LPDD Model Law: Congressional Law Establishing a Commission on a Clean Energy Workforce

Introductory Memorandum

The model federal law below would create a commission to oversee a comprehensive study of the workforce needs of the United States economy as it rapidly decarbonizes. A decarbonizing United States economy, whether at a pace consistent with net zero emissions by 2050, or consistent with currently-enacted federal, state or local policies, will require substantial investments in infrastructure, fuel-switching, retrofitting, natural resources management, and more. To effectuate this transition, the country will have to educate and train a large technical workforce.

While there have been several attempts to measure and prepare for the workforce needs of specific sectors of the clean energy economy (e.g., specifically for the installation of grid-scale batteries or offshore wind), there has to date been no comprehensive federal study of the workforce needs of the clean energy transition broadly, or recommendations that may inform an appropriately wide national education and training strategy. Many educational and training institutions are designed to provide their students with multi-sectoral skillsets, and a multi-sectoral analysis of labor needs in a decarbonizing economy would help inform how these institutions are prepared and resourced.

The model law aims to lay the analytical foundation for a scaling up of the United States’ technical workforce to meet the challenges of decarbonization under two decarbonization scenarios. Legislators adopting the model law can choose either scenario on which to base the study – or both. Under the first scenario, the legislature would empanel a commission to project the technical and economic pathways associated with a net zero economy, model the labor market demands of those pathways, assess obstacles to the United States’ workforce meeting that labor demand, and recommend new resources in the realm of education and job training to better prepare the workforce for the transition ahead, including recommendations at the federal, state, and local levels.\(^1\)

\(^1\) See, e.g., Through the Local Government Lens: Developing the Energy Efficiency Workforce, ACEEE (2018), providing case studies on how “local governments can set workforce development goals, coordinate training programs, and provide equal access to opportunities to workers and businesses,” available at https://www.aceee.org/research-report/u1805
Under the second decarbonization scenario, the commission would undertake a comparable analysis, based on a target that is less ambitious than a net zero target, projecting the technical and economic pathways associated with current climate policy, taking into account emissions projections associated with recent federal legislation, state legislation, Executive Orders, and actual or reasonably anticipated federal or state regulation. Under either scenario, the study would include a focus on minority, historically underserved, and economically disadvantaged populations. The model law also addresses, under the scenario chosen, the resulting displacement of the workforce in fossil-fuel related and other high-emissions technology industries, using the same approach of studying the expected displacement and addressing it through recommended mobilization of federal resources (including retraining).

**Background**

Several public and private efforts have been undertaken to assess some component of the challenge that the United States’ workforce will face in meeting the labor demands of the decarbonization transition. At a high level, these efforts show that decarbonization will affect a breadth of industries and technical specializations at

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2 This focus is consistent with current federal policy and the Biden Administration’s Justice40 initiative. A 2022 DOE RFI on federal funding for workforce development under the Bipartisan Infrastructure Law (BIL) and the Inflation Reduction Act (IRA) notes that “BIL and IRA implementation processes should advance equity for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality.” DOE FOAA 0002885, Preparing Workers and Businesses to Deliver Energy Efficiency and Building Electrification Measures, at 2, available at https://eere-exchange.energy.gov/FileContent.aspx?FileID=daa7fb62-d30e-4581-bbd6-35cbf4ac0a30. See also, Expanding Opportunity through Energy Efficiency Jobs: Strategies to Ensure a More Resilient, Diverse Workforce, ACEEE (2020), studying “how utilities and efficiency program administrators are crafting workforce development programs that engage traditionally underrepresented workers and students,” available at https://www.aceee.org/research-report/u2010.

3 See generally, LPDD.org, Social Policies to Facilitate a Just Carbon Transition, at https://lpdd.org/pathway/social-policies-to-facilitate-a-just-carbon-transition/. See also, e.g., Illinois’ SB 2048 (2021), available at https://www.ilga.gov/legislation/BillStatus.asp?DocNum=2408&GAMC=16&DocType=SB&SessionID=110&GA=102. The Illinois bill creates the Energy Transition Assistance Fund and allocates funds to support state workforce development and transition. The law includes a section referred to as the Displaced Energy Workers Bill of Rights. It includes benefits for displaced workers, such as advanced notice of plant or mine closures, education for displaced workers on available assistance programs and resources, consultation with workers on various employment and educational opportunities for them, training and career counseling services and financial and retirement planning services. See also Colorado’s HB 1290 (2021), available at https://leg.colorado.gov/bills/hb21-1290, which provided $8 million to fund grants supported by the Just Transition Cash Fund and an additional $7 million to new coal transition worker assistance programs.
remarkable scale. For example, a private 2021 study on the clean energy workforce required to shift the country towards 50 to 70 percent renewable energy within ten years highlighted the need for a large workforce in:

