

Technical Committee Meeting Minutes  
Technical Committee, TC 1.10 Combined Heat and Power Systems  
Tuesday, 2021-06-08, Virtual, Remote Zoom (Phoenix, AZ)

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TC 1.10 Combined Heat and Power Systems – Committee Meeting  
Tuesday, 2:30 pm – 4:00 pm, Virtual, Remote Zoom (Phoenix, AZ)

<https://ashrae-org.zoom.us/j/94106854355?pwd=ZWdDTG9nWndmK1ICTFhGczF3TElpZz09>

Voting Members Present:

<u>Position</u>	<u>Term</u>	<u>Name</u>	<u>Position</u>	<u>Name</u>
Chair (VM)	2022-06-30	Blake Ellis	IDEA liaison	John Andrepont
Vice Chair (Non-VM)	2022-06-30	Geoff Barnes	DOE liaison	Richard Sweetser
Secretary-Webmaster (VM)	2022-06-30	Michael Calabrese		
Program Subcommittee Chair (VM)	2024-06-30	Gearoid Foley		
Handbook Subcommittee Chair (VM)	2022-06-30	Dragos Paraschiv		
Research Subcommittee Chair (Non-VM)	2022-06-30	Farzin Rad		
VM	2022-06-30	Dharam Punwani		

1. The Chair (Blake Ellis) Called to Order at 2:30 pm
2. ASHRAE Code of Ethics Commitment – Announced by TC Chair (Blake Ellis)

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 interest. (see full code of ethics: <https://www.ashrae.org/about-ashrae/ashrae-code-of-ethics>.)

3. Introductions / Attendees
  - A. Name, company/location, & position on committee. Roll call.
  - B. Introduction to ASHRAE Liaisons
  - C. Review of Current Voting Members and TC officers and Quorum.
    - i. Ref. Manual of Procedures – 3.33, 2.13, 2.14 & 2.15
  - D. Recruiting of new members and officers for this technical committee (TC 1.10) was discussed.
4. The secretary (Michael Calabrese) discussed the Purpose Statement

Technical Committee (TC) 1.10 is concerned with combined heat and power (CHP) systems, their cycles and components including heat recovery, combustion turbine inlet cooling (CTIC), energy conversion and system integration. The systems provide both power (electric and/or mechanical) and thermal energy (heating and/or cooling) and are variously known as cogeneration systems;

trigeneration systems; combined heat and power (CHP); and combined cooling, heating and power (CCHP) systems.

**5. Meeting Minutes from the 2021 Virtual (Chicago, IL) Winter Meeting**

A. Copies of the draft minutes of the 2021 Winter meeting, were made available through the TC 1.10 website.

i. [http://tc0110.ashraetcs.org/documents/meeting-information/TC0110-DraftMinutes\\_Virtual\\_20210126.pdf](http://tc0110.ashraetcs.org/documents/meeting-information/TC0110-DraftMinutes_Virtual_20210126.pdf)

ii. Motion by Dragos, second by Dharam, all Yea, no Nay.

**6. Sub-Committee Reports:**

A. Programs: Gearoid Foley (Sub-Committee Chair).

i. Reviewed the upcoming programs for the Winter 2022 conference.

B. Research: Farzin Rad (Sub-Committee Chair)

i. Reviewed work will be performing revisions by Ryan, Farzin and Dragos. The older PDF version is uploaded on the ASHRAE portal. Credentials are required for editing. The original author has been notified and agreed to revise.

ii. Dharam Putnani discussed the "Combustion Turbine Inlet Cooling" CTIC design Guide. The guide would be published by the Winter meeting.

iii. Two topics which are for consideration are Site vs. Source GHG emissions & Hybrid micro-grid, micro-CHP with PV generation and battery storage. The RTAR is ready to be developed and this TC previously approved Site vs. Source, GHG emissions.

iv. Birol K commented that renewables should have a link with cogen and solar PV. This could be considered a joint future research topic and potentially the handbook as well. Fazin will include the topic, emails were exchanged to coordinate the effort.

