

University Energy Institute Leadership Summit

Wyndham Grand Pittsburgh Downtown

Pittsburgh, PA

600 Commonwealth Place

Pittsburgh, PA 15222

September 25–26, 2019

Over 130 university-based energy institutes in the United States are working to solve the world’s toughest energy- and climate-related challenges. A large collection of these energy institutes, including nearly 80 leaders representing 50+ institutes, will meet for the inaugural [University Energy Institute Leadership Summit](#) on September 25-26, 2019 at the Wyndham Grand Hotel in downtown Pittsburgh, Pennsylvania. Hosted by Carnegie Mellon University’s Wilton E. Scott Institute for Energy Innovation, the Center for Energy Studies at Rice University's Baker Institute for Public Policy, and The Payne Institute for Public Policy at the Colorado School of Mines, this private workshop will explore the synergistic opportunities that are possible with the organization of a national consortium. Both the research and operational leadership at each institute will discuss the role of an organizational framework to advance research and education, funding pursuits, decarbonization strategies, public policy and advocacy, innovation, and partnerships. We will focus on the benefits and challenges of collaboration and explore possible structures. Following the event, a report on recommendations for future development will be published. The Summit is funded by the Alfred P. Sloan Foundation and the U.S. Department of Energy, Advanced Research Projects Agency-Energy (ARPA-E).

All meetings will take place in Sterlings, except where noted.

DAY ONE: Wednesday, September 25, 2019

Agenda as of September 11, 2019

11 AM	Registration opens <i>Main Lobby</i>
11 AM–1 PM	Networking Reception – <i>Buffet Lunch at Noon</i> <i>Commonwealth 1, Lobby Level</i>

<p>1–2:15 PM</p>	<p>University Energy Institute Leadership Kick-Off: <i>Welcome, Meeting Objectives & Introductions</i></p> <p><u>Jay F. Whitacre</u> Director, Wilton E. Scott Institute for Energy Innovation, Carnegie Mellon University (CMU)</p> <p><u>James H. Garrett, Jr.</u> – <i>CMU alumnus</i> Provost and Chief Academic Officer, Carnegie Mellon University</p> <p><u>Rich Fitzgerald</u> – <i>CMU alumnus</i> Allegheny County Executive</p> <p><u>William Peduto</u> Mayor, City of Pittsburgh</p> <p><u>Anna J. Siefken</u> Executive Director, Wilton E. Scott Institute for Energy Innovation, Carnegie Mellon University</p> <p><i>Special Remarks by <u>Chanette Armstrong</u> (CMU alumna) Principal Deputy Director, U.S. Department of Energy, Advanced Research Projects Agency-Energy (ARPA-E)</i></p> <p><i>Introductions around the room</i></p>
<p>2:15–3:15 PM</p>	<p>Keynote: <i>Forming and Growing an Organization</i></p> <p><u>Vincent Martinez</u> Chief Operating Officer, Architecture 2030</p> <p>Creating a vision for collaboration can be daunting, but there are leaders who have paved the way, leveraging diverse and complementary strengths to meet common goals. This talk will provide motivation for the formation of a network of energy institutes. A network begins by opening communication and, through the alignment of interests and goals, produces outcomes that benefit</p>

	<p>all involved. Based on experience with the 2030 Districts Network, a global network of high-performance buildings and communities, this talk will address how to form and grow a network and build value through collaborations and mutual contributions.</p>
3:15–3:45 PM	Networking Break
3:45–5 PM	<p>Roundtable Discussion: <i>Commonalities, Differences, Opportunities for Collaboration, and Stakeholder Expectations</i></p> <p>Motivated by Michael M. Whiston, Postdoctoral Research Associate, Carnegie Mellon University</p> <p>After a brief introduction, this roundtable discussion will identify commonalities, differences, and potential opportunities for collaboration among university energy institutes. Results from a nationwide survey, conducted by Carnegie Mellon University, will be presented to provide a snapshot of energy institute research, funding, and strategic focuses in the U.S. This session will also discuss the expectations that stakeholders have of a network. The roundtable discussion will address these questions:</p> <ul style="list-style-type: none"> • What are commonalities among energy institutes? What are differences? • Can energy institutes complement one another’s strengths and weaknesses? Are there opportunities to collaborate? • Who are the stakeholders in energy institutes? What expectations would stakeholders have of a network?
5–6 PM	<p>Fireside Chat with Brian J. Anderson, Director of NETL: <i>Fueling America’s Energy Generation</i></p> <p>Brian J. Anderson Director, U.S. Department of Energy National Energy Technology Laboratory</p>

