21ST CENTURY ENERGY WORKFORCE ADVISORY BOARD

Strategy for a

21st CENTURY ENERGY WORKFORCE

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REPORT OF THE ENERGY WORKFORCE ADVISORY BOARD

TO JENNIFER M. GRANHOLM, SECRETARY, U.S. DEPARTMENT OF ENERGY

Now is the time to sharpen DOE's workforce strategy.

Why?

- **The energy sector is going through a period of large-scale transformation.**

Will we have the workers we need for a cleaner, more resilient, more secure, and more affordable energy system?

- **DOE has an expanded role as a catalyst for the deployment of clean energy infrastructure and a resurgence of domestic manufacturing.**

Will its workforce strategy align with that role to meet the opportunity?

- **DOE has a long history in supporting the development of the workforce in related STEM disciplines—the R & D workforce. But DOE has only just begun to support the workforce that is needed to build, construct, manufacture, maintain, and operate energy infrastructure and vital supply chain inputs—the deployment workforce.**

Will its workforce strategy sufficiently expand to capitalize on this opportunity?

A sharper, more impactful workforce strategy is based on DOE's unique assets.

STEM EDUCATION	Highly regarded STEM education infrastructure and activities, especially related to nuclear energy.
NATIONAL LABS	Research and development investments that catalyze critical technology and science education through the National Laboratory complex.
BIRDS-EYE VIEW OF ENERGY CHANGES	A birds-eye view of the industries in the energy sector, the changes underway, and a unique position to see workforce needs, especially across industries.
STAKEHOLDER RELATIONSHIPS	Strong working relationships and the power to convene key stakeholders.
CATALYST FOR DEPLOYMENT	Deployment of hundreds of billions in federal competitive funding opportunities that requires community benefit plans.
INTERNATIONAL ROLE	Strong international relationships with other energy ministries to learn and share innovative approaches and best practices.
CREDIBILITY, INFLUENCE, TECHNICAL EXPERTISE	The unique influence of DOE over the energy sector, rooted in its credibility, investments, relationships, technical expertise, and "bully pulpit" power to shape the decisions of a range of energy sector stakeholders.
RESEARCH AND ANALYSIS	An annual analysis of the energy workforce, with national, state, and energy subsector details (U.S. Energy and Employment Report) and future-looking Energy Workforce Needs Assessment.

The EWAB was charged with recommending a strategy that...

1. Meets the current and future industry and labor needs of the energy sector;
2. Provides opportunities for students to become qualified for placement in traditional energy sector and emerging energy sector jobs;
3. Identifies areas in which the Department can effectively utilize the technical expertise of the Department to support the workforce activities of other federal agencies;
4. Strengthens and engages the workforce training programs of the Department and the National Laboratories in carrying out the Equity in Energy Initiative of the Department and other Department workforce priorities;
5. Develops plans to support and retrain displaced and unemployed energy sector workers; and
6. Prioritizes education and job training for underrepresented groups, including racial and ethnic minorities, Indian Tribes, women, veterans, and socioeconomically disadvantaged individuals.

(The above is a segment of the full statute.)

Two critical through lines connect all of the Board's strategic recommendations.

The workforce needs outlined in the full statute are interconnected and the strategies to address them are necessarily interdependent.

1. The importance of DOE leveraging its unique capacity to support and drive the workforce trajectory of the **entirety of the energy workforce ecosystem**, addressing new technology, emerging technology, and legacy systems.
2. The fundamental requirement for energy jobs to meet the needs of energy workers, a task that requires attention to the systems and structures that impact **job quality** and serve as **barriers** to those who have been **historically excluded from quality employment** in the energy sector.

Themes from the Board's strategy

COHESIVE

PRINCIPLED

PROFICIENT

SCALABLE

INFORMED BY DATA

Strategic Recommendations

I. Issue an agency directive adopting eight principles for all DOE workforce activities.

II. Institutionalize and bolster the Department's coordination of critical workforce activities internally and across federal agencies.

III. To support DOE's industrial strategy to revitalize the U.S. energy and manufacturing sectors, integrate six interdependent workforce strategies towards increasing cohesion, effectiveness, and planning for the future.

Strategic Recommendations I:

Issue an agency directive adopting eight principles for all DOE workforce activities.

USE DATA	Begin with analysis that gathers crucial data, including on labor market demand and supply, track record on what the Department is doing, as well as equity and quality in energy jobs.
PRIORITIZE CAREERS	Prioritize broad occupational training for careers, rather than task training for unique jobs.
BREAK DOWN SILOS	Break down silos across workforce efforts that focus on specific technologies or tasks.
BOOST CAPACITIES	Leverage, partner with, and boost the capacity of existing workforce and education infrastructure, including union-sponsored pre-apprenticeship, apprenticeship, and labor management partnerships, to impact job quality and equity.
INCENT EMPLOYERS' ROLE	Use every tool in DOE's toolbox to incentivize employer commitment to direct hiring, retention, and career path strategies.
PRIORITIZE PARTNERSHIPS	Focus on supporting partnerships over standalone programs.
DRIVE JOB QUALITY AND EQUITY	Drive employer commitment to and investment in job quality and equity.
MEASURE, EVALUATE, ADJUST	Choose meaningful metrics—then measure early, evaluate often, and make timely adjustments to meet mission-critical goals.

