

# Innovating for a Carbon-Smart Future

DECARBONIZATION CHALLENGES AND OPPORTUNITIES  
FOR INDUSTRIAL COMPANIES IN THE TRI-STATE REGION

## WELCOME TO OUR TRI-STATE DECARBONIZATION ROUNDTABLE

This invitation-only Executive Roundtable has been organized by IN-2-Market (I2M), as one of our efforts aimed at accelerating industrial innovation within the Tri-State Region (OH/PA/WV). Our roundtables provide corporate executives with an open, interactive forum to engage in peer-company networking and gain new insights around shared challenges and opportunities, in this case related to decarbonization.

You will see from the enclosed materials for the March 24 roundtable that we have assembled an outstanding group of executives from key industrial and energy companies in our region, all with strong interests in decarbonization. Our roundtable goals are to support participants in achieving the following:

- *Gain new insights* – Learn from others and discuss your company's (non-confidential) needs and priorities in addressing decarbonization
- *Identify shared needs & opportunities* – Surface shared challenges and needs in decarbonization, where future collaboration could lead to transformative solutions for participants and the region

This roundtable is the first of a two-part series on decarbonization. In Part 2 (late April), the focus will be on further understanding 'what's possible' and potential shared opportunities for exploration of transformative decarbonization solutions.

## AGENDA – MARCH 24, 2021 (9:00-11:00AM ET)

After hearing from and engaging with our esteemed opening speakers, we'll focus the majority of the session on open, facilitated discussion among our corporate participants. The topics and questions that will be covered were gathered from earlier interviews with participating executives.

- 9:00 Welcome, Introductions and Context Setting – Michael Docherty, Executive Director, I2M
- 9:15 'The Decarbonization Challenge & Opportunity' – Dr. Jennifer Wilcox, Principal Deputy Assistant Secretary for Fossil Energy, U.S. Department of Energy
- 9:35 'What's Possible' – Dr. Brian Anderson, Director National Energy Technology Laboratory (NETL)
- 9:50 Facilitated Group Discussions - Industry Executives
- 10:40 'What's Next': Framework for Collaboration
- 10:50 Closing Remarks & Collaborative Action Planning
- 11:00 Adjourn

## IN-2-Market Executive Roundtable: Innovating for a Carbon-Smart Future

### SPEAKER BIOS



#### **Jennifer Wilcox, PhD**

Dr. Jennifer Wilcox, the Principal Deputy Assistant Secretary (PDAS) in the Office of Fossil Energy at DOE, was the Presidential Distinguished Professor of Chemical Engineering and Energy Policy at the University of Pennsylvania. As a senior fellow at the World Resources Institute, she led WRI's Carbon Removal Program.

Having grown up in rural Maine, Dr. Wilcox has always had a profound respect and appreciation of nature. That appreciation permeates her work; she focuses on minimizing the negative impacts of humankind on our natural environment. Wilcox holds a Ph.D. in Chemical Engineering and an M.A. in Chemistry from the University of Arizona and B.A. in Mathematics from Wellesley College.

Dr. Wilcox's research takes aim at the nexus of energy and the environment, developing both mitigation and adaptation strategies to minimize negative climate impacts associated with society's dependence on fossil fuels. She has served on committees of the National Academy of Sciences and the American Physical Society to assess carbon capture methods and impacts on climate. She is the author of the first textbook on carbon capture, *Carbon Capture*, published in March 2012. She co-edited the *CDR Primer* on carbon dioxide removal in 2021.



#### **Brian Anderson, PhD**

Dr. Brian J. Anderson is the Director of the National Energy Technology Laboratory (NETL) of the Department of Energy (DOE). In this capacity, he manages the complete NETL complex, including delivery and execution of the Laboratory's mission. Dr. Anderson leads NETL's national programs with industry, universities, and national laboratories.

He began his career at West Virginia University (WVU) in 2006 as an assistant professor in chemical and biomedical engineering, where he became a recognized subject matter expert in natural gas hydrates, unconventional oil & gas development, and clean coal technologies. In 2014, Dr. Anderson founded and built the WVU Energy Institute, the largest energy collaborative research organization at the university.

For his work in natural gas hydrates and carbon dioxide sequestration, Dr. Anderson received the 2012 Presidential Early Career Award for Science and Engineers. He also received the DOE Secretary Honor Award for his work in response to the BP Deepwater Horizon oil spill. Dr. Anderson holds a B.S. degree in chemical engineering from WVU, and M.S. and Ph.D. degrees in chemical engineering from the Massachusetts Institute of Technology.

## IN-2-Market Executive Roundtable: Innovating for a Carbon-Smart Future

### ROUNDTABLE DISCUSSION TOPICS

Decarbonization is both a broad and deep topic, so we intend to focus our discussion on subtopics that were identified in pre-roundtable interviews with our corporate participants. The subtopics we cover may differ from this list (the discussion may take us in different directions), but the questions below can help you begin thinking in advance about points that are important to you. We welcome feedback on these and other related topics you'd like to see covered. *There is no need for you to prepare any information or study these questions in detail (they are intended simply to jumpstart your thinking).*

#### *Opening questions:*

- In our pre-roundtable interview calls, several companies highlighted the need to approach decarbonization through 'near-term', 'bridging' and 'longer-term' solutions. Your thoughts on this?
- We won't look for consensus, but what timeframes to you are 'near-term' and 'long-term'?