... the construction and manufacturing industries, with additional support from project development and operations sectors such as finance, legal, consulting, architecture, engineering, and to a lesser extent, wholesale trade, utilities, and other industries. In particular, wind turbine technicians, solar photovoltaic installers, semiconductor processing technicians, metal fabricators, and electricians will be in high demand to produce and install the renewable energy and storage capacities required to reach a 50 or 70 percent standard.  

Beyond the breadth of expertise required, the scale of labor demand is also significant. A 2022 National Renewable Energy Laboratory report, State-Level Employment Projections for Four Clean Energy Technologies in 2025 and 2030, found that the number of workers in renewable energy and energy efficiency will double by 2025 and triple by 2030.

While a number of federal agencies and programs are committed to studying or addressing issues related to preparing the United States’ workforce to meet the demands of decarbonization, no comprehensive assessment has yet been made of the full, multi-sectoral scale of this challenge. Making this assessment will involve bringing together several branches of the federal government engaged in different components of this analysis and consolidating their expertise. For example, both the U.S. Bureau of Labor Statistics and the Department of Energy periodically publish reports and projections on green jobs, albeit with different and limited scopes. Dozens of existing federal programs provide at least sector-specific funding for workforce development, from zero-emissions buses to weatherization to battery materials processing. This model law attempts to identify other agencies and offices with overlapping mandates, and solicits their participation in the preparation of a comprehensive study.

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5 Available at https://www.nrel.gov/docs/fy22osti/81486.pdf.
Several federal efforts to study or address decarbonization workforce issues date to the recent passing of the 2021 Infrastructure Investment and Jobs Act (more popularly known as the Bipartisan Infrastructure Law, or BIL) and the 2022 Inflation Reduction Act (IRA). The BIL includes more than $800 million in dedicated investments for workforce development, as well as significant additional funds that may flexibly be used for that purpose.8 In December 2022, the Department of Energy issued an RFI9 to obtain public input on its Energy Auditor and Career Skills Training grant programs, in accordance with the BIL, which gathers some information relevant to this model law within a more limited ambit. Notably, the BIL also appointed a 21st Century Workforce Advisory Board10 within DOE, which is comprised of 15 nongovernmental actors that advise on the effectiveness of DOE training programs. The Inflation Reduction Act added moderately to these resources, though some workforce advocates pointed towards notable missed opportunities in that legislation.11

Model Law

The model law below forms a commission to make a comprehensive study of the workforce needs of the United States economy as it becomes decarbonized.

Section 2 of the model law offers two options for setting the emissions target on which a labor study may be based. The first, more ambitious target is net zero greenhouse gas emissions by 2050. In order to invoke the most widely respected authority for that target, it relies on language from the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. This target is also endorsed by the Biden Administration’s National Climate Task Force.12 The second emissions target is based on current policy, taking into account emissions projections associated with recent federal legislation, state legislation, Executive Orders, and actual or reasonably anticipated federal or state

regulation. By offering policymakers two options for framing this study, the model law is intended to be adaptable to different political priorities.

Section 3 of the model law establishes the scope of the commission’s inquiry and requires a written report to be submitted to Congress.

Section 4 of the model law establishes the membership and qualifications of the commission. To avoid politicization, the majority of the commission is not politically appointed, but drawn from agencies and offices that are engaged in relevant climate- and labor-related fields. This non-exhaustive list is meant to be suggestive of the range of expertise that may be valuable on the commission, including agencies and offices with expertise in energy, transportation, buildings, negative emissions technology, emissions controls, agriculture, education, and labor.

Sections 5 and 6 of the model law grant the commission appropriate powers to gather information, hire staff and experts, and enter into contracts. The model law concludes with provisions on the termination of the commission and an initial appropriation to fund its work.

