Opportunities for Scaling Project-Based Learning for Energy Workforce Development

What are the opportunities to scale project-based learning to meet future work challenges in the energy industry sector?

February’s Emerging Issues Forum, FutureWork, highlighted the important challenges industries face in adapting their workforces to the pace and scale of technological change and to shifts in the state’s demography. Nowhere was this clearer than the energy panel’s conversation about the future of this sector. Audience members all agreed: Students must be exposed to project-based learning if they are going to find the right career fit and develop the skills employers will require in this changing field.

As the authors point out in IEI’s March Environments Newsletter, North Carolina’s clean energy industry is on target to add more than 15,000 new jobs by 2026. Over this same time period, 50% of Duke Energy employees—about 7,000 people—will become eligible for retirement. Further, Duke Energy and the entire industry will need greater expertise in cyber security and grid modernization, and alternative energy resources, such as offshore wind, could conceivably be developed, presenting additional job and economic growth potential.

Preparing our workforce for as many as 22,000 additional energy sector jobs by 2026 in a highly dynamic, rapidly growing, and heavily politicized issue area leads to a central question: How are we going to get there?

Featured Virtual Engagement Activities:

Register for one or more of our upcoming sector-focused virtual engagement activities designed to explore opportunities to expand project-based learning (PBL).

How does your county rate on the Disruption Index?

How does your county rate on the Disruption Index? Is your county more vulnerable to future jobs disruption due to automation and technology? See IEI’s FutureWork Disruption Index for North Carolina and access interactive maps of your county.

And the Winners Are...

We welcomed fifteen teams of young
Check out the ideas about how to scale energy-focused project-based learning in conversation with four national experts from the energy sector. Then, share your own ideas with them. Is your proposition innovative, effective and feasible? These experts understand what is needed and what is happening in other states, so be ready for practical, knowledgeable and valuable feedback!

We know, of course, that many of you are experts also, so participants will want to hear from you too! All participants are encouraged to share their insights, perspectives and questions. Tune in to the Emerging Issues Commons for this virtual meeting!

Output from this conversation will be shared with sector companies, educators and policy makers.

Help us chart a path forward by joining the conversation, kicking off at 2pm on Tuesday, April 26. Experts will be available to respond to ideas and questions for 48 HOURS ONLY! Register for this online conversation for sneak peeks and email reminders.

Our national experts, who have a tremendous range of academic understanding and industry experience, are:

Dr. Pam Carpenter is Education Director for FREEDM Systems Center at NC State University. She is passionate about developing educational and training programs for pre-college through graduate school that provide 21st century skills relevant to today’s needs in industry, and learning experiences that engage and immerse students in these topics.
through real-world application and hands-on projects. The FREEDM Systems Center is building the Internet of Energy, a network of distributed energy resources that intelligently manages power using secure communications and advanced power electronics. Research priorities include power electronics packaging, controls theory, solid state transformers, fault isolation devices, and power systems simulation and demonstration.

**Retired U.S. Maj. Gen. Nick Justice** serves as Executive Director for PowerAmerica, funded by a $140 million grant from the U.S. Department of Energy. PowerAmerica unites academic, government and industry partners in an effort to revolutionize energy efficiency across a wide range of applications, including electronic devices, power grids and electric vehicles. PowerAmerica is located on NC State’s Centennial Campus. Also called the Next Generation Power Electronics Manufacturing Innovation Institute, PowerAmerica is developing advanced manufacturing processes and working to accelerate the commercialization of wide bandgap (WBG) technologies.

**Dr. Michael Webber’s** new book, Thirst for Power: Energy, Water and Human Survival will be published the day IEI’s Environment’s Virtual Convening launches—April 26, 2016—by Yale University Press. In partnership with Itron, Inc. and DISCO Learning Media, Dr. Webber is developing a STEM curriculum to improve energy and water literacy that will be available at no cost in 2016-17 to thousands of K-12 students. Dr. Webber runs the Webber Energy Group at the University of Texas at Austin.

**Curtis Wynn** serves on the Executive Committee for the National Rural Electric Cooperative Association (NRECA) Board of Directors. NRECA is the service organization dedicated to representing the interests of the nation’s 900+ electric cooperatives and their 42 million member-consumers. Mr. Wynn is the CEO of Roanoke Electric Cooperative, based in Aulander, North Carolina.