EFI FOUNDATION

Job Quality

The Keystone of Clean Energy Industrial Policy

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Before working at the Department of Energy, Foster served as the founding Executive Director of the BlueGreen Alliance (BGA), a strategic partnership of 14 of America's most important unions and environmental organizations with a combined membership of 14.5 million. The BlueGreen Alliance is the country's foremost labor/environmental advocacy group on climate change policy solutions with a special emphasis on energy-intensive industries, job creation, and the interchange between global warming and trade policy.

List of Acronyms

Acronym	Definition
ABC	Associated Builders and Contractors
ACUS	Administrative Conference of the United States
AG	Attorney General
AJP	American Jobs Plan
APA	Administrative Procedure Act
ARPA	American Rescue Plan Act
ARRA	American Recovery and Reinvestment Act
ASTM	American Society for Testing and Materials
ASEAN	Association of Southeast Asian Nations
ATVM	Advanced Technology Vehicles Manufacturing
BA	Buy America
BAA	Buy American Act
BABA	Build America, Buy America Act
BEAD	Broadband Equity, Access, and Deployment Program
BGA	BlueGreen Alliance
BLS	Bureau of Labor Statistics
BMP	Battery Materials Processing
BMR	Battery Manufacturing and Recycling
CBA	Community Benefit Agreement
CBI	Confidential business information
CBP	Community Benefits Plans
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CHIPS	CHIPS and Science Act

CIFA	Carbon Dioxide Transportation Infrastructure Finance and Innovation Program
CO2	Carbon dioxide
CPR	Certified payroll records
CRA	Charles River Associates
CVC	Clean Vehicle Credit
CWA	Community Workforce Agreement
DAC	Direct air capture
DBE	Disadvantaged Business Enterprise
DBRA	Davis-Bacon and Related Acts
DC	Domestic content
DEIA	Diversity, equity, inclusion, and accessibility
DOC	Department of Commerce
DOD	Department of Defense
DOJ	Department of Justice
DOL	Department of Labor
DOT	Department of Transportation
EAMWI	Energy and Advanced Manufacturing Workforce Initiative
ECI	Employment Cost Index
EFI	Energy Futures Initiative
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
EU	European Union
EVITP	Electric Vehicle Infrastructure Training Program
EVSE	Electric vehicle supply equipment
FAHA	Federal Aid Highway Act

FAR	Federal Acquisition Regulatory Council
FHWA	Federal Highway Administration
FLSA	Fair Labor Standards Act
FOA	Funding Opportunity Announcement
FOIA	Freedom of Information Act
FPASA	Federal Property and Administrative Services Act
FTA	Federal Transit Authority
GHG	Greenhouse gas emissions
GJI	Good Jobs Initiative
GJP	Good Jobs Principles
GM	General Motors
GNA	Good neighbor agreement
GPA	Government Procurement Agreement
HRTP	High Road Training Partnerships
HUD	Department of Housing and Urban Development
IBEW	International Brotherhood of Electrical Workers
ICE	Internal combustion engine
ILO	International Labour Organization
IIJA	Infrastructure Investment and Jobs Act
IRA	Inflation Reduction Act
IRS	Internal Revenue Service
ITC	Investment Tax Credit
ITUC	International Trade Union Confederation
IWG	Interagency Working Group on Coal and Power Plant Communities and Economic Revitalization
JMA	Jobs to Move America
LAUS	Local Area Unemployment Statistics

LIUNA	Laborers' International Union of North America
LPA	Labor peace agreement
MEP	Manufacturing Extension Partnership
MIAO	Made in America Office
MOU	Memorandum of understanding
MSA	Metropolitan statistical area
MSHA	Mine Safety and Health Administration
MWRA	Massachusetts Water Resources Authority
NAA	National Apprenticeship Act
NABTU	North American Building Trades Unions
NAICS	Northern American Industrial Classification System
NAPMP	National Advanced Packaging Manufacturing Program
NDC	Nationally determined contribution
NECA	National Electrical Contractors Association
NEVI	National Electric Vehicle Investment Program
NIST	National Institute of Standards and Technology
NLRA	National Labor Relations Act
NOFO	Notice of Funding Opportunity
NOI	Notice of Intent
NPRM	Notice of Proposed Rulemaking
NSF	National Science Foundation
NSTC	National Semiconductor Technology Center
NTIA	National Telecommunications and Information Administration
OA	Office of Apprenticeship
OECD	Organization for Economic Cooperation and Development
OLC	Office of Legal Council
OMB	Office of Management and Budget

OSHA	Occupational Safety and Health Act
PERI	Political Economy Research Institute at the University of Massachusetts Amherst
PLA	Project labor agreement
PTC	Production Tax Credit
PV	Solar photovoltaic
RA	Registered apprenticeship
RAISE	Rebuilding American Infrastructure and Sustainability and Equity
R&D	Research and development
RFF	Resources for the Future
RFI	Request for Information
SCM	Subsidies and Countervailing Measures Agreement
SLFRF	State and Local Fiscal Recovery Funds
TIF	Tax increment financing
UAW	United Auto Workers
UG	Uniform Guidance
ULP	Unfair Labor Practice
UNEP	United Nations Environment Program
USDA	Department of Agriculture
USEER	U.S. Energy and Employment Report
USJP	U.S. Jobs Plan
USTR	The Office of the United States Trade Representative
USW	United Steelworkers
WHD	Wage and Hour Division
WTO	World Trade Organization

Table of Contents

Contributors i

Acknowledgments ii

About Authors iii

Table of Contents ix

I. Executive Summary 1

II. Introduction 8

III. High-Quality Jobs in the Net-Zero Economy 12
- a. Long-Term Trends in U.S. Economic Inequality 12
- b. Job Creation in the Energy Transition 14
- c. Trends in the Current Energy Workforce 15
- d. Principles of High-Quality Jobs 19
- e. Principles of a Just Transition 22

IV. Overview of Climate and Industrial Policies and the Job-Quality and Labor Standards in the IIJA, IRA, and CHIPS Act 25
- a. IIJA: Overview and Job-Quality and Labor Standards 25
- b. IRA: Overview and Job-Quality and Labor Standards 28
- c. CHIPS ACT: Overview and Job-Quality and Labor Standards 32
- d. Executive Orders and Regulations 34

V. Strengthening and Improving the Implementation of the Job-Quality and Labor Standards 39
- a. Project Labor Agreements (PLAs) 39
- b. Davis-Bacon and Related Acts and Prevailing Wage 51
- c. Local and Targeted Hire 55

d. Workforce Development and Apprenticeship 59
e. Preference for High-Quality Jobs in Competitive Federal Funding..... 65
f. Energy Community Tax Credit Bonus 82
g. Domestic Content..... 86

VI. Conclusion..... 94

Appendix A..... 95

References..... 96

I. Executive Summary

The historic climate and clean energy investments in the Infrastructure Investment and Jobs Act (IIJA), the Inflation Reduction Act (IRA), and the CHIPS and Science Act provide an unprecedented opportunity to create high-quality, union jobs and address rising U.S. economic inequality. Along with statutory requirements, the Biden administration has issued executive orders and required the use of Community Benefits Plans (CBPs) to encourage high-road labor standards on federally funded climate and clean energy projects.

Specifically, the laws and broader regulatory regime address:

- Project labor agreements
- Prevailing wage requirements
- Local and targeted hire authorities
- Workforce development and apprenticeships
- Place-based "energy community" bonus tax credits
- Domestic content requirements
- The inclusion of a CBP in competitive, discretionary grant applications to encourage direct engagement between clean energy businesses and unions, to incentivize high-quality jobs, and to provide the free and fair choice to join a union

While the laws include several statutory labor standards for the construction industry, the biggest challenge to job quality remains for the permanent manufacturing, operations, and service jobs created by these investments. In response, federal agencies—in particular, the U.S. Department of Energy (DOE)—have developed innovative grant scoring tools like CBPs. The creation of high-quality jobs in these sectors will depend on widespread agency adoption and implementation of CBPs on federally funded projects. In turn, the execution of enforceable contractual commitments for these jobs in CBPs will require robust engagement by labor, business, and other stakeholders at the federal, state, and local levels.

Through an assessment of these policies and their implementation to date, this report provides specific recommendations for how the federal government can strengthen the

quality of jobs and the opportunity for union representation. Although good jobs are often a stated commitment of these laws' federally funded programs, this analysis identifies additional untapped legal authorities to exercise during future rulemakings, guidance, and cycles of funding to make high-quality jobs and strong labor standards a reality.

This analysis summarizes the recommendations for each of the seven main tools embedded within the IIJA, IRA, and CHIPS that are reviewed in this report. While it should be acknowledged that these federal investments, by themselves, are insufficient to reverse long-term, structural inequalities facing American workers, the creation of high-quality jobs with strong labor standards in major, emerging sectors of new clean energy technologies will have beneficial ripple effects across the labor market, economy, and society.

Strengthening Execution and Enforcement of the Laws' Job-Quality Tools and Labor Standards:

1. **Project Labor Agreements (PLAs)**
    a. Federal agencies should consider a PLA condition for specific federal programs, depending on the proprietary circumstances.
    b. Agencies should consider the use of PLAs as an encouraged but optional compliance tool, including for the IRA's prevailing wage and apprenticeship requirements.
    c. In discretionary grants and other federal funding, agencies should prioritize and incentivize the use of PLAs through robust scoring criteria and grant merit reviews.
    d. Agencies should adopt new internal guidance that aligns discretionary decision-making through the "market research" approach with the administration's new affirmative PLA policy.
2. **Davis-Bacon and Prevailing Wage**
    a. The Department of Labor (DOL) should adopt and strongly enforce the proposed Davis Bacon and Related Acts' (DBRA) Notice of Proposed Rulemaking (NPRM), which makes crucial reforms to outdated regulations, including the "30% rule."
    b. The White House should empower the authoritative role of DOL's Wage and Hour Division (WHD) for all DBRA and prevailing wage compliance on applicable infrastructure projects.

c. DOL should sign a memorandum of understanding (MOU) with the U.S. Treasury Department (and all relevant implementing agencies) to establish formal collaboration for implementing a standardized, coordinated process for effective compliance.

d. The Internal Revenue Service (IRS) and WHD should collaborate to proactively publish wage determinations in locales that lack classifications necessary for qualified clean energy projects under the IRA, while also limiting consideration of new classifications that could undermine workers.

e. Treasury and the IRS should adopt and adapt the DBRA's relevant recordkeeping and compliance frameworks for the IRA's prevailing wage requirement. The agencies should further consider the use of PLAs and collective bargaining agreements as encouraged but optional compliance mechanisms.

f. The IRS should increase transparency of compliance with the IRA's prevailing wage requirement. This would include periodic notice to employees who are working on a project for which the taxpayer is claiming the bonus, the creation of a Treasury or IRS Office of Labor Advisors, and other tools developed by the IRS and DOL.

