

Meeting Agenda

- 1. Call to Order (Matt Clark) – Meeting called to order at 1:06 PM Pacific**
 - a. Introduction of members and guests
 - b. 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. (See full Code of Ethics: <https://www.ashrae.org/about-ashrae/ashrae-code-of-ethics>.)
 - c. ASHRAE Commitment to Care ([commitment-to-care_2022winter.pdf \(ashrae.org\)](#))
 - d. Establish quorum
 - i. All voting members in attendance, so quorum established.
 - e. Revise agenda; accept agenda.
Two proposed additions to the published agenda under New Business:
 - i. Decarbonization Task Force / Embodied Carbon
 - ii. MTG.RES, ResilienceJanice Means moved to approve agenda, Scott seconded. No discussion. Motion passed unanimously.
 - f. Approvals (if quorum is met):
 - Meeting Minutes: Gerardo Alfonso moved to approve Summer 2021 Virtual Meeting minutes. Don Brundage seconded. No discussion. Motion passed unanimously.
- 2. TAC Section Head Report**
 - Renewed focus on balancing out committees in terms of types of organizations represented (i.e. manufacturers, installers, designers, etc). General rule is that there cannot be more than half from one stakeholder group. This is a bigger deal on Standards committees. Expect it will be looked at on a case-by-case basis.
 - Estimated that in-person attendance is about half of what it was for conference. This is having a significant financial impact on ASHRAE and putting pressure on reducing the number of TCs. Still looking to merge TCs to help alleviate the issue.
- 3. Chairman's Announcements (Matt Clark)**
 - a. Report of TC/TG Chair's Meeting
 - i. Summer Conference will be in Toronto from June 26-29. Forms and proposals due by Feb. 17
 - ii. New platform for roster updates. Updates will start July 1.
 - iii. Scott Sherwood will be Chair after summer meeting with Beth Tomlinson as Vice Chair, Janice Means as Handbook Chair, Daniel Villa as Programs Chair, Gerardo Alfonso as Webmaster and Elizabeth Jedrlnic as Research Chair.
- 4. Subcommittee Reports**
 - a. Programs (Daniel Villa)
 - i. Sub-committee meeting occurred virtually. Working on 3 seminars for Toronto:
 1. Basic seminar explaining Climate Change as part of Fundamentals track (following on Fundamentals Handbook chapter). Defines climate change and its history. Led by Daniel Villa.
 - a. Still looking for speakers. Suggestions included climate scientists, but have not been able to secure anyone. Need to be able to present in a clear, cohesive way on climate science, but do not need to be expert in field.
 - b. Scott Sherwood suggested Parag as a potential speaker and also volunteered himself.
 2. Indoor Air Quality and Decarbonization. Led by Beth Tomlinson. Three speakers lined up.
 3. Pulling Carbon out of HVAC Systems. Led by Joe Rendall. Three speakers lined up.