	<p>Jared Cohon, Moderator President Emeritus University Professor, Civil and Environmental Engineering, Engineering and Public Policy Carnegie Mellon University</p> <p>For more than a century, the U.S. Department of Energy’s National Energy Technology Laboratory (NETL) has developed bold and innovative technology solutions to address America’s energy challenges using fossil energy resources. Today, the NETL mission focuses on discovering, integrating, and maturing technology solutions to enhance the nation’s energy foundation and protect the environment for future generations, and follows a vision that will continue to power the nation’s economic progress, ensure its security, and enhance national prosperity.</p> <p>Brian J. Anderson, Ph.D., is director of NETL and manages the NETL complex and national research programs in fossil energy. In 2011, he was awarded an Honor Achievement Award from the Department of Energy for his role on a team that responded to the Deepwater Horizon oil spill. He is a recipient of the 2012 Presidential Early Career Award for Scientists and Engineers. Before his role at NETL, Anderson served as the founding director of the West Virginia University (WVU) Energy Institute. Anderson earned a bachelor’s degree in chemical engineering at WVU and his master's and doctorate in chemical engineering from the Massachusetts Institute of Technology.</p> <p><i>During this Fireside Chat, Brian J. Anderson will discuss NETL’s research and development of technologies that address the nation’s energy challenges. He will also discuss future trends in energy and NETL’s partnerships. Jared Cohon, former director of the Wilton E. Scott Institute for Energy Innovation at Carnegie Mellon University, will moderate.</i></p>
6–6:30 PM	<p>End-of-Day Recap, Reflections</p> <p>Suzi Kerr</p>

	Chief Economist, Environmental Defense Fund
6:30–8 PM	Event Networking Reception <i>Commonwealth</i> Join us for networking and heavy hors d’oeuvres.

DAY TWO: Thursday, September 26, 2019

8–9 AM	Continental Breakfast and Networking
9–9:30 AM	Day 2 Welcome
9:30–10:30 AM	<p>Roundtable Discussion: <i>Energy in the Higher Education Curriculum: The Role of Energy Institutes in Education</i></p> <p>Motivated by Elizabeth J. Wilson (CMU alumna), Director, Arthur L. Irving Institute for Energy and Society, Dartmouth College</p> <p>To address the world’s energy challenges, energy-focused educational programs are evolving. This session will explore approaches and visions for developing this type of education. Topics include course curricula, areas of specialization, “hands-on” opportunities for students, training for work in the private and public sectors, and degree and program requirements. The roundtable discussion will address these questions:</p> <ul style="list-style-type: none"> • What should be taught? Is there a “common core”? • Should a consortium offer its own courses? • What would be the course format (online or in-person)? • Who would teach the courses? Can teaching be shared among energy institutes?
10:30–11:15 AM	Networking Break