C. Handbook: Dragos Paraschiv (Sub-Committee Chair)

i. A new cycle of the handbook, upcoming 2024.

ii. Seeking volunteers to actively participate handbook revisions and updates. Developing a work plan to make changes. Ahmed Abuheiba (CM), Praveen Cheekat (PC) and Birol K. have volunteered to assist.

iii. Chapter 7 is titled "Combined Heat and Power Systems" and Chapter 8 is titled "Combustion Turbine Inlet Cooling" CTIC.

iv. Dragos reviewed the information Handbook Subcommittee chair meeting, including use of the Authoring Portal.

D. Membership: Blake Ellis (Chair).

i. This TC has seven (7) voting members and one (1) member, non-quorum [Marija Todorovic].

ii. The Chair described the process of joining a TC and status.

E. Website: Michael Calabrese (Webmaster)

i. Website is up to date.

ii. Meetings minutes (for this meeting), and handout documents will be posted on the website.

iii. A virtual meeting announcement for 2022 Winter Conference will be available on the webpage.

F. Honors and Awards: (Sub-Committee Chair)

i. TC 1.10 members should keep their bio up to date.

G. Standards: SPC 204, (Sub-Committee Chair).

i. TC 1.10 is seeking a new Subcommittee Chair.

**7. Chairman's Overview and Report, TC Chair (Blake Ellis).**

A. TC Chair breakfast –

i. The chair provided an update on the TC mergers, Hightower Awards.

ii. The 2019-2025 ASHRAE Strategic plan was reviewed. The next plan will be 2025-2030.

- 8. Old Business-**
  - A. TC Chair (Blake Ellis)
    - i. None
- 9. New Business**
  - i. TC Chair (Blake Ellis) had annual review and vote on status of TC 1.10 remaining a tech committee.
- 10. Visitors and Liaison Reports/Information from other Committee Representatives**
  - A. IDEA: John Andrepont provided a report, dated 2021-06-07
    - i. The updated IDEA liaison report be available on the TC webpage.
    - ii. This document lists the upcoming IDEA conference dates. John discussed the upcoming Campus Energy Conference and several additional upcoming IDEA conferences.
  - B. DOE: Richard Sweetser provided an update
    - i. DOE CHP e-catalog discussion and website reference was provided [www.chp.ecatalog.lbl.gov](http://www.chp.ecatalog.lbl.gov)
- 11. Upcoming Subcommittee and Committee Meetings**
  - A. TC Chair (Blake Ellis) announced that there will be an online Subcommittee meeting prior to the Winter Meeting.
  - B. The main committee meeting will be in-person.
- 12. Adjourn**
  - A. Announcement by TC Chair (Blake Ellis) to close this session at 4:00 pm.
  - B. Motion by Gearoid Foley, second by Dharam Punwani -VM, all Yea, no Nay.

Submitted by,  
Michael Calabrese  
TC 1.10 Secretary  
2021-06-08

**Subcommittee Meetings - Day, Date, Times, & Location Prior to TC 1.10 Meeting:**

<https://ashrae-org.zoom.us/j/94106854355?pwd=ZWdDTG9nWndmK1ICTFhGczF3TElpZz09>

TC 1.10 Handbook – Tuesday 2021-06-08, 1:30 pm – 2:30 pm, Remote Zoom

TC 1.10 Program - Tuesday 2021-06-08, 1:30 pm – 2:30 pm, Remote Zoom

TC 1.10 Research - Tuesday 2021-06-08, 1:30 pm – 2:30 pm, Remote Zoom

# TC 1.10 COMBINED HEAT AND POWER SYSTEMS

2021 ASHRAE Annual Conference (June 26-30, 2021); Virtual

## **TC 1.10 Committee Meeting**

Tuesday, June 8, 2021: 2:30:00 PM– 4:00:00 PM Eastern Standard Time (EST)

**Link:** <https://ashrae-org.zoom.us/j/94106854355?pwd=ZWdDTG9nWndmK1ICTFhGczF3TElpZz09>

Details: Meeting ID: 941 0685 4355 Passcode: 353324 Find your local number: <https://ashrae-org.zoom.us/u/aenv203CUp>