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Hybrid Meeting

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4. Continues to look for Climate Change resources. Found a good online course from Penn State. Daniel Villa will share the link on Basecamp. Pushing for ASHRAE to provide basic education on climate change.
 - ii. Official request to ASHRAE for a climate change featured keynote speaker at a future conference. Also trying to get a track focused on Climate Change. Daniel Villa will post list to Basecamp.
 - iii. Discussion about access to Basecamp. Need to make sure that all members have access. For guests, sign-up as a Corresponding Member to get access.
- b. Handbook (Beth Tomlinson)
- i. Published last July and not aware of any requests for modifications.
 - ii. Beth Tomlinson will work with Janice Means to get a list of ideas for future modifications.
 - iii. Anyone interested in joining sub-committee for next edition, add name and contact info in chat or send to Beth Tomlinson, Janice Means, Renee Clair or Matt Clark.
 - iv. When the UN Assessment Report 6 is fully released, there will be more content to update on climate change mitigation. Only half finished currently. This also impacts the Climate Change Position Paper.
 - v. Expect next version to be published 3 years from now.
- c. Website (Gerardo Alfonso)
- i. Website is updated with most recent agenda and minutes.
 - ii. If anyone has additional content suggestions for website, connect with Gerardo Alfonso.
- d. Research (Elizabeth Jedrlnic)
- i. ASHRAE currently only doing research projects that are already in the queue. There is hope that new projects will soon be able to move forward.
 - ii. Most popular RTARs are take 2 years at a cost of about \$200k
 - iii. During meeting, sub-committee discussed:
 1. RTAR re: accuracy of climate change models
 2. Wishlist for NOAA on climate models for the built environment. Beth Tomlinson is coordinating.
 3. Will look to co-sponsor any RTARs that are climate related (potential related TCs include 2.5, 2.10, 4.2, 7.5)
- e. Standards (Enrica Galasso)
- i. No update. Opened up to group for discussion.
 1. Embodied Carbon: received email from Building Decarbonization Task Force member about standards related to this.
 2. Proposed standard 228P to include operational, embodied, whole-life and up-front carbon. Enrica Galasso will coordinate with Task Force and Standard 228P to see how / if TC wants to be involved.
- f. MTG.LowGWP (Larry Burns, John Karakash)
1. MTG meets on Tuesday, so limited update. Research sub-committee met earlier in week. Research in process is around safe use of A2L refrigerants. Much of it is coming to close.
 2. What is next round of research needed for low GWP refrigerants? Looking for input on further research topics. Get ideas to Larry Burns if you have ideas for MTG.
 3. Standards committee is meeting at same time as this committee. Feedback circulated has been that standards and codes for A2L refrigerants are moving along well. Expected to be in place for A2L refrigerants in 2024.

5. Liaison Reports

- a. Handbook – Javier Korenko
- i. Not in attendance.

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- b. Standards – Niels Bidstrup
 - i. Not in attendance
- c. Research – William Hutzell
 - i. Not in attendance
- d. Staff – Steve Hammerling
 - i. Not in attendance, but stopped by to congratulate Beth Tomlinson as recipient of Hightower Award at this conference. Will be presented in person in Toronto.
- e. TC 2.7 – Matt Clark
 - i. Meeting later today, so no report. Expects the 2 committees can collaborate more in future.
- f. TC 2.8 – Renee Clair
 - i. Green Guide to be published this spring, committee to develop Water Energy Nexus guide forming
- g. TC 2.10 – Scott Sherwood
 - i. Meets Wednesday, so no report today. Scott spoke to TC Chair about close coordination to ensure no overlap between work of our committees.
- h. TC 7.1 – Eric Haley
 - i. Not in attendance.
- i. TC 9.9 – Gerardo Alfonso
 - i. Published the 5th edition of the Thermal Guidelines for Data Centers based on research findings around high humidity and high contaminants in data centers. Also have new classes for high density servers.
 - ii. Working on Liquid Cooling book and white papers on resiliency in data centers.
- j. SSPC 90.1 – Don Brundage
 - Updates of interest:
 - i. Requirement for modest amount of on-site renewable energy for non-residential buildings.
 - ii. Passed 2 different options for carbon metrics (appendix G).
 - iii. Lighting tables have gotten more stringent.
- k. SSPC 90.4 – Gerardo
 - i. Modified calculations for electrical and mechanical loads to be in line with 90.1
- l. Previously suggested: TC 5.10, TC 6.7, SSPC 189.1, SSPC 100

6. Update Reports on Related Treaties, Accords, and Activities (Round Table Discussion)

- a. New ICLEI rule on refrigerants starting in 2025.
- b. AIM Act: sector requirements on refrigerants in 2025
- c. EU and UK are looking at the next step in the Green Deal (Larry Burns)
 - i. PFAS restrictions could eliminate most synthetic refrigerants
 - ii. F-Gas requirements
 - iii. Electrification and impact on heating performance and future product landscape

7. New Business

- a. Governmental Updates
 - i. Open forum for discussion. No updates.
- b. Decarbonization Task Force
 - i. Who will be the cognizant committee for the position statement? Proposal that either TC 2.5 or TC 2.8 could be. Position papers are sub-committees under TAC, so only get feedback from cognizant committee on whether it should be updated.
 - ii. Outcome of Task Force will be to decide who is going to make the call on related issues.
 - iii. Voting Members to approve Carbon Sequestration paper via email tonight.

