

## Understanding the Environmental Impacts of Scientific Research: A Meeting of Experts

**Dates: February 19 and 21, 2025**

All times are U.S. Eastern Time

### **Virtual**

If you would like to attend this meeting, please contact [sustainability@nas.edu](mailto:sustainability@nas.edu).

## AGENDA

### Meeting Objectives:

- Discuss the landscape of and gaps in research on the environmental impacts of scientific research.
- Identify next steps, which might include one or more workshops, to identify research questions that will improve understanding on how to optimize sustainability of research practices.

### *Day 1: Wednesday, February 19, 2025*

- 10:00 am      **Welcome from the National Academies of Sciences, Engineering, and Medicine**  
Franklin Carrero-Martínez, National Academies of Sciences, Engineering, and Medicine  
Tom Wang, National Academies of Sciences, Engineering, and Medicine
- 10:05 am      **Welcome and Meeting Goals**  
Cherry Murray (NAS/NAE), Professor of Physics and Deputy Director for Research, Biosphere 2, University of Arizona  
Kelvin Droegemeier, Professor and Special Advisor to the Chancellor for Science and Policy, University of Illinois Urbana-Champaign
- 10:10 am      **Framing Remarks: The State of the Environmental Impacts of Scientific Research**  
Moderator: Cherry Murray (NAS/NAE), University of Arizona
- Thomas Freese, Sustainable Research Coordinator, University of Groningen and Chief Executive Officer, Circolide
  - Paul Anastas, Professor, Yale University and Director, Yale Center for Green Chemistry and Green Engineering
- 11:00 am      **Panel I: Environmental Impacts of Research Facilities and Centers**  
Moderator: Anne Roby (NAE), Formerly Linde, PLC  
Panelists:
- Deneb Karentz, Professor, University of San Francisco
  - Bruce Appelgate, Associate Director, Scripps Institution of Oceanography, University of California, San Diego and Chair, University-National Oceanographic Laboratory System
  - Brittany McClinton, Chief Sustainability Officer, National Optical-Infrared Astronomy Research Laboratory
  - Catherine Hurley, Sustainability Manager, Fermi National Accelerator Laboratory

- 12:10 pm      **Q&A and Discussion**  
All Participants
- 12:30 pm      BREAK
- 12:45 pm      **Panel II: Environmental Impacts of University Research**  
Moderator: Meghna Tare, The University of Texas at Arlington  
Panelists:
- Stan Meiburg, Executive Director, The Andrew Sabin Family Center for Environment and Sustainability, Wake Forest University
  - Dave White, Director, Global Institute of Sustainability and Innovation, Arizona State University
  - Adelina Voutchkova, Director, Sustainable Development, American Chemical Society
- 1:35 pm      **Q&A and Discussion**  
All Participants
- 1:50 pm      **Summary Remarks**  
Cherry Murray (NAS/NAE), University of Arizona  
Kelvin Droegemeier, University of Illinois Urbana-Champaign
- 2:00 pm      **Adjourn**

***Day 2: Friday, February 21, 2025***

- 10:00 am      **Welcome and Re-Cap from Day 1**  
Cherry Murray (NAS/NAE), University of Arizona  
Kelvin Droegemeier, University of Illinois Urbana-Champaign
- 10:05 am      **Panel III: Environmental Impacts of Scientific Travel and Conferences**  
Moderator: Klaus Tilmes, Senior Policy Advisor and Development Consultant  
Panelists:
- Kristin Williams, Assistant Professor, School of Computer Science, Emory University
  - Vanessa Moss, Radio Astronomer, Commonwealth Scientific and Industrial Research Organisation and Chair, The Future of Meetings
  - Milan Kloewer, Schmidt AI in Science Fellow, University of Oxford
- 10:55 am      **Q&A and Discussion**  
All Participants
- 11:10 am      **Panel IV: Environmental Impacts of Research Equipment, Supplies, and Services**  
Moderator: Kelvin Droegemeier, University of Illinois Urbana-Champaign  
Panelists:
- Arman Shehabi, Staff Scientist, Energy Analysis and Environmental Impacts Division, Lawrence Berkeley National Laboratory
  - Thomas Wilson, Principal Technical Executive, Electric Power Research Institute
  - Carole-Jean Wu, Director of AI Research, Meta

- Una FitzGerald, Associate Professor of Biomedical Engineering, University of Galway
- 12:10 pm      **Q&A and Discussion**  
All Participants
- 12:30 pm      BREAK
- 12:45 pm      **Panel V: International Efforts to Study and Minimize Environmental Impacts of Research**  
Moderator: Franklin Carrero-Martínez, National Academies of Sciences, Engineering, and Medicine  
Panelists:
- Gerlind Wallon, Deputy Director, European Molecular Biology Organization
  - Amelie Winkler, Director, Research Culture Division, German Research Foundation
- 1:15 pm      **Q&A and Discussion**  
All Participants
- 1:30 pm      **A Path Forward: Future Needs and Opportunities**  
All Participants with Moderators:  
Cherry Murray (NAS/NAE), University of Arizona  
Kelvin Droegemeier, University of Illinois Urbana-Champaign
- 1:50 pm      **Summary Remarks**  
Cherry Murray (NAS/NAE), University of Arizona  
Kelvin Droegemeier, University of Illinois Urbana-Champaign
- 2:00 pm      **Meeting Conclusions**