



Summary Minutes of the U.S. Department of Energy (DOE)'s 21<sup>st</sup> Century Energy Workforce  
Advisory Board (EWAB)  
Public Meeting September 18, 2023

### Date and Time

- Monday, September 18, 2023
- 1-3:30pm Eastern

### Location

- Hybrid – DOE's Forrestal Building (1000 Independence Ave SW, Washington D.C.) and Virtual

### Purpose

- EWAB Public Meeting

### Meeting Participants:

#### *21st Century Energy Workforce Advisory Board Members*

- Dr. Deeana Ahmed, Our Next Energy, Inc. (ONE)
- Amanda Cage, National Fund for Workforce Solutions
- Maureen Conway, Aspen Institute
- Becky Ervin, UAW
- Sarita Gupta, Ford Foundation
- Missy Henrikson, Center for Energy Workforce Development
- Chris Levesque, TerraPower
- Dr. Daniel (Dan) Marschall, George Washington University Institute of Public Policy
- Anne McMonigle, LA Apprenticeship Readiness Fund
- Dr. Girard Melancon, National Council for Workforce Education
- Kay Seven, Co-Chair, Nez Perce Tribe
- Dr. Jermaine Whirl, Augusta Technical College
- Allison Ziogas, Orsted

#### *DOE Staff Presenting and Supporting the Meeting*

- Betony Jones, Director, Office of Energy Jobs
- Maya Goodwin, Senior Advisor, Workforce and Economic Opportunity Policy, Office of Energy Jobs
- Piper O'Keefe, Policy Analyst and Designated Federal Official for the EWAB, Office of Energy Jobs

- Francisco Arzu, Contractor Support for the Office of Energy Jobs from U.C. Berkeley's Labor Center, Co-Director of the Labor Center's Green Economy Program
- Pam Egan, Contractor Support for the Office of Energy Jobs from U.C. Berkeley's Labor Center, Co-Director of the Labor Center's Green Economy Program
- Damaris Vargis, Contractor Support for of the Office of Energy Jobs from Evoke Consulting, Portfolio Director
- Stephanie Bostwick, Tribal College and University (TCU) Coordinator for the U.S. Department of Energy Office of Indian Energy Policy and Programs
- Julie Carruthers, Office of Scientific Workforce Diversity, Equity, and Inclusion, Office of Science
- Mary MacPherson, Program Manager, Office of State and Community Energy Programs (SCEP)
- Jeremy Avins, Supervisory Program Manager for Industrial Assessment Centers, Office of Manufacturing and Energy Supply Chains
- Sarah Wilder, Workforce Program Analyst / Technical Advisor, Solar Energy Technologies Office

#### *Other DOE Staff*

- Katy Clarke, Deputy Director, Office of Energy Jobs
- Melinda Higgins, Director of STEM Programs, Office of Nuclear Energy
- Nikki Luke, Workforce Advisor and Policy Fellow, Office of Energy Jobs
- Tomiwa Olufolabi, ORISE Science and Technology Policy Fellow, Office of Energy Efficiency and Renewable Energy
- Lino Pena-Martinez, Special Assistant, Office of Energy Jobs
- Kate Ringness, Senior Advisor and Chief Strategist, Office of Policy
- Kerene Tayloe, Management and Program Analyst, Office of Economic Impact and Diversity

#### *Other Attendees*

- Jason Fraser
- Otto Katt
- Vanessa Benedetti
- Valentina Salinas
- Griffin Reinecke

### Meeting Summary

This is the first 21<sup>st</sup> Century Energy Workforce Advisory Board (EWAB) meeting. The meeting was physically conducted at DOE's Forrestal Building and virtually via Teams. The meeting was called to order at approximately 1:00pm Eastern. The meeting was attended by members of DOE's Office of Energy Jobs team, 13 EWAB members, members of the public, and others across DOE. Presentations and discussion focused on different workforce programs ran by DOE program offices.

### Public Meeting

**DFO Piper O'Keefe** opened the meeting by addressing housekeeping and logistical items for the meeting. Ms. O'Keefe then took roll call to ascertain a quorum of attendees for the record (13 of 14 EWAB members responded as present). Upon completion of the roll call, members of the Office of Energy Jobs (OEJ) provided an overview of the EWAB's purpose and expected outcomes, as spelled out

by Section 40211 of the Infrastructure Investment and Jobs Act, Pub. Law 117-58 (42 U.S.C. § 18744) [available [here](#)].

