performance against airborne pathogens* [let Matt Middlebrooks know EHC sponsored. Burley volunteered for PES/PMS]
- c. to approve EIB on Increased Awareness of Health Impacts of Indoor PM2.5 and Need for Particulate Matter Control in Occupied Spaces [published to EHC page of website]

C. 2021-2022 Management by Objectives (MBOs)

MBOs will be discussed as they come up on agenda below. A summary of all MBOs will be reported to Tech Council (**Attachment A**).

D. Other

a. IEQ Building Assessment

Leung reminded EHC of earlier discussions for ASHRAE to develop an IEQ audit or assessment tool.

(1) it was moved (Weekes) and seconded (Burley) that EHC initiate a request for an MTG and recruit a list of interested committees that would participate on MTG, develop scope of work, and a list of parameters that would be addressed in an IEQ audit.

BACKGROUND: Interested groups might include SSPCs 55, 170, 62.1, 189.1, 300, TCs 1.12, 2.3, 2.4, 4.3, 2.5, SPGC 10, EHC and others.

MOTION 1 VOTE: 10-0-0 CNV – PASSES

Wargocki suggested developing a reference or benchmark as first step and agreed to share his presentation on benchmark (TAIL). Taylor and Sekhar noted they had examples as well.

Bahnfleth suggested looking at levels of audit, similar to energy auditing with levels I, II and III with various requirements, level of effort, equipment, number of measurements, follow up, etc.

b. Indoor Air Quality Standard / Contaminants of Concern (Sherman)

Sherman gave a presentation from a 62.2 IAQP working group looking at Approaches to IAQ Procedure for Standard 62.2 as an alternative to the ventilation rate procedure (VRP). A modified version of the presentation can be made available, please send Steve Hammerling a request.

6. VICE-CHAIR'S REPORT (Clements)

A. ROB/MOP/Reference Manual

Clements noted there were no changes to these documents proposed at this time.

B. Donald Bahnfleth Environmental Health Award

Congratulations to Yuguo Li who was invited to receive the Environmental Health Award here in Toronto. The deadline for nominations for next year's award is **November 1, 2022**.

C. 2022-23 MBOs

Clements will develop next year's MBOs and send out to EHC in July and discuss at first EHC meeting. They are to be finalized in August.

7. BOARD OF DIRECTORS (BOD) EX-OFFICIO (EXO) & COORDINATING OFFICER REPORT

A. BOD EX-Officio - Hermans

Hermans gave the Ex-O presentation (**Attachment B**).

B. Coordinating Officer - McGinn

Coordinating Officer McGinn addressed EHC and thanked all for their work.

ASHRAE President Mick Schwedler thanked EHC as well for helping to quickly establish the ASHRAE ETF. The impact and service to humanity and the world was truly great.

8. SUBCOMMITTEE REPORTS

A. Policy Subcommittee (Hermans)

1. Position Documents

a. Infectious Aerosols PD

The PD committee approved a draft and sent to EHC/DRSC/TechC and BOD for review and comments on May 21. Comments were due June 3 and have been collected and sent to PD committee to address. Vernon reported that the PD committee has started to review and is meeting tomorrow in Toronto. The goal is to consider for approval before the fall.

b. Indoor Carbon Dioxide PD

This PD was approved by BOD and published on the ASHRAE website. Sherman noted recent article in the ASHRAE Journal on indoor carbon dioxide didn't reference or comply with this new ASHRAE PD on the subject. It was noted that at least two reviewers recommended it be rejected but it was published without resolution of comments. EHC suggested a counterpoint letter to editor on the article. Bahnfleth is considering writing one. Conlan agreed to look into Journal review process and review comments for this article and report back to EHC (**Action Item 1**).

c. Filtration and Air Cleaning PD

Wargocki noted that the PD committee is meeting periodically but is in early stages. Staff was asked to send latest PD format to PD committee (**Action Item 2**).

d. Human Health and Wellness in Built Environment PD

EHC approved a proposal for a new PD on Human Health and Wellness in Built Environment in response to recommendations of MTG.HWBE. The proposal is on the Document Review Subcommittee (DRSC) agenda. If approved the proposal will be sent to Tech Council and BOD Ex-Com.

2. Emerging issue briefs

a. Retire or revise any current *emerging issue briefs* (EIBs)?:

None of the currently published EIBs were retired or revised:

- Increased Awareness of Health Impacts of Indoor PM2.5 and Need for Particulate Matter Control in Occupied Spaces" (April 2022)
- Increasing Dogs in Office (September 2021)
- Pandemic COVID-19 and Airborne Transmission
- Electronic Nicotine Delivery Systems (ENDS) in Indoor Environments (July 2018)
- Potential Microbial Contaminants in Biowall Water and Soil Systems (April 2018)
- Indoor Passive Panel Technologies for Air Cleaning in Buildings (July 2016)
- Nano Environmental Health and Safety (nanoEHS) (January 2016)
- Ozone and Indoor Chemistry (January 2011)
- Biological agents and airborne transmission (January 2010)

b. New EIBs

- Dynamic Thermal Environment

(2) It was moved (Weekes) and seconded (Bahnfleth) that EHC approved the EIB on Dynamic Thermal Environment.

BACKGROUND: The EIB is included as **Attachment C**.

MOTION 2 VOTE: 10-0-0 CNV – PASSES

- Reactive Oxidation Species (ROS)
Clements noted a draft of this EIB is posted on EHC basecamp but asked for a volunteer to lead. Wargocki noted the Filtration and Air Cleaning PD committee is discussing this topic as well and will likely have a position on this, so all should assure there is consistency. Wargocki invited Clements to send him the draft EIB and attend FAC PD Meeting (**Action Item 3**).

B. Education Subcommittee (Burley)

1. EHC programs for Annual Meeting:
No programs were submitted for Toronto.
2. EHC proposals for Winter Meeting:
Debate, Panel, Seminar Form, Workshop Proposals due Aug. 9

Horner asked EHC sponsorship of a panel to summarize work of MTG.HWBE.