3. Local and Targeted Hire

a. The administration should proactively affirm local and targeted hire as a good jobs policy across all relevant federally funded projects authorized by the IIJA, IRA, and CHIPS.

b. The administration should reform the Uniform Guidance (UG) to promote uniformity across federal policy, including by removing the prohibition on local hire in federally assisted procurement.

c. The UG should incorporate affirmative language clarifying that federal funding recipients are allowed to implement procurement policies promoting high-quality jobs.

4. Workforce Development and Apprentices

a. The administration should establish a national energy transition workforce development plan to align the laws' workforce development provisions within a broader framework that coordinates federal agencies' policies with labor unions, relevant businesses, and educational institutions. Any national framework must: (i) address both entry-level training programs needed for disadvantaged

communities and large-scale redeployment and skills upgrades for the existing energy workforce; (ii) incentivize existing energy employers to retrain current employees for clean energy jobs; (iii) link training and apprenticeship programs to career-track, high-quality jobs, including for disadvantaged or historically underrepresented workers; and (iv) support and expand registered apprenticeships, as the gold standard, including for emerging technologies in critical industries.

b. For competitive grants, agencies should prioritize demonstrated commitments to appropriate workforce development and apprenticeship programs through robust scoring criteria and grant merit reviews. Where viable, the same should be incentivized in formula grants.

c. Treasury and the IRS should adopt and adapt the relevant standards and procedures of DOL's Office of Apprenticeship (OA) for the IRA's apprenticeship utilization requirement. The agencies should further consider the use of PLAs and collective bargaining agreements as encouraged but optional compliance mechanisms.

d. The good faith effort exception should be interpreted narrowly under the two specified statutory exemptions. Treasury and the IRS should promulgate regulations detailing guidance on what constitutes a good faith effort. To avoid the exception's overuse, a coordinated national effort should increase availability of registered apprenticeship (RA) programs more broadly.

e. Treasury and the IRS should increase transparency of the apprenticeship requirement, including through periodic reporting on the use of apprentices to the IRS, DOL, and appropriate state agencies; the creation of a Treasury or IRS Office of Labor Advisors; and other tools as developed by the IRS and DOL.

5. Community Benefits Plans (CBPs)

a. Every IIJA, IRA, and CHIPS competitive Funding Opportunity Announcement (FOA) or Notice of Funding Opportunity (NOFO) should require a CBP. Where viable, elements of this framework should also be included in formula grant applications. Agencies should update existing grant and loan programs that received additional funding under the laws to align those programs with the statutory and regulatory efficiency, cost-effectiveness, quality-control, job-quality, and labor standards.

b. The CBP should identify and incorporate the strongest job-quality and labor standards language, including through updates to the two primary pillars: the (i) Community and Labor Engagement and (ii) Investing in the American Workforce sections.

c. Agencies must institutionalize CBP use. High-level officials should use their authority to facilitate and encourage stronger labor commitments in the early grant- and loan-making phases.

d. Grant managers and CBP reviewers should be technically qualified or otherwise be required to undertake trainings on substantive job-quality and labor issues.

e. The CBP internal agency rubric should be strengthened, including by incorporating DOL's Job Quality Check List and additional benchmarks with which to assess the strength of the commitments. High points should be reserved for projects that commit to family-sustaining wages, comprehensive wraparound benefits, pre-apprenticeship and RA programs, worker engagement on a workplace health and safety plan, and entry into binding labor agreements in both the construction and operations phases of the project (including for an applicant's demonstrated commitment to require or strongly encourage entry into labor agreements for all subgrantees and subcontractors).

f. DOL should supplement the Good Jobs Principles (GJP) and Job Quality Check List with Neutrality Principles and a model neutrality agreement to aid grant management with a comprehensive understanding of neutrality best practices.

g. Agencies should undertake a "labor risk assessment" as part of the UG-required risk assessment to ensure responsibility of the potential recipient.

h. DOE (and other agencies that adopt this framework) should clarify the meaning of the CBP becoming a "contractual obligation" of the funding recipient and develop a coherent framework of breach and its repercussions. Agencies should encourage potential grant and loan recipients to either enter into binding labor agreements with private enforcement mechanisms or require a description by which they or prospective subgrantees and subcontractors will enter into those binding agreements.

i. Agencies must commit to affirmative disclosure of CBPs, in whole or redacted, of selected grantees. At a minimum, agencies should publish a redacted version that removes confidential business information, trade secrets, and any other information agreed upon by the agency in a standardized set of public redaction

principles. The redacted version should at least disclose the type of labor agreement to which the selected grantee has entered, or indicated plans to enter, and with whom. The Office of Management and Budget (OMB) may also consider further disclosure rules under the Federal Funding Accountability and Transparency Act.

j. Agencies should improve access to and awareness of IIJA, IRA, and CHIPS FOAs, NOFOs, guidance, and proposed rules through streamlined online repositories.

k. Agencies should consider labor peace requirements that are consistent with the federal government's proprietary interest. At a minimum, agency counsel should undertake a formal assessment of where the government's proprietary interest might justify a labor peace requirement.

6. Energy Community Bonus

a. Treasury and the IRS must clarify the remaining uncertainties regarding each of the three designations in the forthcoming proposed regulations, including the uncertainty regarding the applicability of the safe harbor provision to cleaned-up former brownfield sites, the adoption of limited North American Industry Classification System (NAICS) codes, the local revenue data sources, the scope of included mines, and the exclusion of coal-to-natural gas plants.

b. Treasury and the IRS should promptly update the online mapping tool to reflect all three qualifying energy community categories, provide the underlying eligibility data, and rectify existing discrepancies.

7. Domestic Content (DC)

a. Agencies must be prepared to provide adequate technical support to federal funding recipients who are new to the Build America, Buy America Act (BABA) regulatory regime. The U.S. Department of Transportation (DOT) should provide guidance to agencies with less or no experience administering Buy America (BA) preferences.

b. Agencies should publicly commit to strong BABA adherence with narrow exceptions for waivers made in only a limited set of circumstances. This requires robust transparency on time frames, standards, and underlying justifications.

c. Where DC requirements will statutorily rise over time, agencies—perhaps in coordination with the Department of Commerce (DOC) and the Manufacturing

Extension Partnership (MEP)—should provide technical support to small manufacturers on how to participate in supply chain development.

d. Treasury and the IRS should address the DC guidance's silence on polysilicon wafers in the forthcoming proposed regulations. This could include consideration of an appropriate phase-in timeline by which polysilicon wafers will be subject to the statutory DC requirements for the relevant tax credit to be eligible for the DC bonus credit.

e. Treasury and the IRS should rectify the use of qualified commercial clean vehicles credit (Section 45) as a loophole to lease electric vehicles that do not comply with the Clean Vehicle Credit (CVC) (Section 30D) DC sourcing and manufacturing requirements. This could be implemented through a sunset provision on the qualification of leasing under Section 45W.

f. The OMB should precisely clarify covered procurement under the relevant trade agreements and how non-federal entities should handle BABA obligations with respect to newly covered infrastructure projects.

g. The Office of the United States Trade Representative and relevant labor and other stakeholders should develop new international principles of multilateralism, founded in labor and human rights, that can empower clean energy industrial policy worldwide.

II. Introduction

Rapid decarbonization to achieve net-zero carbon emissions by 2050 will entail the creation of millions of jobs through investments in clean energy infrastructure and technologies that will affect nearly every major sector of the economy. But a deeper question is how to ensure these new, transformed, or reallocated jobs are high-quality jobs with comprehensive high-road labor standards that strengthen workers' rights to exercise a free and fair choice to join a union.

The Biden administration has made job quality and worker well-being a major feature of its agenda from the outset. This was established as a central component of the administration's updated nationally determined contribution under the Paris Agreement: reducing net greenhouse gas emissions by 50% to 52% below 2005 levels by 2030 with the goal of net zero by midcentury. The White House press release stated:

> Climate change poses an existential threat, but responding to this threat offers an opportunity to support good-paying, union jobs, strengthen America's working communities, protect public health, and advance environmental justice. Creating jobs and tackling climate change go hand in hand – empowering the U.S. to build more resilient infrastructure, expand access to clean air and drinking water, spur American technological innovations, and create good-paying, union jobs along the way.[1]

The administration's American Jobs Plan (AJP) reflected this core commitment and underscored that increased public investment to rebuild the nation's infrastructure also must address long-standing inequalities in the labor market. Key to the AJP's goal of creating high-quality jobs in safe and healthy workplaces was providing workers with the free and fair choice to organize, join a union, and collectively bargain.[2] The AJP also recognized the need to pair high-quality jobs with workforce development initiatives to ensure workers—especially from disadvantaged and historically underserved or underrepresented communities—are equipped with the skills required in these new occupations and sectors.

