The 2023 Summer Study on Energy Efficiency in Industry

“Decarbonization – Turning Goals into Achievable Action Plans”

PROGRAM

MGM Grand Hotel • Detroit, MI
July 11 – 13, 2023
Welcome to ACEEE’s 15th biennial Summer Study on Energy Efficiency in Industry, “Decarbonization – Turning Goals into Achievable Action Plans.” During the conference, we will explore how to capitalize on recent progress of decarbonizing the industrial sector. What do U.S. climate goals and recent federal policy developments mean for individual companies? What strategies and technologies can companies implement to support decarbonization goals, and how can companies determine which strategies and technologies are best for them? What changes are happening at the state and regional levels? How can industry and policymakers help train and support the workforce of the future in this sector?

Immerse yourself over three days in workshops, sessions, Plenaries, and networking time. The conference will kick off with side events such as the SEM Summit and Industrial Heat Pumps (IHP) Workshop on Tuesday, July 11. Continue Wednesday and Thursday with four Panel session options (Panel 1: Energy Efficiency, Panel 2: Energy Resources, Panel 3: Material Efficiency, Panel 4: Workforce Development); Plenary sessions featuring key leaders in the industrial space; afternoon Action Sessions, and plenty of networking time during the Welcome reception sponsored by our host DTE, Inclusivity in Industry mixer, as well as a Women in Energy Efficiency Breakfast. There is something for everyone at this event!

**PLANNING COMMITTEE**

**CO-CHAIRS:**
Alberta Carpenter, National Renewable Energy Laboratory
Steve Schultz, International Energy Consultants LLC

**PANEL LEADERS:**

**Panel 1: Energy Efficiency**
Peter Bassett, Energy Performance Services
Haresh Malkani, CESMII

**Panel 2: Energy Resources**
Ammi Amarnath, EPRI
John Seryak, Go Sustainable Energy

**Panel 3: Material Efficiency**
Nabil Nasr, REMADE Consortium/RTI
Yetunde Omolayo, Dow
Andre Yvon-Bessett, Dow

**Panel 4: Workforce Development**
Kristen Cetin, Michigan State University IAC
Sarah Crane, University of Michigan

**ACEEE STAFF:**

**Conferences:** Amelia Armstrong, Rebecca Lunetta, Lynn Pyle

**Program:** Neal Elliott, Jonah Eisen, Nora Esram, Andrew Hoffmeister, Anna Johnson, Steve Nadel, Pavitra Srinivasan

**Communications:** Camron Assadi, Mary Robert Carter, Kate Doughty, Rob Kerns, Nick Roper, Ben Somberg

**Development:** Corinne Abbott, Alan Raymond
Tuesday, July 11

10:00 am – 5:00 pm  
**Add on: Industrial Heat Pump (IHP) Workshop ($75)**  
Salon 1  
The IHP Workshop’s focus will include demonstrations, market transformation initiatives, and available funding to accelerate domestic manufacturing of IHP, market technical support, and plant implementation. The workshop will also include a presentation on the global IHP experience from international experts.

11:00 am – 5:00 pm  
**Add on: SEM Summit ($175)**  
Salon 3  
The SEM Summit is designed to enhance SEM and decarb knowledge by addressing regional challenges while working alongside others in the SEM community. Attendees will leave with tangible and useful tools and concepts.