- (3) It was moved (Burley) and seconded (Weekes) to co-sponsor program related to work, history and accomplishments of MTG.HWBE and what ASHRAE can do to broaden awareness.

BACKGROUND: SSPC 62.1 will co-sponsor

MOTION 3 VOTE: 11-0-0 CNV – PASSES

Horner would develop the submittal details and submit before deadline (**Action Item 4**).

3. ASHRAE Journal IEQ Applications Column
Cohen noted there were two IEQ Applications columns published since last meeting. One was related to Indoor CO2 and another on Health and Wellness in the Built Environment.

There are two other ideas in the queue but no draft articles so more articles/authors are sought. Some ideas were mentioned:

- Burley to write article related to 62.1 standards and health.
- Bahnfleth – retrospective on impact of ETF (for Sept)
- IGF and indoor air quality
- National academies – indoor chemistry report
- Role of testing in IAQ investigations (Ed Light) for Aug 8 deadline
- McNulty suggested column on new EHC EIB on PM2.5
- IAQ contributions to species jumping of viruses (S. Taylor) from animals to humans
- Climate Change, Indoor Environment and Occupant Health (C. Sekhar) – November
- 62.1's Enhanced IAQ. Guideline 42 – Weekes (2023 target)

4. Handbook Chapter
Next revision of F11 is due in 2024 for 2025 publication. A working group has been meeting and developed a list of recommend changes. Team will be seeking volunteers soon to develop changes to text.

5. Online short presentations/seminars to EHC and beyond
Last society year, the following presentations were given:

- January 8, 2021 – 1st ETF seminar to EHC
- May 13, 2021 - 2nd ETF seminar to EHC
- June 25, 2021 - 3rd EHC seminar on “*Attitude and Technology Changes as A Result of Covid for the Reopening of Buildings*”

Burley will consider presentations from Toronto program to bring to EHC for a possible online seminar. RP1780 may be of interest, related to transfer of contaminants across enthalpy wheels.

C. Coordination and Outreach Subcommittee (Weekes)

1. IEQ-GA (Weekes/Bahnfleth)

ASHRAE continued to participate in the IEQ-GA with Bill Bahnfleth as the ASHRAE representative. The IEQ-GA is now finalized as a legal entity and operates with 11 full member organizations (ACGIH, AICARR, AIHA, AIVC, ASA, ASHRAE, FAIAR, FEDECAI, IICRC, ISHRAE, REHVA). There are two other affiliate associations (MAIQC, SIE). The IEQ-GA has held webinars, podcasts and is planning a publication. All are invited to listen and participate. Corey Metzger will serve as ASHRAE’s representative on the IEQ-GA in 2022-23.

Corey Metzger and an ASHRAE alternative were appointed by BOD as ASHRAE representatives to IEQ-GA. They did not ask for recommendation from EHC.

IEQ-GA is holding a General Assembly and BOD meeting in Toronto tomorrow. IEQ-GA is seeking an ASHRAE participant for their webcast and Stephanie Taylor agreed. The cost to ASHRAE to have a member participate is \$500.

- (4) It was moved (Weekes) and seconded (Bahnfleth) that \$500 from EHC budget be made available for EHC member, Stephanie Taylor, to participate in IEQGA interview event.

BACKGROUND: healthyindoors.com. 9 currently available.

MOTION 4 VOTE: 11-0-0 CNV – PASSES

2. ASHRAE Epidemic Task Force (Bahnfleth)

The ASHRAE Epidemic Task Force (ETF) held their 31st and final meeting. Their current task is to write a final report and coordinate transitioning guidance with various ASHRAE TCs, PCs, etc. A new EHC subcommittee will overtake much of work, oversee implementation and close ongoing efforts. Challenge now to maintain attention and engagement in ASHRAE activities.

3. IAQ 2020 Conference (Bahnfleth)

The IAQ 2020 Conference, *IEQ Performance Approaches, Transitioning from IAQ to IEQ*, took place May 4-6, 2022 in Athens, Greece as a hybrid meeting. Chair’s Bill Bahnfleth and Max Sherman co-organized the ASHRAE, AIVC and IEQ-GA event. There were 128 papers accepted from 395 abstracts. Selected authors will be invited to expand their conference papers for consideration of inclusion in a special edition of the STBE. EHC plans to help organize the next IAQ conference in 2025.

4. Interaction with outside organization that impact EH or IAQ

The ACGIH industrial ventilation conference was held ahead of ASHRAE conference in Toronto. This conference was co-organized with ASHRAE. It is held every three years, and this was the 30th conference. There is a lot of overlap in the work of the two organizations and ACGIH is looking forward to working more closely with ASHRAE.

5. Current EHC sponsored or co-sponsored research
 - RP-1579 - *Testing and Evaluation of Ozone Filters for Improving IAQ* (Bohanon)
This project is still ongoing. No updates
 - WS 1928, *Improving test methods to measure air cleaner performance against airborne pathogens*
EHC voted earlier in year to cosponsor this project. Burley is PES/PMS representative. Middlebrooks is attending meeting later and can update EHC on latest status.

9. LIAISON ACTIVITIES

A. GAC (McNulty)

McNulty presented a report (**Attachment D**) to EHC with the following questions:

Questions for EHC

- Has there been consideration of elevating EIBs after creation? If EIBs are board-approved, they are easier to use for government outreach. Perhaps as a second step after EIB creation, so as to not slow down EIB process.
- Requesting updates on GAC 2021 Winter Meeting Motions:
 - “That the GAC recommend to Technology Council that the ASHRAE Position Document on Environmental Tobacco Smoke shall be amended and expanded with regards to cannabis smoke and electronic nicotine delivery.”
 - “That the GAC recommend to Technology Council that the ASHRAE Position Document on Indoor Air Quality shall be amended to make further reference to natural ventilation systems in emerging economies, and ASHRAE shall provide further guidance and design guides specific to natural and traditional ventilation systems.”

The report also includes updates on GAC progress in SY21-22, EHC relevant outreach events, letters and testimony. Noted one of ASHRAE’s SY22-23 Public Policy Priorities is to ‘Promote Healthy Buildings and Reduce Indoor Environmental Risks.