Many of these principles were subsequently codified into the three pieces of legislation that constitute the core of the nation's clean energy industrial policy: the Infrastructure Investment and Jobs Act (IIJA), the Inflation Reduction Act (IRA), and the CHIPS and Science Act (CHIPS). The investments made in these laws—$550 billion in new sustainable infrastructure, $369 billion in clean energy and climate solutions, and $52.5 billion in

semiconductor manufacturing and research and development—have the potential to create high-quality, union jobs for workers through commercializing decarbonization technologies, establishing domestic manufacturing requirements, upgrading crucial infrastructure, and modernizing and reorienting our nation's industrial and technological capabilities. Together with several other labor, climate, and supply chain executive orders and rulemakings, the administration has set forth a new, potentially transformative framework for building a clean energy economy that centers the workers at the heart of the effort.

The laws incorporate several job-quality and labor standards—as well as equity-based and other tools—such as project labor agreements (PLAs), prevailing wage, local and targeted hire, workforce development and registered apprenticeships (RAs), an "energy community" tax credit bonus, and domestic content (DC) requirements. Several of these tools are statutorily required, but others are enacted through executive orders, agency rulemakings, and implementation authority under the three laws. Under the latter, the administration is encouraging additional engagements, such as neutrality agreements or collective bargaining agreements, in competitive grants and other federal funding (including through the Community Benefits Plans [CBPs]). The equity-based tools include diversity, equity, inclusion, and accessibility (DEIA) goals and the administration's Justice40 initiative, requiring that 40% of the "overall benefits" of certain federal investments must target disadvantaged communities that are "marginalized, underserved, and overburdened by pollution."[3] Although inherently intertwined with the administration's broader equity and environmental justice goals, this paper focuses on the job-quality and labor tools.

This approach to improving labor standards and creating high-quality jobs is authorized by the government's enumerated taxing and spending power through tax credits, procurement contracts, grants, loans, cooperative agreements, and other forms of federal funding. Though these are time-tested and well-grounded job-quality and labor tools—many of which have been used for decades at the federal, state, and local levels—their application in these laws is novel, providing an opportunity to help shape how federal agencies ensure the creation of high-quality jobs with federal funding. This is particularly crucial for ongoing manufacturing, operations, service, and other permanent jobs. As compared with the statutorily required labor standards for the construction industry, the creation of high-quality permanent jobs will hinge on how successfully agency officials promote engagement between unions and clean energy businesses in CBPs that translate into enforceable job-quality commitments in federally funded projects.

The stakes for American workers are high. Job inequality has increased dramatically over the past 40 years. Low-wage and low-skilled workers have suffered a stagnation in real earnings dating back to 1980, while high-wage and high-skilled workers have experienced rising earnings. The stagnation in working-class earnings reflects changes in technology (including automation), international trade (with lower-wage countries), and a judicial and corporate assault on labor laws that has led to an erosion of union membership, diminished collective bargaining rights, and weakened workers' rights and protections. In the wake of the pandemic labor market, 63% of Americans reported living paycheck to paycheck while inflation in 2022 reached its highest rate since 1982.[4] Without proper public policies, new jobs created because of climate policy and investments may replicate these trends.

Job inequality has increased dramatically over the past 40 years. Low-wage and low-skilled workers have suffered a stagnation in real earnings dating back to 1980, while high-wage and high-skilled workers have experienced rising earnings.

Establishing a new 21st century, high-road framework for the millions of new climate-related jobs—with ripple effects across the labor market—is an important opportunity during the clean energy transition. The task is how to leverage the spending power of the federal government to ensure that the statutory and regulatory inclusion of job-quality and labor standards is manifest in the creation of accessible, high-quality jobs with family-sustaining wages, comprehensive benefits, and the right of workers to organize and collectively bargain. Similarly, these investments can be mobilized to address the structural economic, racial, and environmental injustices that persist in the United States.

The main purposes of this report are to:

- Provide an understanding of the tools and their limitations
- Identify practical implementation challenges
- Explore legal issues
- Identify possible strategies for improvement in agency execution and enforcement

Public accountability, especially by the beneficiaries themselves, is particularly important as agency implementation of new programs unfolds iteratively. Initial efforts are frequently changed by the continued promulgation of rules, regulations, and guidance responsive to feedback and program evolution in many first-of-its-kind programs. Just as the mobilization of the American economy during WWII led to a new generation of job quality, social

collaboration, and workers' rights, so today's historic energy transition investments can start to recalibrate American society.

While this report advances recommendations to improve job quality based on this administration's current approach, it must be emphasized from the outset that these measures are insufficient by themselves to rectify the deep, structural economic inequalities facing millions of working-class Americans. They do, however, provide an important opportunity to counter 40 years of growing inequality in several economic sectors.

This report proceeds as follows: Section III analyzes the labor market implications of the energy transition and the principles of high-quality jobs, followed by a brief discussion of the just transition for workers and local communities whose livelihoods are directly affected by climate policies. Section IV provides an overview of the national climate and industrial policy agenda in the suite of three laws and related executive orders, as well as the labor standards incorporated therein. Section V examines the agenda's seven major job-quality tools and labor standards and proposes recommendations to strengthen implementation and enforcement. Section VI concludes with a call for labor law reform and the broader need to use this opportunity to establish a new national social compact.

III. High-Quality Jobs in the Net-Zero Economy

a. Long-Term Trends in U.S. Economic Inequality

Decarbonization is occurring at an inflection point of economic uncertainty for American workers. Though the pandemic-induced economic downturn has subsided according to several metrics—and even provided low- and moderate-wage workers a small boost in bargaining power amid a tight labor market—real wages continue to drop for the bottom 90% of wage earners.[5, 6] The pandemic's unprecedented disruption and dislocation of workers affected lower-paid, service sector jobs the most, disproportionately hurting female, Black, and low-income workers.[7] Pandemic-induced effects occurred against the backdrop of a broader four-decade trend of widening wage, income, and wealth inequality and a parallel decline in working-class living standards.[8] The evisceration of working-class economic security has helped fuel a rise in "deaths of despair," decreasing life expectancy for non-college-educated adults.[9]

A job in the United States is no longer an assurance of a household's economic stability and security. Nearly one-third of the American workforce earns less than $15 an hour.[10] By another metric, nearly 44% of workers are considered low-wage workers.[11] Since 1979, real wages for most U.S. workers have stagnated,[12] and economists have extensively documented the widening gap between the average hourly compensation of the typical American worker and average labor productivity.[13] Any wage growth has been profoundly unequal: The top 1% of earners experienced 206.3% growth between 1979 and 2021, while the bottom 90% of the wage distribution experienced only 28.7% growth. (An earlier Economic Policy Institute study further specified that wage earners at the 10th percentile experienced only 3% growth).[14, 15] Further, wage suppression has disproportionately affected Black, Latino, and female workers.

The historic levels of American economic inequality stand in stark contrast to the so-called Great Compression, the post-World War II period of broadly shared prosperity.[16] This reversed course in the 1970s, and scholars have long contested the relative responsibility of the myriad economic, political, and institutional forces that chipped away at the New Deal Order. These include globalization; automation and technological change; the judicial and political erosion of collective bargaining, unions, and labor standards; tax policies; and

corporate deregulation, privatization, concentration, and fissuring.[17, 18, 19, 20, 21, 22] Collectively, this radical reversal in economic policy and governance has led to diminished wages, job security, and worker power.

Scholars on one side of the debate emphasize the importance of technological change and related changes in international trade flows and trade policies. They point to the college wage premium, finding that the demand for skilled labor is driven by "skill-biased technological change," the increased demand for highly skilled and educated workers over lower-skilled workers.[23] Other researchers have documented how automation, trade, and globalization all contributed to the precipitous decline in domestic manufacturing, which shrank to 12.8 million jobs in 2019, a 35% decline since its 1979 peak.[24]

Others emphasize the drop in union density, coupled with the federal government's retreat from active intervention in enforcing worker protections.[i, 25, 26] Unions were fundamental to narrowing the income distribution gap during the Great Compression, while the subsequent decline in union power directly lowered union and nonunion wages.[27, 28] One study also illustrates that during peak union density (1940s to '60s), union households were disproportionately less educated and more non-white, providing a major benefit (a "large family income premia") for the most disadvantaged, otherwise low-wage workers.[29] Yet, union membership has dropped to a record low since its peak at almost 35% in 1954 to 10.1% of all workers and 6% of private sector workers in 2022.[30] Employers exploited the weaknesses of the National Labor Relations Act—exacerbated by decades of adverse judicial, legislative, and administrative decisions—to wage increasingly hostile anti-union campaigns without meaningful repercussions.[31, 32]

The contraction in active federal government intervention following the end of the New Deal Order has never been fully reversed. The drivers underlying continued worker precarity and economic insecurity are not abating. Indeed, if unaddressed through rigorous government investment and coordinated public policies at the federal, state, and local levels, many of the technological and industrial changes required of a net-zero future—such as the shift away from fossil fuel production or internal combustion engine (ICE) automotive industry jobs—will exacerbate many of these deep dislocations in unequal and uneven ways across sectors and regions.

[i] The Bureau of Labor Statistics defines the "union membership rate," often referred to as union density, as "the percent of wage and salary workers who were members of unions."

b. Job Creation in the Energy Transition

Net-zero decarbonization pathways in the United States generally comprise four core pillars: (1) increased energy efficiency; (2) decarbonizing electricity; (3) switching to "electricity-consuming" technologies or other green fuels (e.g., clean hydrogen); and (4) carbon removal.[33, 34, 35] Each involves considerable infrastructure transformation across all economic sectors, especially those that constitute the largest contributors to carbon dioxide (CO_2) emissions. Electric power, transportation, and industry account for nearly three-quarters of U.S. CO_2 emissions. Buildings, land use (for agriculture, forestry, waste, and other uses), and materials account for the remainder.[36, 37] These sector-specific transformations will have four primary effects on the labor market: job creation (e.g., new jobs in clean energy technology, construction, and manufacturing), job substitution (e.g., shift from production of ICE vehicles to electric vehicles [EVs] or to rail and bus infrastructure), job elimination (e.g., phase-out of fossil fuel production), and job transformation (e.g., the redefinition of auto mechanics, electricians, or other occupations' daily skill sets and work methods).[38] In our digital age, some of these effects will be accelerated in uncertain ways by the advances in automation, digitalization, and advanced technology.