In developing this model law, terms were studied and borrowed from related legislation establishing commission studies, including the proposed Commission on the American Workforce Act (2022)\(^ {13}\), Commission to Study and Develop Reparation Proposals for African Americans Act (2021)\(^ {14}\), the Higher Education Mental Health Act of 2023 (2023)\(^ {15}\), the Commission on Americans Living Abroad Act of 2023 (2023)\(^ {16}\), and others. Several substantive terms of the model law have also been informed by state-level efforts to better understand the decarbonization workforce challenge with respect to specific funding opportunities or sectors.\(^ {17}\)

\(^ {17}\) See Washington’s HB 1176 (2023), available at https://lpdd.org/resources/washingtons-climate-workforce-legislation/, which creates a Clean Energy Technology Workforce Advisory Committee, and directs the state to conduct clean energy workforce planning in partnership with unions and industries. See also Request For Information (RFI) No. 2023-001, Nevada Governor’s Office of Energy, seeking to perform a gap analysis and needs assessment which will be used to inform the design of a Clean Energy Workforce Development program. Available at https://energy.nv.gov/uploadedFiles/energyngov/content/Resources/Federal_Funding_Opportunities/GOE_RFI_2023_001_Clean_Energy_Workforce.pdf. See also California’s SB589 (2021) Sec 2259 (c), which stipulates that California, in developing a study on EV deployment, should also study "workforce development and training resources … [which] shall include … qualified apprenticeships, on-the-job training programs, and other training opportunities that build career pipelines in the zero-emission …
Model Law

A BILL

To establish a Committee to study the workforce implications of a national transition to net-zero greenhouse gas emissions by 2050, and to make recommendations on training and educational resources and reforms.

SECTION 1. SHORT TITLE.

This Act may be cited as the “Commission to Study and Develop Recommendations for a Decarbonization Workforce Act”.

SEC. 2. FINDINGS AND PURPOSE.

(A) FINDINGS.—The Congress finds the following:

[Following are two alternative “Findings” sections. Policymakers may choose one or the other to include in its entirety.]

[Option A]

1. In order to meet the goals of the Paris Climate Accord, the United States will need to rapidly reduce greenhouse gas emissions across every sector of the economy.

2. According to the Sixth Assessment Report of the United Nations’ Intergovernmental Panel on Climate Change, limiting global warming to 1.5 degrees Celsius will require achieving net zero global greenhouse gas emissions in the early 2050s.

3. As an historically high-emitting, developed nation, it is the responsibility of the United States to lead global decarbonization efforts, and reach net zero domestic greenhouse gas emissions by no later than 2050.

4. Achieving net zero greenhouse gas emissions by no later than 2050 will require substantial investments across the United States in new electrical infrastructure, electric- and hydrogen-fueled transportation, fuel-switching in
industry, new building emission standards and retrofitting existing buildings, natural resources management, and numerous other technically-demanding transitions that will create strong employment demand for a highly-skilled workforce.

(5) While the Congress has authorized substantial investments in developing the United States’ decarbonization workforce through the Inflation Reduction Act of 2022 and the Infrastructure Investment and Jobs Act of 2021, there has not yet been a federal study of the comprehensive workforce development needs that the transition to net zero emissions by 2050 will require.

(6) Accomplishing a transition to net zero emissions by 2050 will require identification of future industry occupations and skill needs, the existing workforce’s transferrable skills to meet those needs, and the gaps that need to be addressed through training and education.

[Option B]

(1) Numerous policies have been enacted or proposed at the federal and state level that will result in the significant reduction of greenhouse gas emissions in the United States by 2050.

(2) These policies include federal legislation, such as the Infrastructure Investment and Jobs Act of 2021 and the Inflation Reduction Act of 2022, as well as executive actions like E.O. 14008 (2021) and E.O. 14057 (2021), among others.

(3) These policies also include legislation to comprehensively decarbonize state economies, like New York’s Climate Leadership and Community Protection Act (2019), Illinois’ Climate and Equitable Jobs Act (2021), and the California Climate Crisis Act (2022), among others.

(4) These policies also include recent and pending regulation from the Environmental Protection Agency targeting significant sources of greenhouse gas emissions, including the finalized Good Neighbor rule, at 88 FR 36654, proposed tailpipe regulations at 88 FR 25926 and 88 FR 29184, and proposed power plant emissions standards at 88 FR 33240, among others.