**OEJ presented on an inventory of past workforce activities/programming across DOE.** The presentation provided the EWAB with context about what DOE’s historic workforce programs have looked like, what technology areas they've been in, who implemented them, who's benefited from them, and what the type of effort has been more broadly. The OEJ staff member noted that the data was from FY 2011-2022, so before the Bipartisan Infrastructure Law and the Inflation Reduction Act started to be implemented. The report with these findings is going through the final stages of the review process and will be shared with the EWAB when released. The floor was opened for questions from the EWAB members.

**EWAB members asked several follow up questions, including:**

- An EWAB member asked about the higher ed perspective, wanting to know if the investments in education and training mentioned had anything specific with the universities or was mostly just research feeding back to DOE. A DOE staffer answered that the “education and training” category was mainly related to research, both in terms of developing research skills and conducting research itself.
- An EWAB member followed-up to clarify if students connected to these projects, then have any sort of placement in DOE/DOE contractor job opportunities when they're graduating. A DOE staffer clarified that most of the programs did not necessarily have that direct link.
- An EWAB member asked what sort of outcomes were tracked for the programs – as in, credential completion, etc. A DOE staffer answered that the outcome metrics tracked varied by office and so the report is not able to capture that in a comprehensive way.
- An EWAB member asked if there is opportunity to redistribute the funding moving forward, and what goals would be for the next year or two. A DOE staffer responded that the EWAB members could consider if re-orienting funding, as allowable by law, is a recommendation from the Board as that would be in the Board’s scope.
- An EWAB member said that she didn't realize how much workforce development work National Labs did and asked for an overview of what kind of work the labs do? And what kind of workforce development they support? A DOE staffer noted that each of the labs have a specific technology area that they tend to focus on (for example, NETL is the National Energy Technology Lab), and so each of the 13 labs have their focus areas and they each have different approaches to workforce development or different people in their labs who work on it.
  - An EWAB member added that, in terms of apprenticeship at a lab (if the Hanford Reservation is considered a lab), she received an e-mail that DOE unfunded the program accreditation back in the mid-1990s and removed it from a collective bargaining agreement. That was with the metal trades, so a recommendation could be to look at that again to open up the door of apprenticeship opportunity.

**A staff member in the Office of Indian Energy presented on the office’s workforce development initiatives with Tribal Colleges and Universities (TCU).** The presentation provided the EWAB with information about the Office of Indian Energy’s Policy and Programs and TCU funding and engagement.

**EWAB members asked several follow up questions, including:**

- An EWAB member asked whether Stephanie’s office is talking to the Nez Perce Tribe and how they can become a part of the opportunity and what is involved. DOE noted they’re still in the planning phases of how the consortium will be structured with the American Indian Higher Education Consortium. Once it’s formed, hopefully in the next year, it’ll be a mechanism for at least getting funding out to the TCUs. An EWAB member noted that under Public Law 102-477, tribes could look at how to use funding from DOE and other federal agencies to provide wraparound services to Tribal communities.
- An EWAB member asked where they can find a list of where the TCUs are located. DOE responded that the AIHEC’s website has a list of the TCUs and a map of where they’re located; adding that since they’re the only TCU in the Pacific Northwest, they serve Washington, Idaho, Oregon, and soon California.
- An EWAB member asked if the courses will be open source, or where they will be stored. DOE said that they were working on a platform to share the courses, likely as downloadable Canvas courses that can be shared among faculty.

**An Office of Science staff member presented about the Office of Science’s workforce development initiatives.** The presentation provided the EWAB with information about the Office of Science’s mission, workforce development investments, and student training and workforce programs. They discussed the new DOE STEM website that is a collaborative effort across all of DOE’s R&D programs.