Job creation is often modeled as occurring in three ways: direct effects (e.g., new jobs for solar panel installation), indirect effects (e.g., jobs along the solar supply chain), and induced effects (e.g., the multiplier employment effects due to increased income and spending by employees that increases overarching demand).[ii, 39] Job losses can be categorized through the same channels, especially direct job loss due to decreased investments in or the cessation of fossil fuel production or related industry activities.[40] Some job loss may be ameliorated by the intentional realignment of traditional energy jobs with those in the clean energy economy, or other just transition policies.[41]

Recent studies have modeled the job growth from the IIJA, IRA, and CHIPS Act. The BlueGreen Alliance (BGA) and Political Economy Research Institute (PERI) at the University of Massachusetts Amherst found that the IRA will create more than 9 million job-years over the next decade.[42, 43] Another study performed by the Energy Futures Initiative (EFI) in 2022-23 of the IRA's job and economic impacts found that the law alone would result in a net increase in the labor force of 1.5 million jobs (direct, indirect, and induced, as opposed to "job-years") by 2030—with 70% concentrated in construction, electric utilities, and

[ii] The study states that job creation effects can be reported either as jobs-per-year or "job years" (i.e., cumulative job creation whereby 100 jobs over 10 years is 1,000 job years), but that jobs-per-year is a better metric to understand the labor market effects in a particular moment.

manufacturing—if the right suite of supportive policies is included, such as retraining and DC provisions.[44]

This study also found, similar to the BGA and PERI study, that industries with job skills related to those in fossil fuel industries (coal mining and oil and gas extraction), such as metallic mining, supportive services in mining, and chemical manufacturing, would all increase, providing opportunities for displaced workers in extractive industries. However, regional dislocation would still need to be addressed in many communities. Moody's Analytics found that the IIJA would create a net increase of 800,000 jobs by its peak in 2025,[45] which is similar to the Economic Policy Institute's estimate of 772,000 new direct and indirect jobs annually.[46] An analysis by the Semiconductor Industry Association before the CHIPS Act's passage found that a $50 billion federal investment program to incentivize domestic manufacturing could cumulatively create up to 220,000 additional direct, indirect, and induced jobs by 2027.[47]

Additional macroeconomic studies on decarbonization conducted by the MIT Roosevelt Project in 2021 concluded that without social policies designed to address the regional variations in economic dependence on fossil fuels, job losses could be sizable and regionally debilitating. Some new energy jobs will differ in important ways from current fossil fuel industry jobs in location, skills, and job quality. Coupled with the rising decline in workforce mobility documented over the last three decades, climate policy that does not address these issues would severely challenge social cohesion in these regions. As will be discussed below, one element of job quality will be ensuring access to these new jobs through a variety of union- and company-sponsored, federal, state, and local workforce programs that support workers transitioning to clean energy and other sectors of the economy.

c. Trends in the Current Energy Workforce

According to the U.S. Energy and Employment Report (USEER), produced by the Department of Energy (DOE), the U.S. energy sector—comprising professional, construction, utility, operations, and production occupations—employed more than 7.8 million workers in 2021.[48] Approximately 40% of energy sector workers (3.12 million) are estimated to be employed in "net-zero emissions-aligned" jobs. These figures reflect a transformation of the energy workforce over the last several decades due to federal and state energy policies and technological advancements that have hastened the transition to clean energy.

The industry sectors include construction, transportation, manufacturing, utilities, and professional and business services, all of which are central to the core clean energy technologies for electric power generation, storage, and transmission; energy efficiency; EVs and advanced vehicles; and public transportation. Each of these technologies employs dozens of broad craft occupations, such as electricians, mechanics, sheet metal workers, laborers, carpenters, line installers and repairers, and engineers. Several of these occupations include the skill sets for clean energy jobs, such as solar photovoltaic (PV) installation and wind turbine maintenance and repair.[49] Overall, USEER has noted over the last five years that construction is the largest industry sector across all energy technologies, followed by professional and business services, manufacturing, and utilities. Professional and business services is the fastest-growing industry sector, indicating an important trend in the energy transition.[50]

Construction and electrician labor shortages predate the passage of the three laws but now pose a potential barrier to achieving the country's national climate plans without a coordinated, well-funded expansion of pre-apprenticeship and registered apprenticeship programs. The United States had 283,000 construction and 732,000 manufacturing job openings in January 2023.[51] The Bureau of Labor Statistics (BLS) estimates that the need for electricians will grow by 7% annually—equivalent to 79,900 openings for electricians each year between 2021 and 2031.[52] This shortage—largely due to the retirement of skilled electricians, a lack of new electricians learning the trade, and rapid electrification—could be an obstacle to the laws' investments in electrifying all end uses, from home appliances to transportation.[53] Yet it also could be a great opportunity to expand skilled and highly paid jobs. Fortunately, the North American Building Trades Unions (NABTU) and its contractors operate the largest apprenticeship program in the United States, with more than 1,600 centers and a budget of $2 billion that graduates 75,000 apprentices per year. Unlike previous clean energy tax credits that typically were passed for only two or three years at a time, both the IIJA and IRA authorized spending over a 10-year period, which will encourage long-term workforce expansion and training.[54]

Compared with traditional energy industry jobs, many clean energy jobs could be lower paying and more precarious. Renewable energy wages in some sectors are markedly less than those in the fossil fuel industry.[iii, 55] BLS estimates highlight this contrast: The median 2021 annual wage of solar PV installers and wind turbine technicians was $47,670[56] and $56,260,[57] respectively, while the median wage for petroleum pump system operators,

[iii] Not all renewable energy sector jobs are low paying, however. For example, the median annual wage for electrical power-line installers and repairers in the electric power generation and transmission industry is $78,310.

refinery operators, and gaugers was $79,540.[58] This is due, in large part, to the historically high union density of fossil fuel industry jobs.

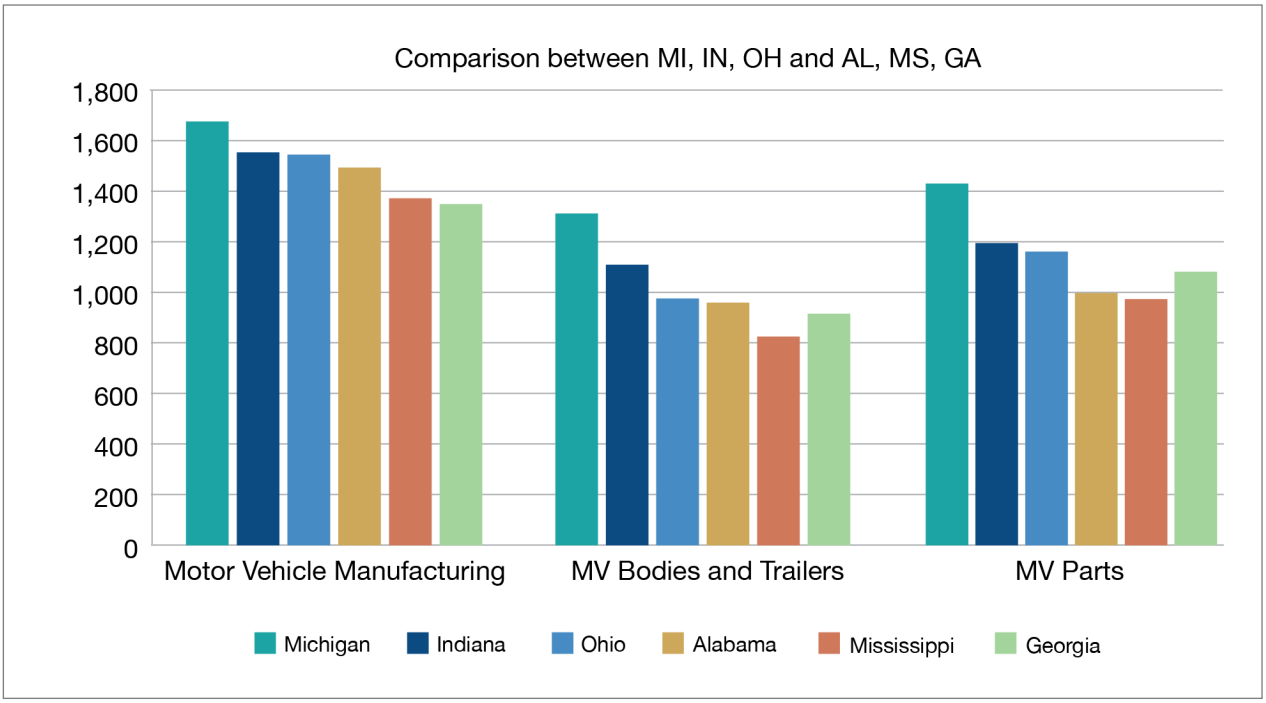
Some solar-panel installation jobs can be low quality, revealing the challenges facing construction workers in one of the most crucial clean energy sectors of the transition. Skill variation and regulatory frameworks are central factors in the large wage differential between residential and utility-scale solar projects. In many states, residential solar installer jobs do not require licensed electricians, often resulting in markedly lower wages. In states that do, such as Massachusetts, residential solar jobs pay much higher wages. Utility-scale solar jobs, because of their work with higher voltages and greater complexity, are also more highly regulated, require greater skills, and are much more frequently unionized. Unfortunately, in some states, many nonunion utility-scale solar farm workers are at the whim of temporary staffing agencies and can earn wages below $20/hour.[59, 60] Moreover, the increase of power purchase agreements to procure solar and other renewable energy financing can drive down labor costs in the competitive bidding process.[61]