3:00 – 7:00 pm  
**Registration opens**  
Grand Ballroom Foyer

5:00 – 7:00 pm  
**Welcome Reception**  
Topgolf Swing Suite  
Join us to officially kick-off the Summer Study at the Welcome Reception, sponsored by the conference host DTE. Network, re-connect with friends, socialize, and even work on your golf swing in this immersive setting.
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<th>Time</th>
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<tr>
<td>7:00 am – 5:00 pm</td>
<td>Registration</td>
<td>Grand Ballroom Foyer</td>
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<tr>
<td>8:00 am – 9:00 am</td>
<td>Breakfast and Women in EE Breakfast <em>(starts at 7:30 am)</em> (Breakfasts set up as buffet in Foyer)</td>
<td>Salons 3 &amp; 4</td>
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<td></td>
<td>Moderator(s): Alberta Carpenter and Elizabeth Doris, National Renewable Energy Laboratory</td>
<td>Amber Room</td>
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<td>&quot;Women in Energy Efficiency Leadership Badges&quot;</td>
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<td>Speaker: Penni McLean-Conner, Executive Vice President of Customer Experience and Energy Strategy, Eversource</td>
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<td>9:00 – 10:00 am</td>
<td>Perspectives from Industry Plenary Panel Session</td>
<td>Salons 1 &amp; 2</td>
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<td></td>
<td>Introduction: Steve Nadel, Executive Director, ACEEE</td>
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<td>Welcome: John Boladian, Director of Energy Efficiency, DTE Energy</td>
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<td>Moderator: Dan Brown, CEO, Board Member, Cascade Energy</td>
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<td>Panelists: Patrick Bloom, VP Government Relations, Cleveland Cliffs</td>
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<td>Johnathan Holladay, VP Government Programs, Lanza Tech</td>
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<td>Lucas Moreno Kristiansen, VP Growth and New Business, Argos USA</td>
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<td>10:00 – 10:30 am</td>
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<td><strong>Panel 1, Session 1</strong></td>
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<td>Federal, State, and Utility Policies and Tools for Industrial Decarbonization</td>
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<td>Moderator: Peter Bassett, Energy Performance Services</td>
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<td><em>Energy Use and Carbon Emissions in U.S.</em></td>
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<td><em>Manufacturing: Analysis of Energy Supply,</em></td>
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<td><em>End Use, Loss, and Greenhouse Gas Emissions</em></td>
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<td>Caroline Dollinger, Energetics</td>
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<td><em>Subnational Policies for Industrial Decarbonization:</em></td>
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<td>How States and Utilities Can Play a Key Role</td>
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<td>Andrew Hoffmeister, ACEEE</td>
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<td><em>50001 Ready: A Proven Platform for Decarbonization</em></td>
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<tr>
<td></td>
<td>(no paper)</td>
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<td>William Miller, Lawrence Berkeley National Laboratory</td>
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Panel 2, Session 1
Industrial Electrification/Decarbonization Using Heat Pumps
Moderator: Ammi Amarnath, EPRI

Steve Nadel, ACEEE

Do Heat Pumps Work for Process Heat? Yes and Maybe!
Melissa Stewart, VEIC

Commercial and Industrial Decarbonization through Waste Heat Recovery
Baskar Vairamohan, EPRI

Panel 3, Session 1
Materials Efficiency and Decarbonization of the Industrial Sector
Moderator: Nabil Nasr, REMADE Consortium /RTI

This will be a panel discussion with industry representatives.
Narayan Ramesh, Dow
Joe Cresko, U.S. Department of Energy
Kevin Anderson, Brunswick

Panel 4, Session 1
Approaches to Energy Workforce Training Programs
Moderator: Kristen Cetin, Michigan State University

Preparing the Next Generation of Strategic Energy Managers (no paper)
Rory Schmick, Lawrence Berkeley National Laboratory

US DOE Better Plants Program’s Approach to Manufacturing Workforce Development
Wei Guo, Oak Ridge National Laboratory

12:00 – 1:30 pm
Scholar & Awards Recognition Lunch
Scholar Program Introduction: Nora Esram, ACEEE
Scholar Appeal: Sharyn Barata, Opinion Dynamics and Mark Johnson, Clemson University
Scholar recipients recognized.

Award Program Introduction: Steve Nadel, ACEEE
Award recipients recognized.
1:30 – 3:00 pm

Concurrent Panel Sessions 2

Panel 1, Session 2
Industrial Decarbonization Technologies

Moderator: Neal Elliott, ACEEE

Industrial Technology Validation - Evaluation
Results from Electrochemical Based Water Treatment Demonstration Projects (no paper)
Shankar Earni, Lawrence Berkeley National Laboratory

Assessment of Combined Heat and Power Systems in the Midwest’s Top Manufacturing Industries
Joe Ricchiuto, MEEA

Decarbonization through Industrial Process Efficiency (no paper)
Michael Stowe, Advanced Energy

Panel 2, Session 2
Low Carbon Resources 1

Moderator: Ammi Amarnath, EPRI

CO2 Emission Savings from Manufacturing Sector Load Shaping (no paper)
Kelly Kissock, UC Davis Energy and Efficiency Institute