**EWAB members asked several follow up questions, including:**

- An EWAB member said that they weren’t surprised the Office of Science (SC) supports development on radiochemistry and the particle accelerator work, because he thinks there aren’t good academia programs for that. They were surprised about the focus on advanced computing because he thought that was an area where there probably is university support out there. A DOE staff member responded that there are growing programs now, but long ago, there were very few academic programs that taught computational science, computer science, and applied mathematics as they apply to the fastest computers in the world. Additionally, the program allows fellows to do a summer practicum at a National Lab and learn on the ground.
- An EWAB member asked about what support the Office of Science provides to the students they bring in to allow all students to take advantage of these types of opportunities. DOE responded that at the National Lab programs especially, they’ve placed an intentional focus on overcoming barriers to applying and participation. They pay a living wage for the internships, tried new outreach and engagement programs (including a “mini semester” where students come to the Labs for a week to tour the facilities), and have set up a support system (including a research mentor) for participants.
- An EWAB member asked whether the programs reach K-12, non-academic programs, career/technical education programs, and apprenticeship programs. A DOE staffer responded that the Office of Science programs have been evolving because they do not want to duplicate what NSF does. Energy literacy has been a big component of some of the technology offices for them, such as funding the DOE National Science Bowl, which has been going on for 27 years and focuses on competitions for high school and middle school students that inspires them to pursue careers in STEM. In recent years, as part of the RENEW Initiative, they’ve been targeting programs at the high school level to help bridge students into academic programs or STEM

programs at the undergraduate level, and then bring them into the laboratories in their first year of undergrad.

- An EWAB member asked about the possibility of partnerships with the TCUs especially related to teacher education programs. A DOE staffer acknowledged there's an opportunity for DOE to do more intentional work with Tribal communities.
- An EWAB member asked for clarification between the Office of Science (SC) and National Science Foundation's roles. DOE responded that SC tends to have longer term focus in their mission areas, and all of their program areas are tightly related to aspects of DOE's missions and the National Labs. They think about longer term support for areas to produce different technical scientific outcomes. As opposed to a broader, "thousand flowers blooming" focus, or re-competing research on a regular basis.

**The Office of State and Community Energy Programs' (SCEP) presented on their workforce development initiatives.** The presentation provided the EWAB with information about the Bipartisan Infrastructure Law (BIL) and Inflation Reduction Act (IRA) programs supporting the supply and demand of skilled green buildings and energy efficiency workforce.

**EWAB members asked several follow up questions, including:**

- An EWAB member asked about what SCEP was doing to make sure that the home energy auditing jobs were good jobs, citing that the American Recovery and Reinvestment Act in 2008/2009 did lead to jobs with career and upward mobility. DOE responded that DOE is addressing it through community benefit plans. DOE additionally mentioned that the energy auditor training program is seeking to match supply to demands; not just train as many workers as possible.
- An EWAB member asked whether the career skills training program was a one-time opportunity. DOE responded that it is only a one time opportunity and Congress would need to allocate more money to have the program extended.
- An EWAB member spoke about how state energy offices can work in silos from community/technical colleges and other training entities that have some of the best training labs and asked about opportunities to get more training for inspectors working at the ground level. DOE noted that they focus on energy efficiency in the residential sector, not building code compliance.
- An EWAB member followed up about whether the jobs created are good jobs and what sort of tracking/goals SCEP has for good jobs. DOE responded that the metrics will vary program to program.

**The Office of Energy Efficiency and Renewable Energy's Solar Energy Technology Office's (SETO) presented on their office's workforce development initiatives.** The presentation provided the EWAB with an overview of SETO's workforce portfolio, its workforce partnerships funding announcement, and the portfolio of the recipients of those workforce partnership awards.

**EWAB members asked several follow up questions, including:**

- An EWAB member asked if the office has any national projections, in terms of what the workforce demand is going to be for solar tech implementers in the next decade. DOE responded that the national projections are somewhere around 1,000,000 workers, and the solar industry is currently about 250,000 workers who spend more than 50% of their time on solar; and about 316,000 people if you include those who spend less than 50% of their time on solar. The demand is projected to really skyrocket across all different sectors of the industry, but specifically construction roles.
- An EWAB member asked what their job quality standards are and how they're tracking them. DOE responded that they include wraparound support services, job quality standards in the roles that people are placed into, family sustaining wages, good benefits, and opportunities for advancement (such as through encouraging pre-apprenticeship and apprenticeship programs). They cited that the Inflation Reduction Act has certainly helped with promoting these since there are now prevailing wage requirements on all large solar construction projects, to get the full 30% investment tax credit.
- An EWAB member asked the Solar office to elaborate on any examples of wraparound services.