EV sector jobs, and battery manufacturing specifically, reveal additional job-quality challenges. The shift to EVs risks net job loss because most EV powertrain components are currently supplied by foreign producers and EV manufacturing and assembly is mechanically less complex (requiring 30% less labor, by one estimate).[62, 63] Moreover, the "Big Three" legacy automakers—Ford, General Motors (GM), and Stellantis (including Chrysler)—appear to be wielding the technological transition to push a growing number of new hires and employees into lower-paying jobs with fewer benefits and less job security at company subsidiaries. The United Auto Workers (UAW) has long fought GM's push to add jobs at subsidiary GM Subsystems Manufacturing LLC (Subsystem LLC), which can employ workers at nearly half the wages of existing workers in the same jobs.[64, 65] Concurrently, GM is paying substandard wages at new Ultium Cells LLC facilities, GM's battery cell manufacturing joint venture with LG Energy Solution.[66] Ultium Cells employees can earn $15 to $22 per hour because they are not covered by the national UAW-GM contract and have yet to negotiate a contract at the first unionized facility, in Lordstown, Ohio.[67] Lastly, some new EV automakers and battery manufacturers, such as Tesla and Rivian, have been vocally anti-union and the subject of numerous labor law and workplace safety violations.[68, 69, 70]

Another factor resulting in lower wages and challenging union organizing in clean energy jobs is the growth of factory placement in Southern right-to-work states.[71] The shift of motor vehicle manufacturing jobs from the Midwest to the South over the last three decades—led by foreign automakers such as Nissan, Toyota, BMW, and Hyundai—illustrates the impacts

of these geographic changes.[72, 73] The chart below from the Roosevelt Project's Industrial Heartland case study in 2022 documents this wage variation.[74]

Table 2: Average Weekly Wages in MV Sectors by State



Source: Quarterly Census of Employment and Wages, https://data.bls.gov/cew/apps/table_maker/v4/table_maker.htm - type=0&year=2019&qtr=A&own=5&ind=3361&supp=0.

Early signs indicate this phenomenon is poised to continue in the clean energy sector. One analysis reported that 83% of the more than 50 EV battery, solar panel, and other factories announced since the IRA's passage are located in right-to-work states—including Georgia, Arizona, Kentucky, Tennessee, and Texas—where wages and bargaining power are lower.[75, 76]

There are, however, some encouraging instances of unionization and use of other labor and community benefit agreements, ameliorating some of these job-quality disparities. The growing use of project labor agreements (PLAs) in large-scale wind and solar projects, for example, is creating more parity between renewable energy and traditional energy jobs, particularly in the construction sector. A recent PLA between EDF Renewables—a large-scale wind developer—the Laborers' International Union of North America, and the International Brotherhood of Electrical Workers in Ohio will build six projects with some 2,000 megawatts of capacity over the next three years. Ørsted, a Danish wind developer,

signed a 2020 memorandum of understanding (MOU) with NABTU to train an offshore wind workforce for planned projects along the Atlantic coast, which recently culminated in a signed PLA covering all of Ørsted's contractors and subcontractors.[77, 78]

In the EV sector, employees unionized an EV battery plant for the first time, in Lordstown, Ohio, with the eventual support of GM CEO Mary Barra, and Ford recently agreed to card check (voluntary third-party verification of a union's majority status) with the UAW at a lithium iron phosphate battery plant in Marshall, Michigan.[79, 80] Unions and community groups are making similarly encouraging inroads at electric bus companies, including Proterra in Los Angeles,[81] New Flyer in multiple locations,[82] and BYD in Lancaster, California.[83] In May 2023, the United Steelworkers won a union election at Blue Bird, a school bus manufacturing company in Georgia, by a vote of 697-435. Blue Bird is the recipient of federal funding that encourages company neutrality in union elections. Lastly, the United Mine Workers of America announced a signed MOU with electric battery manufacturer SPARKZ to recruit and train dislocated miners for the company's planned factory in West Virginia.[84] More recently, SPARKZ and the UAW signed a national MOU and neutrality agreement (with a carveout for SPARKZ's MOU with the mine workers).[85]

d. Principles of High-Quality Jobs

Job quality is a highly contextual and multidimensional phenomenon, but the literature reveals some consensus around core pillars: (1) compensation (earnings and benefits); (2) degree of job security and opportunities for advancement and development of skills; (3) flexibility and control over working schedules and hours (including to permit non-work activities during work hours); and (4) degree of participation to exercise autonomy over working activities.[86, 87] In addition, workplaces free from discrimination and equal access to jobs are essential to high-quality work environments. Collectively, these pillars suggest that a good job not only ensures that earnings can meet basic necessities like housing, food, education, and savings, but also provides for self-development, career advancement, and voice and dignity in the workplace. The "high road" framework builds upon these pillars to describe a system in which business and industry "compete on the basis of the quality of their products and services by investing in their workforces."[88, 89]

The International Labour Organization (ILO) and the Organization for Economic Cooperation and Development (OECD) include a wider set of variables related to the labor market, social welfare, and macroeconomic policy. For example, the ILO's "decent work" agenda contains 10 elements:

1. Employment opportunities

2. Adequate earnings and productive work
3. Decent working time
4. Combining work, family, and personal life
5. Work that should be abolished
6. Stability and security of work
7. Equal opportunity and treatment in employment
8. Safe work environment
9. Social security
10. Social dialogue, employers' and workers' representation [90]

The OECD, by contrast, has emphasized three core dimensions of worker well-being: (1) earnings; (2) labor market security; and (3) the quality of the work environment.[91] Domestically, DOL and DOC developed the Good Jobs Principles (GJP) as one component of DOL's broader Good Jobs Initiative (GJI) to support workers, labor, employers, and government in improving job-quality and labor standards for working people. The GJP are summarized as follows:

- **Recruitment and hiring:** Qualified applicants, especially from underserved communities, are actively recruited and free from discrimination or unequal treatment.
- **Benefits:** Full-time and part-time workers are provided family-sustaining benefits, including health insurance, a retirement plan, workers' compensation benefits, paid leave, and caregiving supports.
- **Diversity, equity, inclusion, and accessibility (DEIA):** All workers have equal opportunity. Workers from underserved communities do not face systemic obstacles in the workplace.
- **Empowerment and representation:** Workers can form and join unions and engage in protected, concerted activity without fear of retaliation. Workers are empowered to contribute to decisions regarding the workplace.
- **Job security and working conditions:** Workers have a safe, healthy, and accessible workplace, built on input from workers and their representatives. Workers have job security and are free from harassment, discrimination, and retaliation. Workers have adequate hours, predictable schedules, and are properly classified under relevant laws. The use of electronic monitoring, data, and algorithms is transparent, equitable, and carefully deployed.

- **Organizational culture:** All workers belong, are valued, and contribute meaningfully to the organization.
- **Pay:** All workers are paid a stable and predictable living wage before overtime, tips, and commissions that increases with increased skills and experience. Pay is fair, transparent, and equitable.
- **Skills and career advancement:** Workers have equitable opportunities to advance to good jobs within or outside their organization, including through promotions, training, and education.[92]

Indicators, metrics, and the relevant weight of the core pillars remain contested. For example, compensation is one of, if not the most, important elements of defining job quality, and yet it is subject to its own complexity. Defining a "living" or "family-sustaining wage," for example, requires geographic cost-of-living and family-architecture data. Several tools, such as MIT's Living Wage Calculator, estimate a living wage based on the county-level cost of living, including the localized costs of food, child care, health insurance, housing, transportation, and other basic necessities.[93, 94] At the extreme, there is an estimated $20/hour difference in a living wage for a single adult with two children between Massachusetts (the highest) and Tennessee (the lowest) (see Appendix A).

The definition of a living wage also varies substantially depending on family size, the number of adults, and whether both adults are working. In Boston, the living wage for a single adult with two children is $65/hour. For two adults with two children and one adult working, the living wage is $45/hour (assuming one adult is undertaking child care). For two adults with two children and both adults working, it is $33/hour. In 2021, the U.S. median household income was $71,000, while median earnings for male and female employees were $51,000 and $39,000, respectively.[95] Thus, the tools for defining a living wage are highly contextual and reflect changes in social structure and workforce participation. The term "family-sustaining" may be the most instructive in providing guidance on how to evaluate these evolving circumstances. When first coined, the term meant one job that could support a spouse and two children. If used in this context in Boston, a family-sustaining job would require a pay level of $45/hour or $94,000 a year. Unfortunately, there is no longer consensus on this term, and some would argue that a family-sustaining job should assume that two adults are working full time, thus setting that wage at $33/hour.

To provide additional guidance, this analysis considers the statutory and regulatory tools within the three laws and the administration's broader implementation framework. These fall broadly into "demand-side" and "supply-side" policies.[96, 97] Demand-side levers promote high-road labor standards and practices by increasing the demand for good jobs. These can

come in many forms, including through labor and skill standards, access and equity policies (e.g., anti-discrimination enforcement), and other strategies. We will focus primarily on demand-side labor standards, which include PLAs, Community Workforce Agreements, compensation (e.g., prevailing wage), local and targeted hire, union neutrality, and collective bargaining rights. Policies to boost demand also can include domestic content, which shifts demand from imports to local goods. Supply-side workforce strategies raise worker skills through an array of workforce development programs, including apprenticeships, community and four-year college, and other workforce training programs and partnerships. The GJI Job Quality Check List—published to support federal agencies in leveraging their discretionary funding awards to promote job quality—incorporates these demand-side and supply-side policies.[98]

However, we must note two other crucial categories of public policies that can strengthen the quality of jobs. The first is laws that directly strengthen union organizing and bargaining power. This is not directly included in the suite of legislation but is crucial and remains an important aim of many of the aforementioned demand-side and supply-side policies. Labor unions are one of the strongest mechanisms to achieve economic security, worker voice, and safe working conditions. The union wage premium—median weekly earnings of union members are nearly 20% higher than those of nonunion workers[99]—accrues higher lifetime wealth,[100] narrows the gender and racial wage and wealth gap,[101, 102] provides non-college-educated workers economic stability, and raises nonunion wages.[103, 104] Unions also offer a collective voice for workers, fostering political and civic engagement, and thus can be a vehicle of "countervailing power" at a moment of growing political inequality.[105]

The second category is publicly provided and financed social policies that raise living standards outside of the labor market. This includes health care, education, social housing, social security, and other policies that improve the quality of work indirectly by improving living standards for any given earning level. Although these additional categories are beyond the scope of our report, they should be kept in mind within the broader framework of how to improve the quality of jobs.

e. Principles of a Just Transition

In addition to creating high-quality, union jobs, the energy transition must address the adverse consequences for the workers and local communities whose livelihoods have depended on the fossil fuel industry. In 2019, before the employment fluctuations of the pandemic, an estimated 1.6 million workers worked in fossil fuel industries.[106] However, direct fuels' production is very concentrated geographically. As of 2019, Kentucky, Montana, Pennsylvania, West Virginia, and Wyoming accounted for 70% of domestic coal production;

Texas, North Dakota, and California (and offshore federal waters) accounted for 71% of oil production; and Texas, Pennsylvania, Louisiana, and Oklahoma accounted for 60% of natural gas production.[107] Employment is similarly concentrated.[108] Communities in these states—especially smaller ones whose economies are deeply dependent on the industry as either the major employer or source of local revenue—will need to be the focus of targeted policies to support displaced or dislocated workers and clean energy investments.