B. Standard 62.1

Burley noted the committee was considering publication public reviews on ozone generating devices (ozone generating devices) and humidity limits related to evaporative cooling technologies.

Advisory public reviews are being considered related to returning to relative humidity versus dew point limit for mechanically cooled buildings. The SSPC is seeking feedback on how these limits should be set with currently available technology considering occupants.

A public review of an addendum was approved related to increased outside air ventilation rates based on air densities at high elevations.

C. Standard 188 (Lucas)

Lucas noted there are UMC/UPC appendices out for public review that conflicted with 188. Code Interaction Subcommittee drafted a response to their public review.

Cohen noted there was a TC 3.6 PTAR to review U.S. state requirements for secondary disinfection and to make a list of requirements with a directory on how to find this information in each state. Currently states enforce these requirements differently and many states know little about what their requirements are and how to enforce.

(5) It was moved (Cohen) and seconded (Lucas) that EHC co-sponsor the TC 3.6 PTAR on state secondary disinfection requirements for resubmission to RAC.

MOTION 5 VOTE: 11-0-0 CNV PASSES

Yates noted GAC may wish to co-sponsor as well and will follow up with Cohen.

D. Standard 55

No liaison to Standard 55 committee was on the call. It was noted there is an RP proposal on clo ratings in medical environments. EHC may wish to engage standard 55 related to EIB on dynamic thermal comfort issues within the standard.

E. Standard 62.2

Sherman noted there are addenda related to ozone and UL 2988 requirements, restrictions on unvented combustion appliances that were voted for publication by SSPC.

F. Guideline 10

SPGC chair Grimes noted there will be draft changes out for public review after the Toronto meeting. Asked EHC and all to participate.

G. Standard 170

Burley noted this SSPC has not met yet in Toronto

H. Guideline 42P committee

Horner noted this committee met Friday and aims to get out for public review in next two months.

I. MTG on Health and Wellness

This MTG was formally disbanded. EHC is continuing some recommended work but can remove from agenda going forward.

J. MTG.ACR Air Change Rate

Khankari submitted report before the meeting:

Program

MTG.ACR has sponsored this seminar.

Seminar 52: Without Ventilation Effectiveness, Air Change per Hour Is Just a Number

Wednesday, June 29, 11:00 AM – 12:30 PM EDT, Sheraton Centre Toronto, Grand East (LC)

<https://events.rdmobile.com/Lists/Details/1374328>

Research

RP 1833: Literature Review for Evidence of the Basis for Specified Air Change Rates (ACR) for Cleanrooms, Laboratories, laboratory animal facilities, and health care facilities with medium to high ACR. Final report is under review by PMS

WS-1936: Evaluating the relationship of air change rate (ACR) and ventilation performance in laboratories, clean rooms, and industrial spaces. Draft of the work statement is ready. Price Industries has agreed to co-fund this project.

Publications

A white paper on air change rates is being prepared by a subcommittee.

K. MTG.VIC Ventilation for Infection Control (*Hermans*)

Hermans noted this MTG is meeting tomorrow to discuss the research agenda report to ETF.

L. TG2.RAST (*Zaatari*)
Met in May. Next July 6 (virtual)
committee voted to approve TPS for standard they are developing. Will be presented to other committees.
Cohen noted balance issues have been resolved.

M. Others
Sekhar noted Guideline 45P, *Measurement of Whole Building Performance for Occupied Buildings except Low-Rise Residential Buildings*, may be of interest to team leading development of IEQ audit.

Lee is on SSPC 185.3P, *Method of Testing In-Room Devices and Systems for Microorganism Removal or Inactivation in a Chamber*. She reported that AHAM AC5 changed their TPS to focus on commercial/industrial versus residential applications. Changes to the 185.3P TPS will go to committee for approval.

10. NEW BUSINESS

A. 1928 update

Matt Middlebrooks noted the WS 1928 was submitted to RAC for their consideration. It is expected that RAC will return with comments to address. Will return to EHC with comments to address when appropriate to develop revisions. Middlebrooks noted Chrystal Joliffe will assume leadership role in coordination of development and resubmission to RAC and coordinating with EHC.

B. NEXT MEETING

1. Late July virtual meeting– TBD
2. Monthly meetings - TBD
3. Winter Meeting, Atlanta, GA. February 6, 2023

11. HANDOVER TO NEW CHAIR

C. Recognize Outgoing Members

Outgoing members include chair Luke Leung and Karel Kabele. Clements thanked them for their commitment and work over their terms on EHC.

D. Recognize Incoming Members

Clements welcomed incoming members Osama Khataya, Ken Mead & Farhad Memarzadeh noting he was looking forward to working with new members.

E. Subcommittee Assignments

Clements will make subcommittee chair assignments shortly and begin to recruit members. He plans on continuing the monthly meetings of EHC for the upcoming year.


F. 2022-2023 MBOs (Clements)

Nick to send MBOs out to EHC when completed. Due in early Aug. so July meeting may be target to discuss w EHC and complete.

12. ADJOURNMENT

EHC adjourned at 545 PM EDT. All attendees were thanked for their participation.

| Administration (Leung/Clements/Hammerling) | | | | | | | | | | | | | | | | | | | | |
|--|--|---|----------------------------------|-----|---------------------------|--|----|---|----|----|---|---|---|---|---|---|---|----|---|---|
| 13 | | Review the EHC Scope and Manual of Procedures, recommend to maintain or to revise, present recommendation for new language at annual meeting | Potential changes in MOP, if any | 2,3 | 3 b | | No | This is to align the MOP with the latest strategic plan changes <i>ROB change approved December, sent to OPS at Winter Meeting.</i> | x | x | | | | | | | | | | x |
| 14 | | Develop new EIB for concerned items to be published in short order and on ASHRAE website. | # of EIB, if any | 1,2 | 1a, b; 2 c; 3 a, b, c | | No | <i>Two EIBs on Increasing Daps in Offices & Increased Awareness of Health Impacts of Indoor PM2.5 and Need for Particulate Matter Control in Occupied Spaces" (April 2022) approved. Two EIBs in development for second half of 2022 publication.</i> | x | x | | x | x | | | | x | x | x | x |
| 15 | | Develop priorities in the area of IEQ research based on review Society initiatives related to IEQ to identify gaps and overlaps and consults outside experts. | A report | 1,2 | 1 a, b; 2 b, c; 3 a, b, c | | No | This priority on IEQ gap is building on a document of IEQ research gaps from last year. <i>Met in November. EHC polled and prioritized research priorities.</i> | x | x | | x | x | | x | x | x | x | x | x |
| | | | | | | | | | 10 | 15 | 3 | 3 | 8 | 9 | 3 | 7 | 9 | 10 | 8 | 8 |



ASHRAE Leadership Presentation

1



ASHRAE Policies

Code of Ethics

"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 we shall avoid all real or perceived conflicts of interest."