(5) These and other such actual and reasonably anticipated decarbonization policies will require substantial investments across the United States in new electrical infrastructure, electric- and hydrogen-fueled transportation, fuel-switching in industry, new building emission standards and retrofitting existing buildings, natural resources management, and numerous other
technically-demanding transitions that will create strong employment demand for a highly-skilled workforce.

(6) While the Congress has authorized substantial investments in developing the United States’ decarbonization workforce through the Inflation Reduction Act of 2022 and the Infrastructure Investment and Jobs Act of 2021, there has not yet been a federal study of the comprehensive workforce development needs that actual and reasonably anticipated United States decarbonization policy will require.

(7) Such a study will require identification of future industry occupations and skill needs, the existing workforce's transferrable skills to meet those needs, and the gaps that need to be addressed through training and education.

(B) PURPOSE.—The purpose of this Act is to establish a commission to study the challenges of and develop recommendations for developing a decarbonization workforce suited to the scale and technical demands of reducing the United States’ greenhouse gas emissions to [Insert “levels consistent with actual and reasonably anticipated federal or state decarbonization policy” or “net zero by 2050”]

SEC. 3. ESTABLISHMENT AND DUTIES.

(a) ESTABLISHMENT.—There is established the Commission to Study and Develop Recommendations for a Decarbonization Workforce (hereinafter in this Act referred to as the “Commission”).

(b) DUTIES.—The duties of the Commission shall be to conduct an examination of and provide recommendations regarding the following:

(1) [Insert “A catalogue of major actual and reasonably anticipated decarbonization policies in the United States, as described in Sec. 1 (A) (2)-(4), and a consequential likely range of technical, economic, and emissions pathways which the United States may follow;” or “A likely range of technical and economic pathways for the United States to achieve net zero greenhouse gas emissions by 2050;”]

(2) Labor market trends and current and projected workforce demands in both traditional and clean energy technology professions and restructuring of jobs associated with [Insert “actual and reasonably anticipated decarbonization
(3) A detailed inventory of the specific categories of jobs and services that will be required under [Insert “actual and reasonably anticipated decarbonization policies;” or “likely pathways to achieve net zero greenhouse gas emissions by 2050;”], including their education or certification requirements;

(4) A detailed inventory of workers and job types that may be displaced in fossil-fuel related and other high-emissions technology industries as the economy transitions [Insert “in accordance with actual and reasonably anticipated decarbonization policy” or “to net zero emissions of greenhouse gases;”]

(5) Timelines on which different sectors of the economy may be expected to decarbonize, and the potential variations in employment projections over time;

(6) Geographic distribution of labor needs associated with decarbonization efforts;

(7) The wage and benefits range, as well as opportunities for advancement within emerging high-demand jobs in the clean energy technology, efficiency, fuel switching, and other related sectors;

(8) An inventory of skills needed in high demand jobs, an analysis of how the skills and training of the existing workforce can fill those needs, and identification of additional workforce development needs in different sectors;

(9) An inventory of obstacles preventing access to training for workers and contracting firms, and recommendations on incentives or return on investment that workers and employers may need to invest in training, with a particular emphasis on obstacles to minority, historically underserved, and economically disadvantaged communities;

(10) Key challenges that could emerge under multiple future decarbonization scenarios based on factors such as rates of adoption of various new energy technologies; and

(11) Recommendations on the nature, extent, and quantity of resources (including retraining) needed to be marshalled and made available to address and support displaced workforces specifically;
(12) Recommendations for necessary resources to support workforce development at the state, local, and federal level, including occupational training and skills already covered in existing training programs, occupations and skills that require new training programs to be developed, post-secondary education programs, continued education, job placement, and support services to help workers overcome specific barriers to employment in high demand careers, with a particular emphasis on resources required to support job-seekers from minority, historically underserved, and economically disadvantaged communities.

(c) REPORT TO CONGRESS.—The Commission shall submit a written report of its findings and recommendations to the Congress not later than the date which is [one to three years] after the date of the first meeting of the Commission held pursuant to section 4(e).

SEC. 4. MEMBERSHIP.