11:15 AM–12 PM	<p>Panel: <i>Three Institutes, Three Perspectives: The Importance of Collaboration in the University Energy Space</i></p> <p><u>Morgan Bazilian</u> Director, Payne Institute, Colorado School of Mines</p> <p><u>Kenneth B. Medlock III</u> Senior Director, Center for Energy Studies, Rice University’s Baker Institute for Public Policy</p> <p><u>Jay F. Whitacre</u> Director, Wilton E. Scott Institute for Energy Innovation, Carnegie Mellon University</p>
12-1 PM	Networking Lunch
1–2 PM	<p>Keynote: <i>ARPA-E: Creating New Energy Frontiers in the U.S. Innovation Ecosystem</i></p> <p><u>James Zahler</u> Associate Director for Technology-to-Market, U.S. Department of Energy, Advanced Research Projects Agency-Energy (ARPA-E)</p> <p>ARPA-E is creating new ground in energy innovation and investment through the development of high-potential, high-impact technologies. Universities are key players in the ground-breaking research and development that advance these technologies. This talk will provide an overview of ARPA-E and highlight one or two examples of how technologies progress from exploratory research to market entry. ARPA-E provides opportunities for universities to collaborate with one another and impact the energy landscape. This talk will also speak to ARPA-E’s potential new funding avenues that could push technologies down the development path more self-sustainably.</p>

	<p>James Zahler currently serves as the Associate Director for Technology-to-Market at ARPA-E where he is responsible for oversight of all Technology-to-Market activities. He is also responsible for advising teams within the Full-Spectrum Optimized Conversion and Utilization of Sunlight (FOCUS) and OPEN portfolios, which include photovoltaic (PV), concentrated solar power (CSP), and heat engine technologies. Additionally, Zahler supports performers in the Micro-Scale Optimized Solar-Cell Arrays with Integrated Concentration (MOSAIC) portfolio, which is designed to develop novel PV and optics technologies for concentrated photovoltaics (CPV).</p>
2–3 PM	<p>Roundtable Discussion: <i>Setting Expectations for Collaboration: Benefits and Challenges of a Network</i></p> <p><i>Motivated by Kenneth B. Medlock III, Senior Director, Center for Energy Studies, Rice University’s Baker Institute for Public Policy</i></p> <p>What should collaboration look like among energy institutes? This session will explore the benefits and challenges of collaboration. Consideration will be given to the potential impact of a network on public policy, research funding, partnerships with government and industry, education, media attention, research productivity, and bringing technologies to market. The objective of this session is to arrive at a set of expectations that individual institutes have of a network. The roundtable discussion will address these questions:</p> <ul style="list-style-type: none"> • What are the largest benefits of a network? Largest challenges? • What measures can be taken to overcome challenges while maintaining benefits? • What goals and metrics should be used to gauge network effectiveness? • Is there a risk of excluding some universities? How can fairness be ensured in terms of diversity, equity, and inclusion?
3–3:45 PM	Networking Break

3:45–4:45 PM	<p>Roundtable Discussion: <i>How to Structure a Network of University Energy Institutes</i></p> <p>Motivated by Morgan Bazilian, Director, Payne Institute, Colorado School of Mines</p> <p>Networks can take different forms, depending on the scope and objectives of collaboration. This session will introduce possible network structures, including models for collaboration, sharing resources, and assigning staff roles. We will differentiate between centralized (strong) networks and decentralized (weak) networks. The roundtable discussion will address these questions:</p> <ul style="list-style-type: none"> • What should be the geographical scope of collaboration? • What assets should be shared among energy institutes? • Which structure(s) are energy institutes most likely to join? • Which are longest-lasting? • What are the funding requirements of different structures?
4:45–5:30 PM	<p>Closing: <i>A Path Forward and Action Items</i></p>
5:30–6:30 PM	<p>Group Dinners (on your own, facilitated by the Scott Institute)</p>
7:05 PM	<p>Let Us Take You Out to the Ball Game!</p> <p>The Pittsburgh Pirates will take on the Chicago Cubs at PNC Park at 7:05 p.m. The stadium is located in a prime location along the shore of the Allegheny River and takes advantage of scenic vistas of the downtown skyline and riverfront, creating an exciting and dramatic urban sports venue.</p> <p>Fill out this brief form to reserve your ticket. Let's play ball!</p>