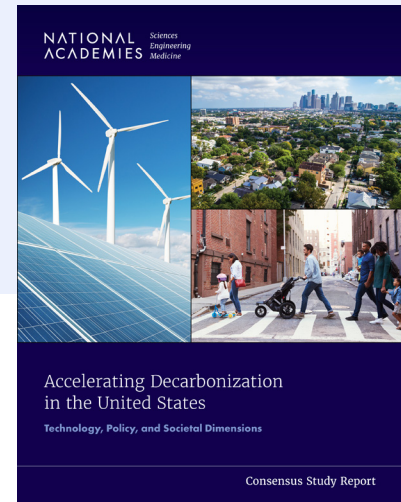


Accelerating Decarbonization in the United States

Technology, Policy, and Societal Dimensions



A WORKFORCE FOR THE FUTURE

Addressing climate change is essential and possible, and it offers a host of benefits—from better public health to improved economic opportunity. To avoid the worst consequences of climate change and reach the nation’s interim goal of 50 percent emissions reduction by 2030 and the ultimate goal of net zero by 2050, it is critical to pursue all opportunities for decarbonization.

The National Academies of Sciences, Engineering, and Medicine have released a comprehensive report with sector-by-sector recommendations to guide policymakers on decarbonizing the U.S. economy over the next decade and beyond. The report addresses the technical and societal elements of this necessary energy transition while providing actionable steps toward achieving deep decarbonization. Learn more and download the report at <https://nationalacademies.org/decarbonization-report>.

MYRIAD OPPORTUNITIES FOR WORKERS ACROSS THE NATION

The United States has a historic opportunity to demonstrate that it has learned the lessons from history and to ensure that the transition enhances the inclusiveness and diversity of the clean energy workforce. As the net-zero economy continues to grow, so do the opportunities for workers across the nation, as shown in Figure 1. **The transition to a clean, net-zero-carbon economy will be a net job creator across the country.** Additionally, for many sectors, the needed workforce is

already available. The nation’s skilled workforce is willing and able to produce, install, and operate the materials, products, equipment, and infrastructure needed for a net-zero economy.

PREPARING ALL WORKERS FOR THE ENERGY TRANSITION

At the same time, it is reasonable to expect the continued trend of net fossil fuel job losses as the U.S. economy transitions to new energy sources. Even if there is an overall increase in jobs nationally through the transition, these numbers do not reflect individual experiences. Those who will experience a major disruption need to be supported directly. For people who lose employment in the transition—such as fossil fuel workers—policies and programs that can be implemented *now*, such as Transition Assistance and Unemployment Insurance, can provide support that prevents hardship between employment as well as pathways to new careers. **Policy choices can greatly affect the employment impacts of transition**, including where and when these losses take place.

LEARNING THE LESSONS FROM THE NATION’S ENERGY PAST

A just transition to a clean energy economy requires fostering a workforce for the future. The benefits

from the nation’s current energy economy have not always been distributed equitably, with low-income and disadvantaged communities least likely to reap the benefits. Reliance on fossil fuels has concentrated jobs in areas that have experienced “boom and bust” economies in parallel with the price of oil. Workers and the local economy in these areas have suffered hardship as industry moved elsewhere to tap new sources of fuel.

Large shocks to local economies—from the early 1980s and 2010s decline in coal production in the Eastern United States and the more recent widespread erosion of manufacturing employment associated with trade exposure to Chinese import competition—have left people behind. The nation cannot successfully transform its energy system without a strong social contract ensuring that the American people are behind the long-awaited energy transition. Historical analyses of large shocks to local economies show that the existing safety net is ill-equipped to address the scale and scope of these impacts. Therefore, it is critical to ensure that the energy transition is just and equitable.



FIGURE 1 Anticipated annual employment in energy jobs across the United States.

NOTE: Did not model Alaska and Hawaii.

SOURCE: Mayfield, E., J. Jenkins, E. Larson, and C. Greig. 2023. “Labor Pathways to Achieve Net-Zero Emissions in the United States by Mid-Century. *Energy Policy* 177(June):113516. <https://doi.org/10.1016/j.enpol.2023.113516>.

KEY RECOMMENDATIONS

By balancing societal, environmental, and economic considerations, the nation can expect an energy transition that benefits everyone. For a full list of findings and recommendations, download the report at <https://nationalacademies.org/decarbonization-report>.

NECESSARY ACTIONS	ANTICIPATED RESULTS
To meet the demand for skilled workers in clean energy and other net-zero-relevant fields, the Department of Energy should convene partners in manufacturing to develop effective workforce development programs for industry .	<i>The energy sector has a growing number of high-quality jobs that are accessible to a greater diversity of workers in the United States.</i>
To mitigate impact to employment in the fossil fuel sector, Congress should: <ul style="list-style-type: none">• Authorize and provide appropriations for state transition offices to address coal, oil, and natural gas community transitions.• Extend unemployment insurance duration for fossil fuel-related layoffs.• Develop a decarbonization workforce adjustment assistance program.	<i>The United States has a pipeline of qualified, local workers who can build the domestic clean energy economy.</i> <i>The American public has a say in deep decarbonization planning.</i>
To help the U.S. public engage effectively in the deep decarbonization planning process, the Departments of Energy and Education should establish and support the development of the following: <ul style="list-style-type: none">• An energy systems education network• Net-zero curricula• Skill development programs	<i>People employed in industries such as fossil fuels are supported and trained for new careers.</i> <i>The energy sector workforce is more representative of the people living in the United States.</i>
To increase access to safe and well-paid employment by low-income and marginalized households, Congress should invest in linking people from disadvantaged communities to high-quality jobs .	<i>The United States fulfils its social contract with the American people.</i>
To better understand the extent of the workforce capacity needed for a successful energy transition, Congress should mandate and allocate resources for an assessment of future workforce needs .	

COMMITTEE ON ACCELERATING DECARBONIZATION IN THE UNITED STATES: TECHNOLOGY, POLICY, AND SOCIETAL DIMENSIONS

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FOR MORE INFORMATION

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