(a) NUMBER AND APPOINTMENT.—The Commission shall be composed of 13 [or more] members, who shall be appointed, within 90 days after the date of enactment of this Act. The Commission shall include 1 representative from each of the following:

(1) The Bureau of Labor Statistics
(2) The Department of Energy Office of Energy Jobs
(3) The Department of Energy Office of Energy Efficiency and Renewable Energy
(4) The Department of Energy National Energy Technology Laboratory
(5) The Joint Office of Transportation and Energy Electric Vehicle Working Group
(6) The Council on Environmental Quality
(7) The Department of Agriculture Office of Energy and Environmental Policy
(8) The Interagency Mitigation Framework Leadership Group
(9) The Environmental Protection Agency Office of Air and Radiation
(10) The Department of Education Office of Postsecondary Education
(11) The Department of Education Office of Career, Technical, and Adult Education
(12) The Department of Commerce Economic Development Administration
(13) [Insert additional agency appointments as appropriate]
(b) **Presidential Appointment.**—The Commission shall additionally include one member appointed by the President, who shall serve as Chairperson.

(c) **Qualifications.**—Members of the Commission shall be appointed from among individuals whose employment is directly related to the matters to be studied by the Commission under section 3(b).

(d) **Period of Appointment; Vacancies.**—Members shall be appointed for the life of the Commission. Any vacancy in the Commission shall be filled in the same manner in which the original appointment was made. Any vacancy in the Commission shall not affect its powers.

(e) **First Meeting.**—Not later than 60 days after the date on which all members of the Commission have been appointed, the Commission shall hold its first meeting.

(f) **Meetings.**—The Commission shall meet at the call of the Chairperson.

**SEC. 5. POWERS OF THE COMMISSION.**

(a) **Hearings and Sessions.**—The Commission may, for the purpose of carrying out the provisions of this Act, hold such hearings and sit and act at such times and at such places in the United States, and request the attendance and testimony of such witnesses and the production of such books, records, correspondence, memoranda, papers, and documents, as the Commission considers appropriate. The Commission may invoke the aid of an appropriate United States district court to require, by subpoena or otherwise, such attendance, testimony, or production.

(b) **Powers Of Subcommittees And Members.**—Any subcommittee or member of the Commission may, if authorized by the Commission, take any action which the Commission is authorized to take by this section.

(c) **Obtaining Official Data.**—The Commission may acquire directly from the head of any department, agency, or instrumentality of the executive branch of the Government, available information which the Commission considers useful in the discharge of its duties. All departments, agencies, and instrumentalities of the executive branch of the Government shall cooperate with the Commission with respect to such information and shall furnish all information requested by the Commission to the extent permitted by law.

**SEC. 6. ADMINISTRATIVE PROVISIONS.**
(a) **Staff.**—The Commission may, subject to subsection (b), appoint and fix the compensation of such personnel as the Commission considers appropriate.

(b) **Applicability of Certain Civil Service Laws.**—The staff of the Commission may be appointed without regard to the provisions of title 5, United States Code, governing appointments in the competitive service, and without regard to the provisions of chapter 51 and subchapter III of chapter 53 of such title relating to classification and General Schedule pay rates, except that the compensation of any employee of the Commission may not exceed the daily equivalent of the annual rate of basic pay in effect for a position at level IV of the Executive Schedule under section 5315 of title 5, United States Code.

(c) **Experts and Consultants.**—The Commission may procure the services of experts and consultants in accordance with the provisions of section 3109(b) of title 5, United States Code, but at rates for individuals not to exceed the daily equivalent of the highest rate payable under section 5332 of such title.

(d) **Administrative Support Services.**—The Commission may enter into agreements with the Administrator of General Services for procurement of financial and administrative services necessary for the discharge of the duties of the Commission. Payment for such services shall be made by reimbursement from funds of the Commission in such amounts as may be agreed upon by the Chairperson of the Commission and the Administrator.

(e) **Contracts.**—The Commission may—

1. Procure supplies, services, and property by contract in accordance with applicable laws and regulations and to the extent or in such amounts as are provided in appropriations Acts; and

2. Enter into contracts with departments, agencies, and instrumentalities of the Federal Government, State agencies, and private firms, institutions, and agencies, for the conduct of research or surveys, the preparation of reports, and other activities necessary for the discharge of the duties of the Commission, to the extent or in such amounts as are provided in appropriations Acts.

**Sec. 7. Termination.**

The Commission shall terminate 90 days after the date on which the Commission submits its report to the Congress under section 3(c).
SEC. 8. AUTHORIZATION OF APPROPRIATIONS.

To carry out the provisions of this Act, there are authorized to be appropriated $[SX].