

Developing and Assessing Ideas for Social and Behavioral Research to Speed Efficient and Equitable Industrial Decarbonization: A Workshop

MONDAY, FEBRUARY 26, 2024 (ALL TIMES ET)

PUBLIC WORKSHOP

Purpose

This workshop will develop, synthesize, and assess ideas for a national interdisciplinary social sciences and behavioral research program to support an efficient and equitable clean energy transition in the industrial sector.

10:00–10:15 Welcoming Remarks and Introductions

Led by Sue Tierney, *Workshop Committee Chair (Senior Advisor, Analysis Group Inc.)* and Thomas Thornton, BECS Board Director

10:15–10:40 Sponsors Welcome and Comments

Avi Shultz, U.S. Department of Energy

Chris Frey, U.S. Environmental Protection Agency

Alan Tomkins, National Science Foundation

Isabella Gee, Sloan Foundation

10:40–11:00 Workshop Overview

Sue Tierney, *Workshop Chair*

11:00–12:00 Social Science Issues Associated with the Siting of Infrastructure for Industrial Decarbonization

This panel discussion will identify and explore social science research questions around the siting of infrastructure related to industrial decarbonization. A review of existing social science frameworks and siting approaches will serve as the basis for discussion of future research needs for siting infrastructure to facilitate industrial decarbonization. The session will begin with a paper that illustrates opportunities and challenges of developing regional hubs of coordinated facilities in the energy industry, this panel will examine economic, environmental, and process factors that can influence the siting of individual projects and clusters of facilities more broadly.

Panel Discussion Questions:

- What is state of social science research telling us when siting efforts are successful, vs those that lead to familiar NIMBY et al barriers?
- What is the state of social science research on how institutions, such as community engagement efforts, help improve siting?

- What is the state of (and needs for) social science research about coordinated sitings—where the viability on one piece of infrastructure hinges on co-location of others?
- What are the similarities and differences in the social science questions for siting industrial infrastructure versus other energy infrastructure (e.g. power plants, etc.)?
- What are challenges specific to siting of industrial infrastructure, and what social science research is needed to address them?

Moderated by: Emily Grubert (Associate Professor of Sustainable Energy Policy, University of Notre Dame)

Speaker: Liz Ross, NREL Researcher, NREL/JISEA

Panelists:

Patrick Devine-Wright, Exeter

Alex Gazmararian, Princeton

Hilary Boudet, Oregon State

12:00–12:30 LUNCH

12:30–1:30 Social Science Research Needs for Understanding and Planning for Labor Impacts of a U.S. Low-Carbon Energy Transition

This panel discussion will examine factors that may be incorporated in social science research aiming to understand the various impacts of industrial decarbonization on employment across sectors, occupations, and geographies. The discussion will consider historical examples of industrial transitions, as well as policies that could minimize workforce disruption as we transition to a net-zero economy. Like the other panels, this one will also try to identify topics, questions, and data needs meriting examination by social scientists in the future.

Panel Discussion Questions:

- What does the social science literature indicate about the impact of industrial decarbonization on the quality of work (e.g., wages, benefits, skills requirements, pensions, mental health support) in communities impacted by such transitions, and where do gaps in knowledge exist?
- What does the literature inform about the effectiveness of worker retraining and targeted assistance to affected workers – and how is effectiveness defined and measured?
- What is known about levels of satisfaction among workers impacted by industrial decarbonization transitions?
- What factors influence workers' willingness to support industrial decarbonization?
- What is the role of intergenerational justice in moving towards a just transition?

Moderated by: Sue Tierney, Senior Advisor, Analysis Group Inc.

Speaker:

Shade Shutters, Research Scientist, Arizona State University

Panelists:

Dimitris Stevis, Colorado State

Erin Mayfield, Dartmouth

1:30–2:30

The Crucial Role of Just Process for Equitable Industrial Decarbonization: A Social Science Research Agenda

This panel discussion will assess the role of social science in community engagement for industrial decarbonization projects, with an emphasis on identifying what insights are well or poorly understood concerning mechanisms and processes for engagement. Using a paper on community engagement and community benefit plans around carbon management infrastructure as a case study, the panel will identify desired outcomes of engagement and discuss the factors, processes, and institutions that affect those outcomes. Specific examples of innovative community engagement models will be presented to help point out issues needing further study by scholars.

Panel Discussion Questions:

- How to create positive path dependencies in the implementation of low-carbon technologies relevant to industrial decarbonization?
- How well are the co-benefits associated with decarbonization understood and quantified? Is there a way to better incorporate them into cost-benefit analyses around new infrastructure?
- Can greater transparency and accessibility of information aid in improving communities' willingness to adapt to low-carbon societies?

Moderated by: Elke Weber, Gerhard R. Andlinger Professor in Energy and the Environment, Princeton University

Speaker:

Jennifer Hirsch, Senior Director, Center for Sustainable Communities Research and Education (SCoRE), Georgia Institute of Technology

Panelists:

Edson Severnini, Carnegie Mellon University

Alan Krupnick, Resources for the Future

Mijin Cha, UC Santa Cruz

2:30–2:45

BREAK

2:45–3:45 Exploring Social Science Factors Impacting Technology Development Toward Industrial Decarbonization in the United States

This panel discussion will examine social science factors affecting technology choice, siting, construction, and related decisions. While focusing on technologies for industrial decarbonization, the panel will consider lessons learned from technology development and adoption in other sectors. It will present the state of the research on community co-benefits from industrial decarbonization, as well as the barriers, challenges, and risks of deploying these technologies. Research gaps and recommendations for future work will also be discussed.