Right Onsite: Accelerating Deployment of Onsite Clean Energy Technology in the Industrial Sector
Kyle Niemeyer, US Department of Energy

OPEN DISCUSSION: Industrial Load Flexibility
Ammi Amarnath, EPRI

Panel 3, Session 2
Standards Impacting Decarbonization of the Industrial Sector

Moderator: Andre Yvon Bessette, Dow

Approaches to Net Zero Carbon in Industry: ISO/PAS 50010
David B. Goldstein, Natural Resources Defense Council

Protocols, Rates, Factors, Attribution, Accounting
Oh My! A Survey of U.S. Emission Accounting Resources and What Stakeholders Should Know
Nathan Phillips, DNV

Analysis Methods for Better Green Energy Technologies (no paper)
Samantha Reese, National Renewable Energy Laboratory
**Panel 4, Session 2**

DEI Integration into Energy Workforce Development

**Moderator:** Sarah Crane, University of Michigan

**Best Practices for Developing a Diverse and Equitable Workforce**
Deidra Miniard, Walker-Miller Energy Services

**Workforce Development: What’s Culture Change Got to Do with It?**
Kora Dreffs, DNV

**Building the Workforce for an Inclusive Energy Transition**
Jennifer Kuklenski, Minnesota Power

3:00 – 3:30 pm

**Networking Break**

Grand Ballroom Foyer

3:30 – 5:00 pm

**ACTION SESSION**

Strategies for Decarbonizing Industry: An Interactive Discussion & Debate

The U.S. Department of Energy (DOE) released its Industrial Decarbonization Roadmap in September 2022, laying the foundation for a U.S. path to net-zero industrial emissions by 2050—while underscoring the challenge and complexity of the needed solutions. This Action Session will include lively discussion and debate about the specific technology strategies needed to translate industrial decarbonization goals into meaningful emissions reductions. Which approaches are likely to be the most impactful, which will require the most R&D investment, and which are the most actionable today? Join this interactive session to hear perspectives from an expert panel and fellow Summer Study participants!

**Moderator:** Joe Cresko, U.S. Department of Energy

**Co-Organizers:** Alberta Carpenter, National Renewable Energy Laboratory; Heather Liddell, Energetics; Caroline Dollinger, Energetics

**Panelists:**
Tom Wenning, Oak Ridge National Laboratory
Perry Stephens, EPRI
Daniel Cooper, University of Michigan
Andrew Peterman, Rivian

5:00 – 6:00 pm

**INCLUSIVITY IN INDUSTRY MIXER**

This informal gathering will bring together members of underrepresented communities in the industry sector for an evening of networking and great conversation. All are welcome to join us in a supportive space to foster collaboration and professional relationships.
### Thursday, July 13

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|                  | Panelists: Dr. Zack Valdez, Chief of Staff, Office of Manufacturing and Energy Supply Chains, U.S. Department of Energy  
Todd Amundson, Industrial Engineer Technical Lead, Energy Efficiency, Bonneville Power Administration  
Stacey Sabo, Senior Project Manager, NYSERDA |
| 10:00 – 10:30 am | **Networking Break**                                                  | Grand Ballroom Foyer      |
| 10:30 am – 12:00 pm| **Concurrent Panel Sessions 1**                                       |                           |
|                  | **Panel 1, Session 1**                                               | Amber Room                |
|                  | **Industrial Energy Management and Decarbonization—MakingItHappen**   |                           |
|                  | Moderator: Peter Bassett, Energy Performance Services                 |                           |
|                  | *Stellantis Optimizes Non-productive Energy through “Excellent Plant Shutdown” Initiative*  
Lisa Lawee, Energy Performance Services, Inc.  
and Kim Baslock, Stellantis |
|                  | *Decarbonization of the Detroit Diesel Corporation with ISO 50001, SEP 50001 and Electrification*  
Paul Scheihing, PHI Environmental Consulting |
|                  | **Panel 2, Session 1**                                               | Garnet Room               |
|                  | **System Impacts from Industrial Electrification**                    |                           |
|                  | Moderator: John Seryak, Go Sustainable Energy                       |                           |
|                  | *Subsector- and State-level Analysis of Industrial Electrification in the U.S.*  
Cecilia Springer, Global Efficiency Intelligence |
|                  | *Non-Wires Alternatives Meet Energy Efficiency*                      | Brooke Smallwood, Oasis Energy Partners |
|                  | *Existing and Emerging Energy Storage Technologies at Scale: Market, Environment, and Economics (no paper)*  
Samantha Reese, National Renewable Energy Laboratory |
Panel 3, Session 1  
**Science-based Methodologies to Accelerate Decarbonization**  
Moderator: Yetunde Omolayo, Dow  
*Decarbonization the Industrial Sector through LCAs*  
Christopher Uraine, Energy Solutions  
*Hotspot Detection for Industrial Decarbonization Opportunities Using Environmentally Extended Input-Output (EEIO) Modeling*  
Samuel Gause, Energetics  
*Realizing the Non-energy Benefits of Energy Efficiency in Industrial Firms; Successful Application*  
Catherine Cooremans, University of Lausanne