Harassment and Discrimination Policy

ASHRAE strictly prohibits and does not tolerate discrimination against members or applicants for membership because of such individual's race, color, religion, age, sex, sexual orientation, national origin, physical or mental disability, pregnancy, genetic information, veteran status, uniformed service member status, or any other category protected under applicable law.

Commercialism

ASHRAE's Commercialism Policy allows for Society activities that fulfill the mission of technological advancement with adherence to business plans that generate income to offset operational expenses such as AHR Exposition, ASHRAE periodicals, website, and Society conference events such as the Welcome Party, luncheons, registration kits, and receptions. ashrae.org/commercialism

View ASHRAE Governing Documents at ashrae.org/about/governance

2



Nominations Needed!

Committee Nominations

- Due mid-February. Council, RAC, TAC, Standards and Handbook nominations are due mid-September.
- Speak with your committee ExO if your current appointment ends in June and you wish to be nominated for another committee.

Learn More about Technical and Society Level Committees
ashrae.org/committee-nominations

Honors & Awards Nominations


ASHRAE's awards fall into one of six categories:

- Personal Honors
- Personal Awards for General & Specific Society Activities
- Paper Awards
- Society Awards to Groups or Chapters
- Chapter and Regional Awards

Learn More and Nominate Someone Today
ashrae.org/honorsandawards

ASHRAE Technical Committees (TCs) and Volunteer Opportunities at ashrae.org/communities

3



ASHRAE Commitment to Care Statement


The health and safety of all ASHRAE conference attendees is a top priority.

Out of respect for our fellow attendees, we strongly recommend wearing masks indoors, to monitor our health, seek medical attention if symptoms develop and adhere to all ASHRAE Commitment to Care protocols.


We are committed to the well-being of one another.

View the full Commitment to Care at ashrae.org/2022Annual

4



ASHRAE Simplified Rules of Order & Quick Reference



Download the rules and quick reference
ashrae.org/communities/committees/society-rules-committee

NEW!

- Presented by the Society Rules Committee and BOD approved at the 2022 Winter Conference.
- Intent is to streamline meetings by providing simpler meeting guidance. Rules generally follow Roberts Rules of Order but are intentionally modified for the purpose of use in ASHRAE meetings.
- Councils and Committees are **expected** to be fully operational in the new meeting guidance beginning **July 1, 2022**.

These are big changes for our Society, and [we need your assistance to implement the approved changes at the Society and Chapter level.](#)

Questions or comments regarding the new rules of order and quick reference?
Contact boardservices@ashrae.org

5



President's Luncheon



Monday, June 27
12:15 – 2:00 pm

Securing Our Future

2022-23 ASHRAE President
Farooq Mehboob, Fellow Life Member ASHRAE

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World Refrigeration Day 

The Coolest Day of the Year
June 26, 2022

The day raises awareness of refrigeration, air conditioning and heat pumps and their role in modern society to a wider audience
 #coolingmatters

Learn More at worldrefrigerationday.org



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2022-23 Board of Directors 

Executive Committee

Through an elaborate committee structure, including committees and councils, ASHRAE policies are established by a **Board of Directors** comprised of Society members elected by the membership. Board members serve terms of one to three years, including the President who serves a one-year term.

President
 Farooq Mehboob, P.E., Fellow ASHRAE, Life Member Karachi, Pakistan

President-Elect
 Ginger Scoggins, P.E., Raleigh, North Carolina

Treasurer
 Dennis Knight, P.E., Fellow ASHRAE Mt. Pleasant, South Carolina

Vice Presidents

 Dunstan Macauley, P.E., HBDP Arlington, Virginia

 Billy Austin, P.E., BCxP, BEAP, HBDP, HFDP, GMP Charlotte, North Carolina

 Sarah E. Maston, P.E., BCxP Hudson, Massachusetts

 Ashish Rakheja Noida, Uttar Pradesh, India

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2022-23 Board of Directors 







Director and Regional Chairs

| | | | | |
|---|---|--|---|---|
| Region I  Steven C. Sill Sterling, New York | Region II  Ronald Gagnon Quebec, Canada | Region III  Mark Tome, P.E., HFDP Harrisburg, Pennsylvania | Region IV  Bryan Holcomb Oak Ridge, North Carolina | Region V  James Arnold, P.E. Dublin, Ohio |
| Region VI  Susanna Hanson La Crosse, Wisconsin | Region VII  Chris M. Gray, Ph.D., P.E., Atlanta, Georgia | Region VIII  Randy C. Schreengost, P.E., BEAP Austin, Texas | Region IX  Tyler J. Giesse, BCxP, BEAP Omaha, Nebraska | Region X  Devin A. Abellon, P.E. Los Angeles, California |
| Region XI  Eileen Jensen, P.E. Vancouver, Washington | Region XII  John Constantinos, P.E., Merritt Island, Florida | Region XIII  Cheng Wei Hong, P.E., Singapore | Region XIV  Andrés J. Espalverde Madrid, Spain | Region XV  Riche Mittal New Delhi, India |