The concept of a just transition was forged in the 1970s by a burgeoning coalition of labor unions and environmental justice advocates, including with the influential efforts of labor leader Tony Mazzocchi of the Oil Chemical and Atomic Workers Union. He called for income and educational support for workers displaced because of environmental policies or hazardous exposures, noting in 1993:

> Paying people to make the transition from one kind of economy to another is not welfare. Those who work with toxic materials on a daily basis in order to provide the world with the energy and the materials it needs deserve a helping hand to make a new start in life.[109]

Since the 1970s, this framework has emerged as a model for addressing the social, racial, and economic injustices of past "unjust" transitions. Notably, the deindustrialization and disinvestment of the Midwest and Southeast in the 1970s to '90s decimated the chemical, automobile, and steel manufacturing industries, leading to 40 years of job loss and wage decline.[110, 111] These jobs were highly unionized, contributing to a manufacturing wage and benefit premium that helped build the nation's middle-class. Plant or factory closings are not just detrimental to livelihoods, but to broader community cohesion for those whose work sites were "social hubs" inextricably tied to "community identity."[112] Substantial research has shown how the federal programs to assist dislocated workers during such transitions were institutionally constrained, insufficient, and under-resourced.[113, 114, 115] The idea of a just transition has since been adopted by many international unions and organizations (e.g., the International Trade Union Confederation, the ILO, and others).[116] The concept was also included in the Paris Agreement and has been a core pillar of the broader United Nations framework, including as an official United Nations Framework Convention on Climate Change workstream and within the Sustainable Development Goals.[117]

Critics of this experience have concluded that the just transition framework should include reemployment and pension guarantees for displaced workers, retraining and relocation support, and place-based investments. The reemployment guarantees could include "compensation insurance," according to one framework, that covers the gap between the prior fossil fuel job's earnings and benefits and those in the new clean energy job for a period of years. A recent study calculated that the costs for the program can be kept

"modest" because the ratio of clean energy investments to jobs created is much larger than for the fossil fuel industry.[118] Additional advocacy has highlighted other policies, such as transitional services, expanding the Trade Adjustment Assistance Program to include the energy transition, other place-based social and economic investment, and support for local leadership in community-based transition efforts.[119, 120, 121]

IV. Overview of Climate and Industrial Policies and the Job-Quality and Labor Standards in the IIJA, IRA, and CHIPS Act

In April 2021, the Biden administration updated the United States' nationally determined contribution to achieve a 50% to 52% reduction in net greenhouse gas emissions from 2005 levels by 2030, with the goal of achieving net-zero emissions by 2050 at the latest.[122] Alongside energy transformation goals, the administration declared that addressing climate change is an opportunity to create high-quality jobs, reinvigorate domestic manufacturing through targeted industrial policy, and advance environmental justice. The $2.3 trillion of investments in clean energy, infrastructure, manufacturing, research and development, drug prices, and deficit reduction through the Infrastructure Investment and Jobs Act (IIJA), the Inflation Reduction Act (IRA), and the CHIPS and Science Act represents a historic opportunity to create high-quality, family-sustaining, union jobs.[123]

a. IIJA: Overview and Job-Quality and Labor Standards

The $1.2 trillion IIJA package contains $550 billion in new transportation, utilities, and pollution remediation infrastructure investments.[124, 125] Approximately $284 billion is authorized for transportation, including $110 billion to repair roads and bridges, $66 billion to upgrade passenger and freight rail, $39 billion to expand public transportation, and $15 billion for electric vehicle (EV) charger expansion. The $240 billion allocated for utilities includes grid reliability and resilience, broadband expansion, upgraded water infrastructure, and cybersecurity and climate-related resilience measures. The remediation funding is channeled toward reclamation and remediation of abandoned mines, Superfund and brownfield sites, and the plugging of orphaned wells. Despite the important investments, the law was critiqued as heavily insufficient in mitigation measures with only modest emissions reductions. The clean energy investments include clean power, clean energy demonstrations, energy efficiency measures, and clean energy manufacturing.[126]

The majority of the IIJA's funding is distributed through grants; one estimate suggests that nearly 80% will be disbursed through grants and 20% through federal contracts.[127] Another

estimate suggests that nearly one-quarter of the funding will be disbursed through competitive, discretionary grants and the remainder through formula grants allocated to state and local governments. A Brookings Institution analysis concluded that the agency funding allocation is: Department of Transportation (DOT) (65.7%), Department of Energy (DOE) (9.4%), Environmental Protection Agency (EPA) (7.8%), and Department of Commerce (DOC) (6%).[128] As of November 2022, $185 billion in funding through 6,900 projects had been announced.[129]

President Joe Biden's IIJA implementation executive order (EO) required agencies to prioritize several aims, including the efficient investment of public dollars and the improvement of "job opportunities for millions of Americans by focusing on high labor standards for these jobs, including prevailing wages and the free and fair chance to join a union."[130] The labor standards include:

- **Prevailing wage**: The Davis-Bacon and Related Acts (DBRA) is extended in three primary ways. The IIJA (1) authorized or appropriated additional funding to programs authorized by the DBRA; (2) added new programs under existing laws subject to the DBRA; and (3) incorporated new provisions under programs created or funded by the IIJA that provide for prevailing wage standards.[131]
- **Workforce development and apprenticeship**: Workforce development and training investments can largely be categorized as follows: (1) formula and competitive grant programs that allow recipients to directly support workforce training and development, including through registered apprentice (RA) programs and pre-apprenticeship programs; (2) the establishment and/or funding of grant programs exclusively for workforce development and training (e.g., DOE's Energy Auditor Training Grant Program); and (3) encouragement for states and agencies to undertake human capital plans that develop workforce planning needs.
- **Local hire:** The IIJA permits DOT to allow recipients of federal transportation grants (transit, road, and bridge funds) to use local, geographic, and economic hiring preferences.
- **High-quality jobs in competitive funding**: Several agencies administering IIJA funding are requiring competitive grant applicants to provide information regarding how the applicant will commit to high-quality jobs, labor standards, and equity. The DOE requires this information through a Community Benefits Plan (CBP), which will be the primary focus of our analysis as emblematic of the administration's overall approach to job quality in discretionary funding. The DOC

has required an analogous framework in the Broadband Equity, Access, and Deployment (BEAD) Program Notice of Funding Opportunity (NOFO).

DOE has revised its Funding Opportunity Announcements (FOAs) in an iterative process during 2022-23, and thus the following overview does not account for the distinctions among FOAs (some of which will be addressed below). The FOAs require the applicant to complete a CBP stating its approach and commitments to: (1) community and labor engagement; (2) investment in the American workforce; (3) advancing diversity, equity, inclusion, and accessibility; and (4) the Justice40 Initiative. This report focuses on the first two pillars. The CBP is ultimately scored according to an internal rubric and evaluated as 20% of the overall applicant's merit review. Thus, a high score on the CBP can increase the applicant's chance of being awarded the grant. For each pillar, the DOE FOA states examples of how the applicant might meet the specific criteria listed.

On community and labor engagement, the FOAs ask the applicant to describe plans to engage with labor unions, worker organizations, workforce development organizations, and community organizations (among other listed groups) and provide a schedule and description of engagement methods. DOE also provides a non-exhaustive list of labor agreements (DOE terms these Workforce and Community Agreements) that the applicant may consider entering, including a Community Benefit Agreement, good neighbor agreement (GNA), PLA, Community Workforce Agreement, or collective bargaining agreement.

On job quality, DOE FOAs request a comprehensive description of how the entity will create high-quality jobs; attract and retain a skilled, trained, and credentialed workforce; and support workforce development through training and skill acquisition to meet project labor needs. Specifically, the applicant is prompted to describe family-sustaining wages (or wages that exceed prevailing wages) and wraparound benefits. The job-quality section has a substantive description of how DOE contemplates workers' rights commitments, including the request to discuss how the applicant will support the workers' free and fair choice to join a union, bargain collectively with the employer, and have a voice in the design and execution of workplace decisions that affect them (e.g., workplace safety and health plans).

- **Domestic content (DC):** The IIJA's Build America, Buy America Act (BABA) establishes DC preferences requiring that all federally assisted infrastructure projects must use iron, steel, manufactured products, and construction materials

produced in the United States. BABA expanded Buy America requirements to additional types of infrastructure projects, including electrical transmission facilities and systems, utilities, broadband infrastructure, and buildings and real property. BABA defines "produced in the U.S." as all manufacturing processes for iron and steel products, and in the case of manufactured products, requires that the cost of the components manufactured or produced in the United States must be greater than 55% of the total cost of all components of the manufactured product. BABA required that each federal agency submit to the Office of Management and Budget (OMB) within 60 days of the IIJA's enactment a report identifying the agency's financial assistance programs for infrastructure and a list of which were "deficient." BABA also mandated OMB and the Federal Acquisition Regulatory (FAR) Council to promulgate regulations strengthening Buy American Act (BAA) procurement standards (see Page 36).