## **Subcommittee Meetings**

Handbook, Program, Research, Membership Subcommittee

Tuesday June 8, 2021: 1:00:00 PM– 2:30:00 PM Eastern Standard Time (EST)

**Link:** <https://ashrae-org.zoom.us/j/94106854355?pwd=ZWdDTG9nWndmK1ICTFhGczF3TElpZz09>

Details: Meeting ID: 941 0685 4355 Passcode: 353324 Find your local number: <https://ashrae-org.zoom.us/u/aenv203CUp>

## **TC 1.10 Sponsored Seminars**

**Seminar 47 - Future Proofing the Built Environment with Renewable, Regenerative and Resilient Combined Heat and Power Systems**

Track: Future Proofing - Renewable, Regenerative, and Resilient

## AGENDA

- |   |                             |
|---|-----------------------------|
| 1. Welcome  | Blake Ellis                 |
| 2. Roll Call / Introductions                            | All                         |
| 3. Introduction of ASHRAE Liaisons on Arrival           | Blake Ellis                 |
| 4. Establishment of Quorum                              | Michael Calabrese           |
| 5. TC1.10 Purpose Statement                             | Michael Calabrese           |
| 6. Minutes of the 2021 Winter Meeting (Chicago-Virtual) | Michael Calabrese           |
| 7. Subcommittee Reports                                 |                             |
| a. Program  | Gearoid Foley               |
| b. Research   | Farzin Rad                  |
| c. Handbook   | Dragos Paraschiv            |
| d. Membership   | Blake Ellis                 |
| e. TC Website   | Michael Calabrese           |
| f. Honors & Awards                                      | Blake Ellis                 |
| g. Standards  | Position Open – Blake Ellis |
| 1) SPC 204  |                             |
| 8. Chairman’s Overview and Report                       | Blake Ellis                 |
| 9. Old Business   | Blake Ellis                 |
| 10. New Business  | All                         |
| 11. Next Subcommittee and Committee Meetings            | Blake Ellis                 |
| 12. Adjourn   | All                         |

### Attachment 1: Mission Statement:

“TC 1.10 is concerned with combined heat and power (CHP) systems, their cycles and components including heat recovery, combustion turbine inlet cooling (CTIC), energy conversion and system integration. The systems provide both power electrical/mechanical and cooling/heating thermal energy and are also known as cogeneration systems; trigeneration systems; and combined cooling heating and power systems.”

June 7, 2021

## **IDEA Liaison Report to ASHRAE TC 6.2 and TC 1.10**

Prepared by: John Andrepont (+1-630-369-4832 [home] / [CoolSolutionsCo@aol.com](mailto:CoolSolutionsCo@aol.com))

The International District Energy Association (IDEA) is an industry association of >2,300 members. The membership includes: District Energy (Thermal) Utilities; Physical Plant and Utilities Personnel from University, Medical, and other District Energy Facilities; Equipment Manufacturer/Suppliers; Service Providers to the Industry; other District Heating & Cooling Associations; plus Government, Student, and other Personal members.

IDEA publishes a quarterly magazine, entitled *District Energy*.

IDEA has two major conferences each year (one focused on campus District Energy systems and one focused on commercial thermal utility District Energy systems), as well as smaller workshops on subjects such as marketing and thermal distribution, plus occasional regionally-focused or technology-focused conferences. Each major conference also focuses on integrating Combined Heat & Power (CHP) and Thermal Energy Storage (TES) with District Energy.

Upcoming IDEA conferences include:

- 34<sup>th</sup> Annual Campus Energy Conference, Workshops & Trade Show  
February 16-19, 2021 – virtual conference
- 112<sup>th</sup> Annual Conference & Trade Show  
September 27-30, 2021 – Austin, Texas (hybrid, on-site and virtual conference)
- 35<sup>th</sup> Annual Campus Energy Conference, Workshops & Trade Show  
February 15-18, 2022 – Boston, Massachusetts
- 113<sup>th</sup> Annual Conference & Trade Show  
June 5-9, 2022 – Toronto, Ontario, Canada

For further information on IDEA, contact:

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