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2022-23 Board of Directors 

Directors-at-large

| | | |
|--|--|--|
|  Wade Conlan, BCxP Maitland, Florida |  Blake Ellis, P.E. Overland, Kansas |  Dru Crawley, Ph.D., BEMP Washington, D.C. |
|  Kenneth Fulk Allen, Texas |  Art Giesler Colleyville, Texas |  Wei Sun, P.E. Ann Arbor, Michigan |
|  Kishor Khankari, Ph.D. Ann Arbor, Michigan |  Luke Leung, PE Clarendon Hills, Illinois |  Adrienne Thomle Reno, Nevada |

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Diversity, Equity, & Inclusion (DEI) in ASHRAE 

BOD Subcommittee created by the Board in January 2021



The purpose of the BOD DEI Subcommittee is to advise and engage the Board of Directors on:


- All matters relating to diversity, equity and inclusion - with a view to improving organizational awareness and performance in these areas amongst both staff and the Society membership
- The establishment of annual budgets for DEI program and ongoing initiatives
- The prioritization of inclusivity issues which have relevance to ASHRAE, together with plans for addressing these issues
- Potential DEI training modules for Chapters and Committees

Members of the BOD DEI Subcommittee
 Adrienne Thomle (Chair); Kishor Khankari (Vice Chair); Devin Abellon; Susanna Hanson; Wei Sun; Ashish Rakheja; Tanisha Meyers-Lise (Staff Liaison); Dunstan Macauley; Billy Austin; Dennis Knight; Farooq Mehboob (Consultant); Steven Sill

Download the Report
ashrae.org/DiversityEquityInclusion



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Task Force for Building Decarbonization 

Initiative of ASHRAE President and President-Elect, with the realization that our successful initiatives in building energy efficiency should be expanded to building decarbonization

- 15 members, Co-Chaired by Presidential Members Don Colliver and Tom Phoenix
- 9 working groups with over 100 international volunteers
- Positioned ASHRAE to tackle building decarbonization with the same level of importance and urgency as ASHRAE tackled energy efficiency during the energy crisis


SY2022-23 Evolution:

- TFBD ExCom to develop and implement strategic direction
- Operational Subcommittee to develop content for six guides
- Products and Services Subcommittee to oversee Web Site & Knowledge Hub, and Training & Education

Email questions or input to decarb@ashrae.org and learn more at ashrae.org/decarb

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Distinguished Lecturer




Do you want to be the next ASHRAE Expert in Building Decarbonization?

ASHRAE Distinguished Lecturer (DL) will share knowledge virtually and in-person with ASHRAE Chapters about topics related to building carbon footprint reduction.

Topics associated with building decarbonization include:

- Operational carbon
- Embodied carbon
- Building system electrification
- Building performance standards
- Grid-building intersection
- Appliance and equipment standards
- Site sequestration



Submit Nominations by December 1

To learn more, visit www.ashrae.org/dl

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Society Updates





Approved ByLaws Change: Full Member

ASHRAE Membership voted to approve changing the title of 'Member' grade to 'Full Member' grade to differentiate between those who have provided necessary education and professional background information to the Society in order to qualify as a Full Member grade.

Request to Advance to Full Member Grade
Associate and Affiliate members may request to advance to Full Member grade by updating their membership bio in their ashrae.org profile and notifying membership@ashrae.org.

View the latest Society Snapshot at ashrae.org/society-snapshot

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Nominations Needed!




Committee Nominations

- Due mid-February. Council, RAC, TAC, Standards and Handbook nominations are due mid-September.
- Speak with your committee ExO if your current appointment ends in June and you wish to be nominated for another committee.

ashrae.org/committee-nominations

Honors & Awards Nominations

ASHRAE's awards fall into one of six categories:

- Personal Honors
- Personal Awards for General & Specific Society Activities
- Paper Awards
- Society Awards to Groups or Chapters
- Chapter and Regional Awards

ashrae.org/honorsandawards

ASHRAE Technical Committees (TCs) at ashrae.org/communities

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Membership & Communities




Your Benefits ashrae.org/membership

New Member Benefit Selection

Full dues paying Full and Associate Members may select from the following complimentary annual member benefits:

- ASHRAE eLearning Course
- ASHRAE Standard (PDF)
- ASHRAE Handbook (PDF)

Visit ashrae.org/chapters to quickly find the chapters nearest you!

New Benefits for Employers and Members

10% Discount - Starting July 1
Employees who sign up 5 or more Employees in a single transaction receive a 10% discount.

Free Winter or Annual Conference
New full dues paying members who join after July 1 receive one complimentary registration to a Winter or Annual Conference to be used within the first two years of their membership.



Connect-A-Colleague
Invite peers to join ASHRAE and participate in committees using a pre-written email invitation at ashrae.org/connect

Your Community ashrae.org/communities



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Supporting ASHRAE's Mission

Research Promotion (RP)

The Research Promotion campaign supports ASHRAE Research, Education, YEA programs, Scholarships, Endowed Funds, the RP General Fund and Special Initiatives.

★ Thank You to all the donors and volunteers for your support during this challenging year.

Society Year 2020-2021 total raised: \$2,300,519

- \$1,769,785 in contributions for Research
- \$332,698 for ASHRAE Foundation
- \$134,666 for Scholarships
- \$63,370 for General Fund, YEA, and Education

ASHRAE Foundation Grants & Scholarships

The ASHRAE Foundation is an endowed trust that provides funding for professional development and research programs, supplies qualified engineering students with much needed scholarship assistance, and provides grants to help support the Society's vital work.

SY 2021-22



- 46 Society Scholarships totaling \$200,000
- 33 Chapter-Awarded Scholarships totaling \$54,000

ASHRAE Chapters provide an additional \$196,000 in scholarship support locally

Donate, Volunteer, Apply, and Learn More at ashrae.org/support

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Government Affairs

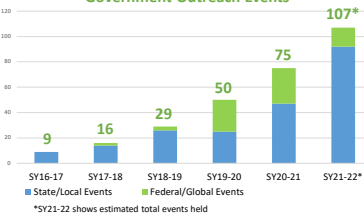



ASHRAE Government Affairs program works to establish ASHRAE as a leading source of trusted expertise for policy-makers in the development of legislation and regulations affecting the public and HVAC&R industry.

