

National Commission on Innovation and Competitiveness Frontiers

Working Group on Accelerating Innovation in Clean Energy Technology

Session 4 Discussion Guide

Tuesday, June 4th, 2024

4:30 p.m. to 5:30 p.m.

Agenda

- 4:30-4:40 – Welcome & Recap
- 4:40-5:20 – Discussion
- 5:20-5:30 – Conclusion & Next Steps

Background & Recap

When this Working Group last met in March 2024, discussion focused on the issues and opportunities facing clean energy at the state and local level. Specifically, the group identified five key themes:

- **Addressing the concentrated costs of the clean energy transition** through targeted supports for fossil fuel communities.
- **Improving understanding of the opportunities associated with energy transitions**, among both local officials and community members.
- **Balancing specialization and diversification** in the allocation of resources and design of policy approaches.
- **Driving and directing the deployment of private capital**, including through targeted federal policy actions.
- **Finding cross-cutting policy solutions that will address barriers to clean energy deployment**, rather than only searching for narrowly scoped policy solutions.

In April 2024, the Council convened its first Competitiveness Conversation at Vanderbilt University in Tennessee. Participants gathered to discuss many issues relating to clean energy innovation. Key themes emerging from that conversation include:

- **Radical partnerships.** Encouraging new partners to connect through innovative partnership models will help make progress on hard-to-solve challenges facing clean energy. For example, new models of partnership between utilities and industry can drive grid improvements and help ease grid loads (e.g., co-locating computing and energy facilities).
- **Coordinated strategies.** Coordination between entities at the federal, state, and local levels can help create frameworks and solutions to meet system-wide challenges. For example, regionally

and nationally coordinated strategies can create grid flexibility and allow utilities to meet surging power demand from AI, cloud computing, and new manufacturing facilities.

- **Process innovations.** In addition to product innovations, including new forms of energy or materials, moving quickly to advance clean energy will also require process innovations. Processes, from siting and permitting to university fundraising to business operations, should each be improved and innovated upon. The integration of emerging digital technologies like AI is one promising path to improving process efficiency and opening new capabilities across sectors.

Discussion: Leveraging partnerships to fully utilize national energy assets.

GOAL: Build on past discussions and begin driving toward concrete policy recommendations.

TOPICAL FOCUS: The role of partnerships in accelerating clean energy development and deployment.

The questions below are intended to guide discussion and provide food for thought. Not all questions need to be directly addressed during the Working Group session. Moderators and Working Group participants will collaboratively shape discussion around relevant issues.

Partnerships are a foundational aspect of a vibrant innovation ecosystem. Partnerships are essential to effectively train workers, conduct basic and applied research, develop and test new technologies, improve policy implementation, and much more. Within the Commission and the broader Council ecosystem, the idea of “radical partnerships” has taken hold—a philosophy that acknowledges partnerships and community engagement at the heart of innovation.

How can federal policymakers, the private sector, and other stakeholders work to (1) build more creative, more effective partnerships to solve clean energy challenges; (2) create a coordinated energy strategy to help address system-wide challenges; and (3) innovate processes to unlock new energy capabilities and creative solutions?

Core Discussion Questions

- What kinds of innovative partnerships have you seen that are working to address clean energy challenges (e.g., sufficient supply, clean generation)? How replicable do you think these examples are?
- What part of our national energy supply chain is most in need of additional investment or innovative solutions (e.g., basic research, technology commercialization, clean tech manufacturing capabilities, critical minerals supply, clean energy infrastructure)? What partnerships – traditional or “unusual” – could be activated to invest in these needs?
- What processes related to clean energy development and deployment are most in need of innovations and improvements (e.g., siting and permitting, basic research funding, grid optimization)? What kinds of partnerships would enable these innovations?
- What are the most salient opportunities to leverage emerging technologies to improve existing processes? For example, AI is being used across business sectors to optimize operations, and by

DOE to accelerate environmental reviews. How can AI, cloud computing, and other emerging technologies help innovate upon and optimize processes?

To Discuss As Time Allows

- How can we create and implement a national energy strategy that promotes national coordination and regional specialization?
- What role does regional coordination play in addressing supply chain challenges? How can regions, states, and communities partner together to create energy ecosystems with access to end-to-end supply chains?
- Energy issues – especially related to electricity – can make for challenging policy because we have national priorities but so much of the specific conditions and regulation happen at the local level. What can the federal government do to work with states and local governments to accelerate the energy transition?
- One important element of radical partnerships is a focus on deep and broad community engagement, which can help build talent pipelines and smooth technology translation. Are there other areas that could benefit from additional community input? How can universities, governments, and industry improve community engagement mechanisms to gain more feedback from a wider variety of stakeholders?

Conclusion & Next Steps

- This Working Group will meet again September 17th, from 4:30-5:30, to build on the ideas generated in this session and explore new topics. A short summary will be sent to Working Group participants in the coming weeks.