- **Just transition:** The IIJA authorized and appropriated new funding for the Office of Surface Mining Reclamation and Enforcement to disburse Abandoned Mine Land grants for eligible states and tribes. Priority is to be given for projects that provide "employment opportunities to current and former employees of the coal industry, when such employees are available to work on projects within the region, state, or local area."[132]

b. IRA: Overview and Job-Quality and Labor Standards

The IRA advances historic investments in solutions to climate change through a mix of targeted grants, loan guarantees, tax incentives, and other federal funding. Analyses suggest that investments in domestic clean energy production and manufacturing could reduce CO_2 emissions by 31% to 44% from 2005 levels by 2030.[133]

Of the $369 billion investment, an estimated $270 billion is delivered through an expansion of tax credits and incentives for low-carbon energy sources and technologies. On clean electricity and reducing carbon emissions, the IRA extends and expands eligibility for the production tax credit (PTC) and the investment tax credit (ITC) and creates a new clean energy PTC and clean electricity ITC for the generation of net-zero electricity. Other related tax credits include expansion of Section 45Q for carbon oxide sequestration and a new Section 45U program for zero-emission nuclear power. On clean fuels, the IRA extends Section 40A(g) income and excise tax credits for biodiesel, renewable diesel, and alternative fuels, as well as other provisions on biofuels, aviation fuel, and clean hydrogen. On energy

efficiency, the law extends various residential and commercial energy efficiency credits to subsidize improvement expenses. The law modifies the Section 30D Clean Vehicle Credit (CVC), as will be discussed later in greater detail. Lastly, on clean energy manufacturing, the IRA extends the qualifying advanced energy project credit (48C) to establish, reequip, or expand industrial or manufacturing facilities for renewable energy or its components, and establishes a new advanced manufacturing tax credit (45X) for domestic manufacturing of components for solar and wind energy, inverters, battery components, and critical minerals. As will also be discussed in further detail, several of these tax credits are multiplied if certain labor standards are fulfilled. Lastly, the law makes several of these tax credits eligible for "direct pay" and transferability, allowing tax-exempt entities, such as state, local, and tribal governments that typically do not benefit from tax credits to receive the benefits in the form of direct payments.

In addition to tax credits, the act provides billions of dollars in grants, loans, and other federal funding arrangements for clean energy projects, sustainable transportation, agricultural conservation, and other programs. For example, the act provides DOE's Loan Programs Office with $100 billion in loan authority through a total of $11.7 billion in new credit subsidies (as well as an additional $5 billion for the new Energy Infrastructure Reinvestment Program, for up to $250 billion in loan authority).[134] The act also provides $5 billion for EPA to disburse Climate Pollution Reduction Grants, and money for several other programs administered by DOE, EPA, Department of the Interior, DOT, the U.S. Department of Agriculture (USDA), and the Department of Housing and Urban Development (HUD).

Among other stated priorities, Biden's IRA implementation EO directs agencies to invest "public dollars effectively and efficiently," achieve "measurable, demonstrable outcomes," and prioritize "increasing high-quality job opportunities for American workers … through the timely implementation of the Act's requirements for prevailing wages and registered apprenticeships and by focusing on high labor standards and the free and fair chance to join a union."[135] The labor standards include:

- **Prevailing Wage**: Taxpayers qualify for a bonus credit of five times the base rate if prevailing wage and apprenticeship requirements are met. The prevailing wage requirement applies to 10 tax credits, identified by the section of the U.S. tax code: the alternative fuel refueling property credit (§30C), the production tax credit (§45, §45Y), the carbon oxide sequestration credit, (§45Q), the production of clean hydrogen credit (§45V), the clean fuel production credit (§45Z), the investment tax credit (§48, §48E), the advanced energy project credit (§48C), the energy efficient commercial buildings deduction (§179D), the new energy efficient home credit (§45L), and the zero-emission nuclear power production credit

(§45U). Under the production tax credit (PTC), a taxpayer satisfies the requirement with respect to the qualified facility if all laborers and mechanics employed by the taxpayer, contractor, or subcontractor in the construction of the facility are paid wages at rates not less than the prevailing rates for construction, alteration, or repair of similar character in the facility's locality. If the taxpayer claims the bonus but is noncompliant, the taxpayer can be "deemed" to have satisfied the requirement if the taxpayer pays the difference between the wage paid and wage required (with interest) and a payment to the labor secretary of $5,000 per underpaid worker. The penalty for intentional disregard is three times the difference between the wage paid and wage required (with interest) and a penalty of $10,000 per underpaid worker. Prevailing wage rates are determined in accordance with DBRA, including procedures for determining wage rates not currently appearing on a published wage determination.[136]

- **Workforce development and apprenticeship:** Taxpayers must ensure that the applicable percentage of total labor hours of the construction, alteration, or repair work on the qualified facility is performed by qualified apprentices to receive the bonus tax credit. The apprentice employed by the taxpayer, contractor, or subcontractor must participate in an RA program as codified and established by the National Apprenticeship Act and regulated by DOL. The requirement applies to the same tax credits listed above, except for the new energy efficient home credit (§45L) and the zero-emission nuclear power production credit (§45U). The applicable percentage is 10% for a qualified facility that began construction before Jan. 1, 2023, 12.5% for construction between Dec. 31, 2022, and Jan. 1, 2024, and 15% for construction after Dec. 31, 2023. The taxpayer is subject to applicable DOL or state apprentice-to-journey worker ratios. A taxpayer is not deemed noncompliant for failing to meet the requirement if the taxpayer (1) satisfies the good faith effort requirement or (2) pays the labor secretary a penalty equal to the product of $50 multiplied by the total labor hours for which the requirement was not satisfied. A good faith effort is satisfied if the taxpayer requested the apprentices from an RA program and either (1) was denied (provided that the denial was not the result of the taxpayer's, contractor's, or subcontractor's refusal to comply with the program's standards and requirements) or (2) the RA program failed to respond to the request within five business days. If noncompliance, in the labor secretary's final determination, is due to intentional disregard of the requirement, the taxpayer must pay a penalty equal to the

product of $500 multiplied by the total labor hours for which the requirement was not satisfied.

- **High-quality jobs in competitive funding:** An assessment of several IRA competitive grant programs finds that labor standards and job quality are not uniform among early agency guidance.[iv] However, many NOFOs and FOAs have yet to be released. Several early notices do indicate the intent to incorporate job-quality and labor standards. For example, DOE's notice of intent for the Advanced Industrial Facilities Deployment Program indicated its plan to adopt the CBP,[137] as described above, whereas the EPA's Greenhouse Gas Reduction Fund will require a "Labor and Workforce Plan."[138]
- **Domestic content:** The DC bonus tax credit applies to the PTC and the investment tax credit (ITC). The requirement is satisfied if the taxpayer certifies that any steel, iron, and manufactured product that is a component of the facility (upon completion of construction) was produced in the United States. For manufactured products, 40% (55% after 2026) of the total costs must be attributable to being mined, produced, or manufactured in the United States (and 20% for an offshore wind facility, rising to 55% by 2028). The CVC has distinct requirements, providing up to $7,500 for buyers of new EVs and hybrid plug-ins if critical minerals and battery component requirements are met. Specifically, $3,750 is based on the amount of critical minerals contained in the battery extracted in the United States, recycled in North America, or from a country with which the U.S. has a free trade agreement. The remaining $3,750 is determined by the value of components of the battery manufactured or assembled in North America. The applicable percentages for critical minerals and battery components increase over time, and final assembly of the EV must occur in North America. Treasury and the IRS released a proposed rule outlining a process for manufacturers to determine eligibility under these two elements.[139]
- **Energy community:** The taxpayer may qualify for an additional bonus credit under the PTC and ITC if the qualified facility is located in an "energy community." An "energy community" is designated based on one of three location-based criteria: (1) a brownfield site as defined by the Comprehensive Environmental Response, Compensation, and Liability Act; (2) a metropolitan statistical area

[iv] We assessed several competitive grant programs: USDA's Rural Energy for America Program (REAP); HUD's Green and Resilient Retrofit Program; EPA's Greenhouse Gas Reduction Fund; and DOE's Advanced Industrial Facilities Deployment Program.

(MSA) or non-MSA that (i) has (or had any time after Dec. 31, 2009) either 0.17% or greater direct employment or 25% or greater local tax revenues related to the extraction, processing, transport, or storage of coal, oil, or natural gas, and (ii) has an unemployment rate that is at or above the national average rate for the previous year; (3) a census tract (or adjoining census tract) in which a coal mine has closed since Dec. 31, 1999, or a coal-fired electric generating unit has been retired since Dec. 31, 2009. Treasury and the IRS published guidance on these designations in April 2023 in anticipation of forthcoming proposed regulations.[140] Further, the advanced energy project credit (§48C[e]) requires that at least $4 billion of the $10 billion 48C credits will be allocated to projects in census tracts (or adjacent tracts) that meet the coal closure category standards. The guidance provides a non-exhaustive list of the dozens of qualifying advanced energy technologies, including solar panels, wind turbines, hydrogen fuel cells, grid equipment, and carbon capture equipment.[141]

- **Oversight:** The OMB is statutorily required to track the labor, equity, and environmental standards and performance under the act. Additionally, the Government Accountability Office must support oversight regarding whether the economic, social, and environmental impacts of the distributed funds are equitable.

c. CHIPS ACT: Overview and Job-Quality and Labor Standards

CHIPS constitutes the core of the administration's industrial policy to bolster the nation's economic competitiveness in semiconductor manufacturing and other advanced technologies.[142] The law seeks to increase domestic manufacturing capacity to reduce dependence on East Asian countries responsible for four-fifths of total global fabrication capacity, but also to revitalize American technological leadership.[143] The Semiconductor Industry Association announced that, four months into the law's passage, CHIPS spurred nearly $200 billion in private investments and 40,000 new jobs within 40 new semiconductor "ecosystem projects."[144]

The act appropriates $54.2 billion over five years to advance semiconductor industry research, development, manufacturing, and workforce development. DOC's National Institute of Standards and Technology (NIST) will implement the $50 billion CHIPS for America Fund (CHIPS Fund), comprising $39 billion for direct construction and expansion of semiconductor fabrication facilities (via grants, loans, and loan guarantees identified in the

CHIPS Incentives Program NOFO) and $11 billion for research and development (R&D) and workforce initiatives at the National Semiconductor Technology Center, the National Advanced Packaging Manufacturing Program, Manufacturing USA institutes, and NIST metrology R&D.