- The **Government Affairs Update** bi-weekly newsletter provides updates on government activities. Subscribe online or by emailing GovAffairs@ashrae.org.
- Government Outreach Events** connect ASHRAE volunteers with policy-makers.
- Letters, briefings, testimony, and comments are sent in support of ASHRAE's **Public Policy Priorities**: 36 sent this year.

Get Involved + Get Resources
ashrae.org/government-affairs

Government Outreach Events





SY16-17: 9 (State/Local)
SY17-18: 16 (State/Local)
SY18-19: 29 (State/Local)
SY19-20: 50 (State/Local)
SY20-21: 75 (State/Local)
SY21-22*: 107 (State/Local)

*SY21-22 shows estimated total events held

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Professional Development




| | | |
|---|---|---|
| <p>eLearning Convenient, on-demand courses for individuals or groups.</p> <p>90+ online courses starting at \$42 for members.</p> <p>Group Rates Available</p> <p>Updated Course Catalog: elearningcatalog.ashrae.org</p>  | <p>ASHRAE Learning Institute (ALI) Instructor-led courses in a variety of formats.</p> <p>See the Updated Schedule of In-Person and Virtual HVAC Design Courses!</p> <ul style="list-style-type: none"> Level I – Essentials Level II – Applications <p>NEW Courses Added to the Instructor-led Online Serie ashrae.org/onlinecourses</p> <p>Courses Available for ASHRAE Chapter, and In-Company Presentations.</p> | <p>Certification Validate and promote your expertise via online examination and digital badging.</p> <p>Building Design</p> <ul style="list-style-type: none"> Energy Modeling (BEMP) Healthcare Facility Design (HFDP) High-Performance Building Design (HPBD) HVAC Design (CHD) <p>Building Performance</p> <ul style="list-style-type: none"> Commissioning (BCxP) Energy Assessment (BEAP) Building Operations Operations & Performance Maintenance (OPMP) |
|---|---|---|

ashrae.org/professional-development






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Publications




Be on the lookout for updated Standards 90.1 and 62.1 later this year.

Recently published items available at ashrae.org/bookstore

| | | | |
|---|---|---|--|
|  <p>Designing for Operational Excellence—Intentional Design for Effective Operation and Maintenance</p> |  <p>Safety Standard for Refrigeration Systems in Residential Applications</p> |  <p>ASHRAE Standard 15.2: Safety Standard for Refrigeration Systems in Residential Applications (ANSI Approved)</p> |  <p>Lucy's Engineering Adventure</p> <p>Lucy's Engineering Adventure</p> |
|  <p>Principles of Heating, Ventilating, and Air Conditioning, Ninth Edition</p> |  <p>Advanced Energy Design Guide for Multifamily Buildings – Achieving Zero Energy (AEDG)</p> |  <p>DUCT SYSTEMS DESIGN GUIDE</p> <p>Duct Systems Design Guide</p> | |

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Resources



| | |
|---|---|
| ASHRAE Technology Portal | Provides a one-stop location for ASHRAE papers, articles, reports, Handbook PDFs, and seminar recordings. |
| Online Standards Database | Allows access to public review drafts for standards, guidelines, and addenda to submit comments, to do online balloting, and to submit proposals to standards and guidelines. |
| Zero Energy Advanced Energy Design Guides (AEDG) | Available for free download: NEW! NZE Guide for Multifamily Buildings, and AEDG for offices and K-12 schools. |
| Science and Technology for the Built Environment | Provides free online access to archival research publication offering comprehensive reporting of original research. |
| ASHRAE Technical Apps | Deliver mobile design, calculation, and analysis tools to the palm of your hand. |
| Free Technical Resources | Offer downloads of a variety of well-known resources to everyone. |
| ASHRAE 365 | Updates on all things ASHRAE, for free and year-round. |

Find these resources and many more at ashrae.org

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Marketing Central



Created for the busy volunteer, **Marketing Central** is a single page resource for Society-related marketing materials.

Resources organized by file type:

- Canva Templates
- Forms
- Logos
- PDFs
- PowerPoint Presentations
- Templates
- Toolkits
- Tradeshows
- Videos
- Virtual Backgrounds

Logo Items

- Promotional Freebies
- ASHRAE Logo Merchandise
- Chapter Supplies

ashrae.org/marketingcentral

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AHR Mexico





September 20-22, 2022
Guadalajara, Jalisco

ahrexpomexico.com/en/

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ASHRAE Topical Conferences



| | |
|----------|--|
| SEP 2022 | 2022 ASHRAE Building Performance Analysis Conference Sep 14–16, 2022 Chicago, IL |
| OCT 2022 | International Building Decarbonization 2022 Conference Oct 6-7, 2022 Athens, Greece |
| OCT 2022 | The Fifth International Conference on Efficient Building Design Oct 20–21, 2022 Beirut, Lebanon |
| DEC 2022 | Buildings XV Conference Dec 5–8, 2022 Clearwater Beach, FL |
| MAR 2023 | ASHRAE SCANVAC HVACC Cold Climate Conference 2023 Mar 6-8, 2023 Anchorage, AK Mar 9-10, 2023 Fairbanks, AK |

ashrae.org/conferences

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Attachment B


2023 ASHRAE Winter Conference 



**2023 ASHRAE Winter Conference
& AHR Expo
February 4-8, 2023
Atlanta, GA**

Registration opens in Fall 2022
ashrae.org/2023Winter 

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Thank you!
Questions or Comments?

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Environmental Health Committee (EHC) Emerging Issue Brief

Jun 4, 2022

Dynamic Thermal Environment

What is the issue?