#### *'Near-term' and 'bridging' challenges and opportunities:*

- What is important to you and what initiatives are you undertaking related to reducing your company's carbon generation? Your customers? Your suppliers?
- How are you rethinking your energy sources for your own processes? (current and near term)
- How does 'carbon capture' fit into your strategy, if at all? Carbon storage/ sequestration?
- Are you exploring carbon use/re-use as a current or closer-in strategy for decarbonization? How?

#### *'Bridging' and 'Longer term' challenges and opportunities:*

- Alternative energy sources are a common goal for most of the companies in this Webex. How are you addressing alternative fuels in your strategies?
  - Hydrogen? Biofuels? Other?
- What is your vision for the role of hydrogen in future scenarios of clean energy?
- What role can/should this region play in hydrogen and other alternative fuels?

#### *Our region and areas for collaboration:*

- Do you have a vision for our region's future state in a carbon-smart energy economy?
- What role do you see collaboration playing in these efforts?
  - How are you collaborating with others today around these topics?
- How can we better integrate efforts with other key stakeholders?
- What other companies and entities would you like to see in a future roundtable on this topic?

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### DISCUSSION GROUND RULES

We will work to facilitate the discussion portion of the roundtable to ensure open dialogue, while also striving to cover the key topics that are important to the majority of participants. We ask that you keep the following guidelines in mind to help us achieve the outcomes that are important to all participants:

- All discussions will be non-confidential and in accordance with IN-2-Market's conditions for participation outlined on the next page.
- Please be on-time for our session kick-off at 9:00am ET. Too many late sign-ons can be disruptive for the group and you may miss introductions to your peers.
- Throughout the session, please be an active listener and provide other participants with the opportunity to ask questions and provide their perspectives.
- Given the size of this group in a virtual session, please be mindful of the length of your answers/comments and allow others equal time for participation.
- Please keep discussions focused on sharing perspectives and learning from each other, and related to the topic of decarbonization.
- This is your roundtable, so let the facilitator know if you haven't had the opportunity to ask a question or share a point that is important to you.
- We will direct our questions and prompts for input to each company's 'lead' participant. With eleven companies and over twenty industrial participants, this is necessary to ensure we hear from each company and are able to address the questions and topics that are important to you. As the lead participant, feel free to ask your other participants to address any particular points.
- Keep in mind that we are planning a 'Part 2' Decarbonization Roundtable for late April, where we will have the opportunity to go deeper into 'what's possible' and further explore potential opportunities for collaboration. This first session is aimed at gaining initial insights and identifying shared needs and topics of common interest.

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### PROGRAM ORGANIZER:



IN-2-Market (I2M) is a non-profit organization serving the Tri-State (OH/PA/WV) Region. We are a catalyst for industrial innovation through collaborative programs that leverage the unique strengths of our region. I2M brings industrial companies together with universities, technology innovators and other enabling partners to identify and address shared innovation challenges, where industry collaboration is important. I2M's collaborative process and network accelerates transformative solutions that can drive significant business outcomes for participating companies and economic benefits for the region.

We would like to express our gratitude to our speakers and to DOE and NETL for providing technology insights for our roundtable.

**TECHNOLOGY INSIGHTS:** The National Energy Technology Laboratory (NETL), part of the U.S. Department of Energy (DOE) national laboratory system, has been engaged to provide our roundtable with insights on advanced technologies that will inform our discussions. NETL supports the DOE mission to advance the energy security of the United States.

## **IN-2-Market Executive Roundtable: Innovating for a Carbon-Smart Future**

### **NOTICE OF CONDITIONS FOR ROUNDTABLE PARTICIPATION**

By joining and participating in this IN-2-Market Executive Roundtable on Decarbonization (“Roundtable”) meeting in any manner (that is, virtually by weblink, by telephone or otherwise), each individual participant (a “Participant”) agrees to the following restrictions. If you do not agree to these restrictions, you are requested to not join or participate in the Roundtable.

- No Participant attending the Roundtable shall attempt to bring about any anticompetitive or illegal understanding or agreement, of any kind, with regard to prices, terms or conditions of sale, distribution, volume of production, sales territories or customer or suppliers.
- No Participant in connection with the Roundtable shall discuss, communicate, or engage in any other information exchange with regard to prices or pricing methods.
- No Participant in connection with the Roundtable shall discuss, or exchange information about restrictions on production or sales, or sales territories or customers or suppliers.
- No Participant in connection with the Roundtable shall participate in any discussion of costs, or any exchange of cost information, unless counsel is present.
- No Participant in connection with the Roundtable shall engage in any discussion to prevent any person or business entity from gaining access to any market or customer for goods or services, or to prevent any business entity from obtaining a supply of goods or otherwise purchasing goods or services freely in the market.
- All Participants in connection with the Roundtable have an obligation to comply with antitrust laws in connection with their activity, and will advise an appropriate Roundtable leader of any known or suspected violation of these provisions.

*If you have any questions or changes to participants or other information, please contact Michael Docherty at IN-2-Market ([mdocherty@in2market.org](mailto:mdocherty@in2market.org), 412.275.0349). We look forward to seeing you on March 24<sup>th</sup>!*