**The Office of Manufacturing and Energy Supply Chains (MESC)'s presented on the office's workforce development programs.** The presentation provided the EWAB with an overview of MESC's investments in manufacturing capacity and workforce, its Industrial Assessment Center program, and its battery and EV investments (BIL 40207, IRA 50143, and IRA 48C).

**EWAB members asked several follow up questions, including:**

- An EWAB member asked about whether there was a need/opportunity for stackable credentials that are universally recognized in manufacturing. A DOE staffer responded the IACs have a certificate and some degree of recognition but there could be more room regarding career pathways, workforce needs in connection to training certificates.
- An EWAB member asked how DOE is looking to value the manufacturing jobs that are American generated with American IP in terms of being able to sustain manufacturing long term through investments such as the battery manufacturing grants. DOE responded that all BIL and IRA investments are subject to some sort of "Build America Buy America" requirements that provide a strong incentive, if not formal requirement to use and grow domestic supply chains.
- An EWAB member asked whether or how this program connects with the manufacturing extension partnerships (MEP). DOE responded that every state has a manufacturing central partnership funded by National Institute of Standards and Technology at Commerce that works quite closely with them, and they're trying to deepen the work that IACs do with their MEPS; with some IACs already co-located with the MEPS.

**The Berkeley Labor Center Support team** then facilitated a discussion among the members the questions: "so what?" What does DOE do? How can DOE be the most additive? What captured the members during the discussion and what do they want to know more about?

**EWAB member discussion:**

- An EWAB member asked about the "Equity in Energy Initiative" that was cited in the statute creating the EWAB. DOE responded that the "Equity in Energy Initiative" was started in the last administration and is overseen by the Economic Diversity Office (ED). One of the main aspects of

the program is an ambassador program where there are non-federal leaders who champion different issues, one of which is inclusive workforce development.

- An EWAB member asked what are the standards for job creation across all of these programs? How are these grant programs being evaluated? Is it consistent across all of the programs? Are there some programs that have the apprenticeship and wage prevailing wage requirements that have it have more structured or stringent requirements? How do some of the other things that we've been talking about wrap around services come into those frameworks of evaluation? DOE noted the "Community Benefits Plans" framework. That framework comprises 20% of a proposal score and is used across all of the BIL and IRA grants, funded programs and loan programs; though the loans have slightly different structure in terms of the scoring. DOE noted say that there's a website that lists the criteria for these priorities that DOE is considering.
- An EWAB member asked what part of the dollars cited in the presentations were exclusively for workforce development? They emphasized that there's a lot to be learned by doing in those capital projects.
- An EWAB member noted that he thinks there's a big opportunity with the Office of Science research, especially in terms of community colleges, as they have 49% of the folks who are in any college or two-year college right now. They said that community college students aren't necessarily thought of as being in research, but that thought eliminates half of the potential researchers and more should be done in terms of making pathways more seamless to becoming a four-year person. He made the point that to increase diversity in graduate students, we've got to get students there so they can even know that "I can be a researcher."
- An EWAB member noted that community colleges and HBCUs that have been historically underfunded. He suggested that one path is to encourage large companies to give equipment to the labs at these schools to help establish training on new and up-and-coming technology and innovation.
- An EWAB member noted that wrap around services are incredibly important, and she thinks that should be one of the EWAB's core focuses.

**EWAB members were reminded that they have the opportunity to self-organize into subcommittees,** and these could be topics to organize around.

- An EWAB member noted that they was disappointed to not see more focus on offshore wind, as it touches so many sectors (maritime, construction, manufacturing, ports, infrastructure, etc). It could be good for DOE to think about how to connect employers with community group and unions, especially to adapt curriculums to train for offshore wind jobs, as it's currently costly to get the necessary credentials – the cost is a burden for individuals and for apprenticeship programs. DOE noted that that the wind off did not present today but is engaging in workforce activities, and the EWAB members should let DOE know which offices, specifically, they'd like to hear from in future meetings.
- An EWAB member noted that that the EWAB has a lot of opportunity to give advice to the Department's new focus on the construction trades, as they probably need the advice more than established programs.
- An EWAB member wondered if there are different ways in which funding and resources are getting out the door to help under-resourced communities know about and apply for DOE

funding. She was curious to learn what programs are learning about that and how they could help DOE understand and meet the goals of reaching underserved communities.