Dynamic thermal environment for humans, parallel to the ASHRAE Standard 55-2020 (2020) definition of thermal comfort, can be described as the *transient* thermal environment that enables the condition of mind to express satisfaction and is assessed by subjective evaluation. The thermal state of humans exhibits diurnal (daily) variations, expressed in changes in both skin and core temperature (Schmerling 2022, Oura 2020). A model of thermal comfort is needed that encompasses the nature of these daily thermal variations. Dynamic thermal environment involves changes in one or more thermal parameters including air temperature, mean radiant temperature, humidity, and air speed, and is perceived by occupants as a subjective experience. This can occur in outdoor or indoor settings, particularly in climate-responsive buildings (e.g. operable windows), or can be mechanically reproduced. Selected research suggests dynamic comfort can be perceived more positively than steady-state thermal comfort, and is a source of thermal delight (Heschong, 1979, Cao et al. 2021, Miura et al. 2016). Dynamic environments can save energy by embracing wider HVAC deadbands beyond ASHRAE 55 limitations (not under direct control of individual occupants) with regard to the holistic thermal parameters, magnitude of each parameter, and duration of exposures (Mishra et al. 2016). It saves energy by allowing indoor environments to vary with prevailing outdoor conditions. This approach can be augmented with low-energy personal comfort systems to improve comfort and pleasure responses (Zhai et al. 2013). Selected research suggests HVAC energy reduction by 7-15% per degree C (Hoyt et al, 2014, Miura et al. 2016, Cao et al. 2021). Occupants have reported higher thermal comfort across a wider range of temperatures in naturally ventilated environments compared to air-conditioned environments (Zhu et al. 2016, van Marken Lichtenbelt et al. 2009). These findings also indicate that significant questions related to dynamic thermal comfort remain unanswered. In contrast, long-term exposure to constant, moderate thermal conditions may lead to the degeneration of occupants' inherent ability to combat thermal stress, thereby weakening thermal adaptability (Zhu et al. 2016).

Interest in dynamic thermal environments is increasing (Vellei et al. 2021) due to the desire both to bring more outdoor elements indoors and to bring indoor activities outdoors. The new Chinese mandated energy standard for buildings, effective on April 1st, 2022, requires operable window considerations (Kenji 2021). Some green building certifications, such as the Living Building Challenge, have explicit

requirements for operable windows (International Living Future Institute 2019). Ongoing passive survivability discussions have led to more interest in thermal and ventilation autonomy with operable devices (Ko et al. 2018). During the COVID-19 pandemic, the ASHRAE Epidemic Task Force (ASHRAE ETF 2021) and CIBSE (2020) discussed use of operable windows as a consideration to provide clean air, especially when mechanical ventilation is not sufficient. The United Nations WHO (2021) issued a “Roadmap to improve and ensure good indoor ventilation in the context of COVID-19”, which included operable devices to provide natural ventilation as elements to provide clean air. The pandemic caused an increase in outdoor dining, and some suggest this will continue even after COVID (Fox 2022), especially with the growing interest in biophilic design.

Other issues related to this topic include the understanding of the differences and similarities between dynamic thermal comfort and adaptive comfort (de Dear + Brager 1998); the alliesthesia framework (Parkinson and de Dear, 2014) in understanding dynamic thermal perception; the potential benefits of more diversified microbes outdoors with less pathogens and the potential benefits of more diverse microbes indoor (Mahnert et al. 2018); the impact of the new United Nations WHO (2021) PM 2.5 standards on outdoor ambient environments and how it is brought indoors by natural and mechanical means.

What does this mean for ASHRAE?

Understanding the dynamic thermal environment aligns with the 2019-2024 ASHRAE Research Strategic Plan (2021), global trend toward passive buildings, and need for guidelines or standards on this topic. The ASHRAE Strategic Plan addresses indoor environmental quality which is increasingly recognized as the leading priority, with implications extending beyond simple acceptability of indoor conditions to its influence on productivity, learning and health. ASHRAE can convene and collaborate with experts and stakeholders across the industry to engage in discussion and exploration of this topic to accelerate collective knowledge in the field to develop thought leadership and promote understanding of indoor environmental quality (IEQ) among practitioners. The ASHRAE Research Strategic Plan 2021 mentioned: “...outdoor and semi-outdoor environments where people spend a substantial amount of time both for avoiding the risks and promoting the benefits”, is a research gap and “ASHRAE should collaborate with other associations to develop guidelines...”. ASHRAE members have been encountering heightened global interest in dynamic thermal environments for post pandemic design, and also passive design to lower energy consumption through operable windows. ASHRAE can benefit from coming up with guidelines and standards to address dynamic thermal environments.

What Actions Should ASHRAE Considered?

- Identify the knowledge gaps and support research, including but not limited to:
 - The biodynamic and physiological comfort parameters of the human body
 - The acceptable range of fluctuation of different parameters
 - Frequency of air flow, and other climatic fluctuations
 - Simulation of natural wind
 - Thermal prediction model of dynamic comfort
 - The use of intelligent detection equipment
 - Impact of larger diversity of microbes from the outdoor environment

- Health and performance metrics associated with dynamic thermal comfort
- Develop dynamic thermal environment standards or guidelines. While ASHRAE Standard 55 addresses “adaptive comfort”, additional guidelines and standards are required for a holistic dynamic thermal environment.
- Research the global and local outdoor environmental qualities and inform the dynamic thermal environment decisions with outdoor environmental ambient conditions, e.g. PM 2.5 ambient in global cities (Stephens et al. 2016)

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Government Affairs Committee Report to EHC

GAC Liaison to EHC: [Meghan McNulty](#)

Annual Conference, 6/28/22

The **Government Affairs Committee** is responsible for organizing ASHRAE members to educate local, state, provincial, and national government bodies and officials in areas of interest to ASHRAE members, and to promote effective cooperation between ASHRAE members and government. The committee works to coordinate government affairs efforts and is responsible for developing the extent and the manner in which ASHRAE implements and pursues actions to influence government affairs and public policy.

Questions for EHC

- Has there been consideration of elevating EIBs after creation? If EIBs are board-approved, they are easier to use for government outreach. Perhaps as a second step after EIB creation, so as to not slow down EIB process.
- Requesting updates on GAC 2021 Winter Meeting Motions:
 - “That the GAC recommend to Technology Council that the ASHRAE Position Document on Environmental Tobacco Smoke shall be amended and expanded with regards to cannabis smoke and electronic nicotine delivery.”
 - “That the GAC recommend to Technology Council that the ASHRAE Position Document on Indoor Air Quality shall be amended to make further reference to natural ventilation systems in emerging economies, and ASHRAE shall provide further guidance and design guides specific to natural and traditional ventilation systems.”