Panel 4, Session 1  
**The Future of Energy Workforce Development: Innovations and New Ideas**  
Moderator: Sarah Crane, University of Michigan  
*Workforce Development Needs to Support a Successful Implementation of IRA*  
Anna Johnson, ACEEE  
*Innovations to Navigate Challenges in Energy Workforce Development*  
Jenny Oorbeck, Fresh Coast  
*Decarbonizing Manufacturing Plants with a Trained Workforce*  
Jason Strano, Eversource

12:00 – 1:30 pm  
**Lunch**

1:30 – 3:00 pm  
**Concurrent Panel Sessions 2**  
Panel 1, Session 2  
**Manufacturing Roundtable**  
Moderator: Steve Schultz, International Energy Consultants  
*Energy Management System Peer-to-peer Roundtable for Manufacturers*  
This roundtable is for manufacturers to learn from their peers who are interested in building thriving energy management system business practices. Led by 50001 Ready experts from the manufacturing sector participants will discuss strategies to gain top management buy-in, best practices, and how energy management systems can help achieve decarbonization goals. Join us for valuable discussions and meaningful networking opportunities.  
Panelists:  
Michelle Croal, Ford Motor Company  
Greg Lamson, Boston Scientific  
Kim Baslock, Stellantis  
Afif Bitar, American Axle and Manufacturing
Panel 2, Session 2
Low Carbon Resources 2
Moderator: John Seryak, Go Sustainable Energy

Decarbonizing California’s Industry with Hydrogen: Preliminary Assessment (no paper)
Paul Glanville, GTI

Uncovering the True Value of Solar: A Story of Ratemaking, Transmission Peak Pricing, and Misaligned Price Signals (no paper)
Ryan Schuessler, Go Sustainable Energy

Panel 3, Session 2
The Role of Construction Materials in a Low-Carbon Economy
Moderator: Nabil Nasr, REMADE Consortium /RTI

Low-carbon Fuel Pathway to Decarbonize Hard to Electrify Industries: Case Study: Cement and Glass Industries
Perry Stephens, EPRI

Adoption of Limestone Calcined Clays in the US Cement Market in the Drive to Net Zero
Pavitra Srinivasan, ACEEE

3:00 – 3:30 pm Networking Break Grand Ballroom Foyer

3:30 – 5:00 pm ACTION SESSION Salon 1
Opportunities for Federal Programs to Support Industrial Decarbonization

The past several years has seen congress provide DOE and other federal agencies unprecedented levels of funding for industrial energy efficiency and decarbonization. Only a small portion of these funds have been programmed with more emerging in the coming months and years. Staff leads from DOE and other agencies will discuss current and future industrial program opportunities and be available to answer questions in an interactive session.

Moderator: Neal Elliott, ACEEE
Co-organizers: Anne Hampson and Clifton Yin, U.S. Department of Energy

U.S. Department of Energy Panelists:
Dr. Avi Schultz, Industrial Efficiency and Decarbonization Office
Dr. Zack Valdez, Office of Manufacturing and Energy Supply Chains
Christina Walrond, Office of Clean Energy Demonstrations
Dan Hancu, DOE Office of Fossil Energy and Carbon Management

5:00 pm Conference Ends

Thanks for joining us!