Panel Discussion Questions:

- What are the lessons learned from technology development and adoption in other sectors?
- What is the present state of the research on community co-benefits from industrial decarbonization?
- What are the barriers, challenges, and risks of deploying new technologies?
- What are the research gaps and recommendations for future research work?

Moderated by: Udayan Singh, Energy Systems Analyst, Argonne National Laboratory

Speaker:

Benjamin Sovacool, Director, Institute for Global Sustainability, Boston University

Panelists:

Jeff Colgan, Brown

Jennifer Dunn, Northwestern

Simone Stewart, National Wildlife Federation

3:45–4:45 Interactive Discussion Session

This session will point to themes, questions, and gaps that emerged during the earlier panels and highlight some of the topics that are relevant for Day 2 discussions and the social science research agenda more broadly.

Discussion Questions:

- What are the largest apparent gaps between what's happening in social sciences and what's needed from the social sciences to understand patterns and prospects for industrial decarb?
- Which topics seem to be highest priority and lowest?
- What should be explored within the disciplines to get the social sciences more engaged (vs outside)

Moderated by: David Victor, Professor of Innovation and public Policy, University of California, San Diego

4:45–5:00 Final Thoughts and Preview of Day 2

Led by Sue Tierney, *Workshop Chair*

5:00 ADJOURN

END OF DAY 1

START OF DAY 2

TUESDAY, FEBRUARY 27, 2024 (ALL TIMES ET)

PUBLIC WORKSHOP

10:00–10:15 Highlights of First Day and Overview of Day Two

Sue Tierney, *Workshop Chair*

10:15–11:15 Defining, Measuring, and Seeking Solutions to Environmental Justice Issues for Industrial Decarbonization

This panel will begin with an overview of environmental justice concepts, recognizing that a just transition to net zero has the opportunity to both address past inequities and alleviate future ones. It will consider how to define and measure environmental justice as it relates to industrial decarbonization, and how such metrics can inform solutions and help to evaluate just outcomes. Panel members will discuss key social science research questions to facilitate the integration of environmental justice principles into industrial decarbonization efforts.

Panel Discussion Questions:

- What are specific environmental justice issues relevant to industrial decarbonization, and how can social science research help to address them?
- How do we validate claims of environmental injustice?
- How can or should environmental justice be incorporated into policy and decision-making around industrial decarbonization?
- Where there are multiple sources of historical environmental injustices in particular places and specific new industrial decarbonization efforts become focusing events to address such injustices, how have or can insights from social science research inform ways to address and, where possible, resolve environmental justice concerns?
- Are there examples of improved convergence between science, policy, and social science that can serve as exemplars for decision-making towards environmental justice?

Moderated by: Aseem Prakash, Walker Family Professor for the College of Arts and Sciences; Director Center for Environmental Politics, University of Washington, Seattle

Panelists:

David Konisky, Indiana University

Jalonne White-Newsome, White House Council on Environmental Quality

Patricia Romero-Lankao, University of Toronto Scarborough

11:15–12:15 Trust and Cooperation between Governments and the Public

This panel will explore the role of local, state, and federal governments in industrial sector decarbonization, considering how social science research can shed light on sources of distrust and inform the enhancement of trust and cooperation between governments and the public. Drawing from historical examples of trust between governments and communities – or lack thereof – panel members will identify social science research questions that might inform future industrial decarbonization efforts.

Panel Discussion Questions:

- How should we define and measure trust?
- What is known about actions, mechanisms, and processes leading to erosion of trust (or enhancements of trust) in governmental decision-making about community and industrial transitions?
- Discuss how the erosion of trust in government generally affects attitudes about government action on industrial decarbonization transitions.

Moderated by: Sanya Carley, Presidential Distinguished Professor of Energy Policy and City Planning, University of Pennsylvania

Panelists:

David Hess, Vanderbilt University

Holly Buck, University of Buffalo

Mary Nichols, University of California, Los Angeles

12:15–1:00 *Lunch*

1:00–2:00 Firm- and Industrial-Level Response to Decarbonization Goals

This panel will examine corporate governance and industrial organization around decarbonization goals, considering how firms make choices about the allocation of capital and risk as they seek to reduce emissions. Panel members will discuss key social science research needs to understand and inform business decisions related to decarbonization.

Panel Discussion Questions:

- How do firms respond to financial incentives for decarbonization? Is there an understanding of situations in which carrots or sticks work better?
- What is known from the social science literature about the factors, and conditions that influence different types of firms' decisions about transitioning from one type of business to another?
- How do you measure the impact of the green premium on firm-level behavior?

Moderated by: Udayan Singh, Energy Systems Analyst, Argonne National Laboratory

Panelists:

Nicole Darnall, Arizona State University

Pavitra Srinivasan, ACEEE

Tom Lyon, University of Michigan

2:00–3:00 Themes Wrap-Up Discussion

Sue Tierney, Workshop Committee Chair and Senior Advisor, Analysis Group Inc., and Daniel Talmage, *Study Director*

3:00 MEETING ADJOURNS