Updates on GAC Progress SY21-22

- Government Outreach Events:
 - 127 Government Outreach Events held this Society year, involving 231 ASHRAE members. 75 events previous year (SY20-21).
 - EHC-relevant Government Outreach Events and Letters & Testimony below.
- [Public Policy Issue Briefs \(PPIBs\)](#), 1 to 2-page documents created by GAC for policy makers with limited technical expertise; based on PDs, Standards & Guidelines, Public Policy Priorities, EIBs, other published materials. New/updated versions to be posted to ashrae.org on July 1.
 - New:
 - Indoor Carbon Dioxide – thanks to Andy Persily, Chair of PD Committee, for draft and review of final version.
 - Revised:
 - Environmental Tobacco Smoke → Environmental Tobacco Smoke and Electronic Nicotine Delivery Systems – modified using language from EHC’s EIB
 - Indoor Air Quality – modified using language from IAQ PD, greater focus on policy-relevant ASHRAE positions
- Public Policy Priorities for SY22-23 includes “Promote Healthy Buildings and Reduce Indoor Environmental Risks” – excerpt of draft text below.

EHC-Relevant SY21-22 Government Outreach Events

ASHRAE members who met with government officials to discuss environmental health topics, reported to GAC as of 6/1/22.

Thank you to the subject matter experts who have assisted with some of these events!

- Local
 - Reno, NV – city ordinance, cannabis industry questions about mitigating indoor smoking
 - Gwinnett County (GA) Public Schools facilities team – ETF resources on schools & IAQ
- State (US)
 - Georgia state legislator - IAQ inspections
 - Utah state legislators - school IAQ improvements
 - West Virginia state officials - school IAQ improvements
 - Georgia Dept of Public Health – Legionella prevention
 - Kansas legislator – IAQ and ETF resources
- Federal (US)
 - Clean Air in Buildings Challenge – White House Covid 19 Response Team
 - Georgia Senators State Directors visit ASHRAE HQ grand opening, tour - IAQ
- Global
 - Barbados – training on Standard 62.1, ETF resources
 - Argentina – chapter to participate in technical advisory committee for a standard on Air Treatment Systems in Public and Private Buildings
 - Canada
 - Ontario Ministry of Education – school IAQ/ETF presentation by Corey Metzger
 - North Alberta and South Alberta Chapters – school IAQ/ETF webinar with Bill Bahnfleth; 370 participants including gov’t officials
 - Vancouver and British Columbia Chapters – school IAQ/ETF webinar with Bill Bahnfleth; 52 gov’t officials
 - Halifax Regional Centre for Education – school IAQ/ETF resources

EHC-Relevant SY21-22 Letters and Testimony

Referencing EHC materials, posted to <https://www.ashrae.org/about/government-affairs/policy-positions-and-issues#letters> as of 6/16/22.

Environmental Tobacco Smoke

- 6-23-2021 - [Letter from President Gullledge to New Jersey Senate re: SB 1878, “Elimination of the smoking ban exemption for casinos and simulcasting facilities”](#)
- 6-23-2021 - [Letter from President Gullledge to the New Jersey Casino Association re: Indoor Air Policies at Casinos and Similar Establishments](#)
- 8-2-2021 - [Atlanta Chapter Letter to Augusta, GA Mayor Re: Cigar Bars and Lounges](#)

Legionella

- 11-12-2021 - [ASHRAE Comments on EPA Strategic Plan](#)
- 01-28-2022 - [Letter from President Schwedler to Maryland Senate re: SB 302, “Legionnaires’ Disease Prevention Act”](#)
- 01-28-2022 - [Letter from President Schwedler to Maryland House of Delegates re: HB 248, “Legionnaires’ Disease Prevention Act”](#)
- 03-07-2022 - [Letter from President Schwedler to New Jersey Senate re: S. 1006, “An Act Concerning Legionnaires’ Disease”](#)
- 05-17-2022 - [Letter from President Schwedler to the California Senate re: SB 1144, “Water Efficiency and Quality Assessment Reports: State Buildings and Public School Buildings.”](#)

- 06-10-2022 - [ASHRAE Letter to the California Senate re: SB 1144, "Water Efficiency and Quality Assessment Reports: State Buildings and Public School Buildings."](#)

IAQ/COVID/schools

- 11-22-2021 - [ASHRAE Letter to Department of Education Regarding Infrastructure Bill - Section 40541](#)
- 11-12-2021 - [ASHRAE Comments on EPA Strategic Plan](#)
- 12-1-2021 - [Alberta Chapters Letter Re: COVID Mitigation Strategies for Schools](#)
- 04-20-2022 - [Letter from President Schwedler to Connecticut General Assembly re: HB 5479, "An Act Concerning Indoor Air Quality in Schools"](#)

Excerpt from ASHRAE's Public Policy Priorities: SY 2022-2023

Promote Healthy Buildings and Reduce Indoor Environmental Risks

Supporting the health and well-being of building occupants is the most important feature of the indoor environment. Providing acceptable indoor air quality is an essential building service that should be achieved while also improving building energy efficiency, sustainability, and resiliency. The latest versions of ASHRAE Standards for Ventilation and Indoor Air Quality (62.1 for commercial buildings, 62.2 for residential, and 170 for health care facilities) should be adopted in building codes and regulations.

Importantly, ASHRAE supports policies that minimize pathogen transmission through building systems, including HVAC and water systems. With the world still challenged by COVID-19, ASHRAE will continue to disseminate the extensive resources developed by its Epidemic Task Force, including guidance documents, webinars, and training sessions, which can guide preparation for this and future pandemics. Recently updated ASHRAE Standard 188-2021 and Guideline 12-2020 present a framework and guidance for Legionella risk mitigation. ASHRAE can provide technical expertise and serve as a resource for policymakers and elected officials to address these indoor environmental health risks. ASHRAE recommends that policymakers cite ASHRAE standards and guidance in legislation and policies to reduce the risk of pathogen transmission in buildings, including in schools and congregate housing.