- An EWAB member said that she would like to also figure out how to incorporate lessons learned from BIL and IRA into legacy programs in order to ensure durability.
- An EWAB member added that it's important to consider what states are doing as well and how that fits into the intent of DOE programs. She thinks there's an opportunity to analyze what's working well, what's not, what the gaps are, etc, especially from the community organization perspective. Also which states are reaching community organizations to make sure they are getting laddered up to federal opportunities, and how can those lessons be shared.

The Board then discussed how do they want to get the information needed and turn that into recommendations.

- An EWAB member recommended that EWAB members form subcommittees and then funnel the material, research, and recommendations through a single entity that is responsible for drafting the report, with the entire board's perspective and approval integrated throughout the process.
- An EWAB member wanted to know if Subcommittees could reach out to people in other federal agencies. DOE noted that they are allowed to talk to external people. FACA just requires that subcommittees present all the findings and discussions to the whole group for discussion before adopting anything that's proposed in the subcommittee itself.
- An EWAB member commented that the EWAB has a great opportunity to reach across federal agencies and help DOE do its part better with the wrap-around services, potentially in working with another federal agency.
- An EWAB member shared some thoughts on committee structure and the day's takeaways. The first theme that popped out to her was unification. She continued that another theme was wrap around services, that she believes could be broadened to "barriers to employment," which includes wrap around services, childcare, transportation, pre-employment testing, and more. Other themes were training (such as registered apprenticeships, the technical system), manufacturing, and diversity.
- Several EWAB emphasized the benefits cliff.
- An EWAB member noted that a "performance standards" subcommittee would be different than a "wrap around services/barriers" subcommittee. They noted that when you give people more skills, they will be more productive and should earn more... but that is very rarely tracked. So pre-evaluation of what needs to be trained for implementation, and the during evaluation, you bring training into it.
- An EWAB member mentioned that credentialing standards and transferability should be encompassed in some subcommittee.

**The DFO opened the floor for public comment and then noted that there were none.**

**The meeting returned to the EWAB member discussion, asking if any had other thoughts on subcommittees and the general process for putting a report together.**

- The EWAB members then voted unanimously in favor of working with the Labor Center to draft their report.



- An EWAB member said that it's helpful to have a map of the energy sector and where it's going, what's the impact on education, the suppliers of education training programs, and then going to be impact with the barriers.
- EWAB members discussed barriers community colleges face, noting the opportunity for DOE to invest and plant seeds there; replacing old equipment into the existing infrastructure. The EWAB could propose both a short term immediate solution to strengthen the programs for new technologies, as well as a long-term engagement strategy to build the pipeline and make sure people are entering those programs too.
- An EWAB member noted they would like the EWAB to focus on what is practical and can be implemented in their timeframe.
- Members discussed the importance of narrative change work—i.e what is workforce strategy is not just training but also child care and addressing geographic diversity.
- Members noted that they would like to see maps. DOE has recently published a map that shows all of the private investments, and (when the information was available) the jobs created. She also asked the EWAB to think about how the energy system is changing dramatically and will require different things of workers to be successful at having a resilient, clean, and competitive energy system. She asked, what is it that the industry and employers need; what skills do workers need; what is the role of workers in the energy system?
- Members discussed the role of DOE as a convener and the EWAB adding value by visioning what the DOE's role can be.
- An EWAB member added that the employers' perspective is really important to make sure the work the EWAB is doing serves a purpose, because no one wants training for the sake of training, and the training should result in high quality jobs.
- An EWAB member added hat they should create subcommittees to answer the major points – how to incentivize good quality employers who will stay in the US, hire Americans, and will invest in their workers training?

**EWAB members were instructed that there would be follow up to form subcommittees.**

The Meeting Adjourned at approximately 3:30pm Eastern.

Respectfully submitted.

Maya Goodwin

Designated Federal Officer

January 29, 2025