Strategic Recommendations II:

Institutionalize and bolster the Department's coordination of critical workforce activities internally and across federal agencies.

Establish the Office of Energy Jobs as a standalone office and clarify that it is charged with leadership and coordination of DOE's cohesive workforce strategy.

Lead and expand collaboration with other federal agencies implementing workforce development for critical energy sector occupations.

Make information on how DOE funding can be used for workforce development more useable and accessible.

Strategic Recommendations III:

Integrate six interdependent workforce strategies into DOE's work to increase cohesion, effectiveness, and planning for the future.

1. Compile and maintain the data required to project workforce needs and prioritize investment in the energy workforce.

2. Continue and in some cases expand DOE's investment in training engineers and scientists.

3. Strengthen and expand a cohesive, sector-focused skills development infrastructure with direct connection to critical trade, technical, and operations jobs.

4. Break down barriers and build on-ramps to high-quality energy jobs, especially for disadvantaged communities, underrepresented populations, displaced and unemployed energy workers, veterans, and youth.

5. Document the state of job quality and drive improvements, where needed, in the energy sector.

6. Define success, set benchmarks, refine the strategy.

Zooming in on Strategy III: Highlights

Prioritize data that informs a cohesive, effective energy workforce strategy for the Department.

Build new sector initiatives, support existing sector partnerships, and build up the capacities of stakeholders and workforce intermediaries to execute these strategies.

Increase DOE technical assistance to support effective, inclusive, place-based workforce strategies.

Measure the impact and effectiveness of DOE workforce investments, especially in terms of labor market outcomes for participants and reach for underserved populations.

Zooming in on Strategy III:
Prioritize data to inform the workforce strategy

Prioritize data that informs a cohesive, effective energy workforce strategy for the Department.

DOE's workforce investments and activities should be informed by such questions as:

- Where are the jobs?
- What are the training pathways for those jobs? Where are the gaps?
- Where is workforce displacement?
- How well are these investments serving underrepresented populations and disadvantaged communities?
- What energy occupations are failing to attract and retain a workforce and what are indicators of job quality in those occupations?

Zooming in on Strategy III:
Build and support sector initiatives and intermediaries

Build new sector initiatives, support existing sector partnerships, and build up the capacities of stakeholders and workforce intermediaries to execute these strategies.

- **Rather than making scattered investments in disconnected, "one-off" programs, DOE can leverage its relationships and convening power** to catalyze efficient, sustained, sector infrastructure to address opportunities in the energy transition strategically and at scale.
- DOE is well-positioned to build the capacity of institutions (workforce intermediaries) to play a leadership role in industries and occupations of critical importance to the energy transition.
- Successful sector initiatives are aimed at supporting both the **needs of workers** (i.e., job quality and workforce pathways) **and employers** (i.e., contributing to the competitiveness of high-road employers).

Zooming in on Strategy III:
Boost place-based workforce strategies

Increase DOE technical assistance to support effective, inclusive, place-based workforce strategies.

- DOE's workforce investments can have greater impact by boosting the capacity of institutions to play strategic workforce roles not just across critical industries, but also through **place-based strategies in communities where jobs are being created or displaced.**
- DOE can do more to support communities to develop and scale inclusive workforce development partnerships, programs, and policies in localities and regions where large numbers of jobs are arising from public and private energy investments.
- DOE currently is piloting this strategy through several programs (i.e., RAMP, REDI, Good Jobs in Clean Energy Prize).

Zooming in on Strategy III:
Measure effectiveness of DOE workforce investments. Adjust.

Measure the impact and effectiveness of DOE workforce investments, especially in terms of labor market outcomes for participants and reach for underserved populations.

- **An impactful workforce strategy must include a definition of success**. DOE should zero in on such a definition and measure it across both its investments directly in workforce development as well as workforce impacts of deployment projects: e.g.,
  - Identify outcome goals and benchmarks for workforce investments across the Department.
  - Track jobs (and who benefits from them) from deployment investments. Set goals for underrepresented populations and institutionalize activities across the Department to contribute to meeting those goals.

Looking Ahead: What is Needed to Inform the Board's Work for its Next Report to the Secretary of Energy

An analysis of workforce development efforts relevant to the energy sector that are funded by DOE and involve the National Labs. Plus, a strategy from the Department on how to leverage the National Laboratories Complex effectively towards a comprehensive workforce development strategy for the energy workforce.

The start of a plan for how the Department will kick-start sectoral workforce development initiatives, starting with specific strategies that reflect this report's recommendations as related to the Battery Workforce Initiative.

A plan for breaking down barriers and improving hiring in the energy sector for certain underrepresented populations, starting with people with criminal legal records and women.

A briefing on how the research and analysis work recommended here progressed, including identifying what data is mission critical.

An assessment of funding and staffing needs for a centralized jobs office to begin implementing priorities in this report.

THANK YOU

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