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- c. TC Merging
 - i. Discussion of the potential merging of TC 2.5, TC 2.8, and 2.10
 - ii. Matt Clark read title and scope of TC 2.8 ([Index | ASHRAE 2.8 Building Environmental Impacts and Sustainability](#))
 - iii. Scott Sherwood will lead coordination as incoming chair between 3 committees to gather information.
 - iv. Need to make sure we do not lose focus on regulatory activity around refrigerants. There will be additional changes coming in 2029.
 - v. We do not have quorum or attendance issues, so need to consider this. If become sub-committee of larger committee, meetings would need to be moved to virtual.
 - vi. Liaisons are important to coordinate efforts between committees. Need to further develop this moving forward.
 - vii. Also need to consider handbook chapters each committee is responsible for. We do not want one committee to be responsible for too much.
- d. Title & Scope
 - i. In summary, current scope is what is ASHRAE's effect on the environment. This is still important, but Scott Sherwood suggests it should be broadened. Scope should also include environment's impact on buildings.
 - ii. Should we consider changing the name of the TC? Global Climate Impact is a recommended option. There is some hesitation to changing name given work we have done building awareness and handbook chapter is titled Global Climate Change. Also, feedback that we should avoid using Crisis / Emergency.
 - iii. Suggestion to circulate ideas amongst committee members for feedback. It is a long process – Scott Sherwood will get it started.
- e. Climate Change Public Policy Brief
 - i. Public Policy Brief does not reference TC 2.5 and Handbook. When it expires, we want to update it. Need to get proposal to GAC in July. Beth Tomlinson to lead effort and Enrica Galasso can support.

8. Adjourn

- a. Gerardo Alfonso motioned to adjourn. Janice seconded. Meeting adjourned at 3:02 pm Pacific.

**ASHRAE Technical Committee 2.5 – Global Climate Change Agenda
2022 Winter Conference
Hybrid Meeting
Tuesday, February 1, 2022 – 1:00 PM – 3:00 PM**

Meeting Attendees:

TC 2.5 Global Climate Change MAIN MEETING Tuesday February 1, 2022 1:00pm-3:00pm Pompeian IV (P) Caesars				
Attendee Name	Affiliation	VM	TC Involvement	Email Address
Matt Clark	Carrier Corporation	Y	Chair	matthew.m.clarke@carrier.utc.com
Scott Sherwood	Eco-Care Corporation	Y	Vice Chair	ImproveYourAir@gmail.com
Beth Tomlinson	Stantec	Y		beth.tomlinson@stantec.com
Enrica Galasso	National Grid	Y	Standards	enrica.galasso@nationalgrid.com
Renee Clair	JCI	Y	Secretary	renee.m.claire@jci.com
Elizabeth Jedrlnic	Trane	Y	Research	elizabeth.jedrlnic@trane.com
Joseph Rendall	Oakridge National Laboratory	Y		rendallj@ornl.gov
Gerardo Alfonso	Ingeal	Y	Webmaster	ventas@ingeal.com
Larry Burns	Carrier Corporation	Y	Liason MTG-LowGWP	larry.buns@carrier.com
Don Brundage	Southern Company	Y	Chair 90.1	dbrundage@southernco.com
Janice K. Means	Retired	Y	Handbook	jmeans@ctu.edu
Daniel Villa	Sandia National Laboratory	Y	Programs	dvilla@sandia.gov
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Kajen Singham				
Osami Kataoka				
Shams Shaikh				
Vishnu Reddi				
Vrunda Patel				
Dave Goodwin				