The CHIPS for America initiative seeks to: (1) invest in U.S. production of semiconductor chips; (2) secure a stable supply of mature node semiconductors; (3) strengthen R&D to catalyze future U.S. technologies, applications, and industries; and (4) grow a diverse semiconductor workforce, including thousands of good-paying manufacturing jobs and 100,000 construction jobs.[145] Other major funding streams include the $24 billion advanced manufacturing investment credit for qualified semiconductor facilities and $170 billion in R&D across several agencies, such as DOE's Office of Science and the National Science Foundation.

The administration's CHIPS Act implementation EO states that agencies must prioritize the generation of benefits for a broad range of stakeholders and communities, including through the creation of well-paying, high-skilled union jobs and the "effective and efficient stewardship and oversight of taxpayer resources."[146] In highlighting key labor standards, we primarily focus on those included in the CHIPS Fund, and more specifically the CHIPS Incentives Program NOFO, because a majority of the remaining funding is dedicated to R&D.

- **Davis-Bacon and Related Acts:** DBRA prevailing wage requirements will apply to CHIPS-funded construction projects.
- **Apprenticeship and workforce training:** The CHIPS for America Fund strategy report stated that DOC "expects to encourage projects that include effective and creative workforce development solutions at the scale required to meet demand."[147] The CHIPS Incentives Program NOFO requires a workforce development plan documenting the strategy to meet workforce needs and the plan to "recruit, train, hire, retain, and upskill a diverse workforce" at the facility. This includes utilizing a "sectoral partnership" with strategic workforce partners, including unions, regional educational and training entities, educational institutions, economic development organizations, workforce development organizations, community-based organizations, and other career and technical education programs.[148] Applicants must also submit a construction workforce plan detailing the steps to "recruit, hire, train, and retain a diverse and skilled construction workforce," including efforts to recruit historically underrepresented workers in the industry through RA programs.[149]

- **Project labor agreements:** The CHIPS Incentives Program NOFO "strongly encourages" the use of PLAs for construction projects. An applicant's use of a PLA is indication of compliance with the construction workforce plan's criteria.[150] Those that do not commit to using a PLA are subject to more onerous reporting requirements through the submission of workforce continuity plans indicating how the project will take steps to ensure a sufficient supply of labor and minimize labor disputes to reduce risk of project implementation delays. This is one component of the broader construction workforce plan noted above, which also emphasizes wraparound services and the steps taken to ensure all contractors and subcontractors comply with federal labor laws, including the DBRA and the Occupational Safety and Health Act.
- **High-quality jobs in competitive funding:** The CHIPS Incentives Program is a competitive grant program, utilizing a merit review process that evaluates the applicant's commitment to workforce development and good jobs as one of six scored criteria.[151] The workforce development plan noted above comprises five broad sections: (1) a workforce needs assessment of the job types, skills, and workers needed for facility operations; (2) worker recruitment and retention through commitments to training and education that address workplace barriers and ensure the environment is free from harassment, discrimination, and retaliation; (3) commitment to GJP for both existing and new jobs; (4) workforce training and wraparound services, such as commitments to hiring from training programs and the provision of adult care, child care, transportation assistance, housing assistance, and other services; and (5) metrics and milestones to measure, track, and report on stated goals and commitments.[152] Notably, this is the first NOFO in the suite of laws to expressly require a commitment from the applicant to provide "affordable, accessible, reliable, and high-quality child care" for both facility and construction workers.[153]
- **Domestic content:** The Incentives Program requires applicants to describe "whether and how" the projects will use iron, steel, and construction materials produced in the United States as part of the projects.[154]

d. Executive Orders and Regulations

Several other EOs and agency rulemakings central to this labor-climate agenda are worth noting, even though detailed analyses of each are beyond the scope of this report:

- **Tackling the climate crisis at home and abroad** (EO 14008): Prioritizes climate change in U.S. foreign policy and national security, and adopts a "governmentwide" approach to domestic climate policy.[155] The EO states the need for millions of construction, manufacturing, engineering, and skilled-trades workers and created the Interagency Working Group on Coal and Power Plant Communities and Economic Revitalization.
- **Worker organizing and empowerment** (EO 14025): Reiterates U.S. policy to encourage worker organizing and collective bargaining under the National Labor Relations Act and states that the federal government has "not used its full authority to promote and implement this policy of support for workers organizing unions and bargaining collectively with their employers."[156] The EO established a Task Force on Worker Organizing and Empowerment to identify "executive branch policies, practices, and programs" that could be used to support worker power and organizing, which released its first report in February 2022.[157]
- **Increasing the minimum wage for federal contractors** (EO 14026): Raised the minimum wage paid to workers operating under federal contracts (including DBRA and the Service Contract Act) to $15/hour.[158] DOL subsequently promulgated regulations to implement the EO.[159]
- **Catalyzing clean energy industries and jobs through federal sustainability** (EO 14057): Established federal sustainability goals through procurement power, including 100% carbon pollution-free electricity by 2030, 100% zero-emission vehicle acquisitions by 2035, net-zero federal procurement no later than 2050, and other goals.[160]
- **Nondisplacement of qualified workers under service contracts** (EO 14055): Established a general rule that service contracts succeeding contracts for the same or similar services include a "non-displacement clause" requiring contractors and sub-contractors to offer qualified employees under the predecessor contract the right of first refusal for the successor contract.[161] DOL has issued a notice of proposed rulemaking (NPRM).[162]
- **Employee misclassification** (NPRM): DOL issued an NPRM to address the pervasive issue of employee misclassification, including through a return to a totality-of-the-circumstances analysis of the "economic reality test" used to determine whether a worker is an employee under the Fair Labor Standards Act.[163]

- **Apprenticeship ambassador initiative**: The administration established a network of more than 200 employers, industry organizations, unions, educators, and workforce- and community-based organizations "committed to strengthening and diversifying Registered Apprenticeship."[164] The purpose is to develop 460 new RA programs, hire more than 10,000 new apprentices, and hold 5,000 outreach and training events. This initiative complements DOL, DOC, and Department of Education (DOE) initiatives to expand RAs.

The three EOs and rules most central to our subsequent discussion include: (1) Ensuring the Future Is Made in All of America by All of America's Workers (EO 14005); (2) Use of Project Labor Agreements for Federal Construction Projects (EO 14063); and (3) DOL's NPRM updating DBRA regulations.

(1) EO 14005: Ensuring the Future Is Made in All of America by All of America's Workers

This EO launched a "whole-of-government" initiative to strengthen domestic manufacturing through prioritizing goods, products, materials, and services produced or offered in the United States in federal assistance awards and procurements.[165] The EO established the OMB's Made in America Office to serve as the arbiter of final review for agency requests to waive DC preferences. The EO directed the FAR Council to propose regulations reforming and raising the statutory BAA requirements. The final rule increased the DC threshold from 55% to 60% in October 2022, 65% in 2024, and 75% in 2029—ultimately consistent with the IIJA's statutory requirement. Among other provisions, the rule permits a "fallback threshold," allowing agencies to apply the existing 55% threshold until 2030 in instances where no products or materials meet the higher threshold or are of unreasonable cost.[166] However, this exception applies only to construction materials or end products that are neither predominantly iron or steel nor a "commercially available off-the-shelf" item.

(2) EO 14063: Use of Project Labor Agreements for Federal Construction Projects

The PLA EO directs contracting agencies to require the use of a PLA on all direct federal construction contracts costing at least $35 million.[167] The EO revoked former President Barack Obama's 2009 PLA EO that encouraged but did not require PLAs in large-scale construction (for contracts costing at least $25 million). The Federal Property and Administrative Services Act (or the "Procurement Act") grants the president broad authority to "prescribe policies and directives" deemed necessary to promote the act's goals of economy and efficiency in procurement policy.[168] The EO stated the challenge of large-scale construction projects that present "special challenges to efficient and timely

procurement," including the lack of a permanent workforce and the engagement of multiple employers at a single location. Thus, a pre-hire collective bargaining agreement (inclusive of union and nonunion labor) that stipulates important terms—such as wages, benefits, work conditions, and labor dispute resolution protocols—can ease coordination and provide structure. The PLA, which binds all contractors and subcontractors on the construction project, must include provisions waiving the right of parties to engage in strikes, lockouts, and other job disruptions and establishing dispute resolution procedures. Federal agencies are authorized to grant exceptions from the PLA requirement provided that several criteria are met: (1) the PLA would not achieve economy and efficiency in federal procurement (indicated by several factors, including short duration, the lack of operational complexity, involvement of a single craft or trade); (2) the requirement would substantially reduce the number of potential bidders and frustrate full and open competition; or (3) the requirement is otherwise inconsistent with federal law. On the second criterion, the FAR Council's proposed rule implementing the EO stated that the government will conduct "market research" to determine whether PLA use would reduce competition "to such a degree that adequate competition at a fair and reasonable price could not be achieved."[169]

The proposed rule declared an intent to maintain existing FAR Council guidance for discretionary agency determinations requiring a PLA for projects below the $35 million threshold.[170] Specifically, the regulation suggests agencies may "require" a PLA when the agency determines through market research that its use would:

1. Advance the federal government's interest
2. Be consistent with the law
3. Comport with a series of other relevant factors
    a. The project requires multiple contractors
    b. Regional shortage of skilled labor
    c. Completion of the project will require an extended period
    d. PLAs have been used on comparable projects
    e. The PLA will promote the agency's long-term interests
    f. Any other factors the agency deems appropriate[171]

(3) Notice of Proposed Rulemaking: Updating the Davis-Bacon and Related Acts Regulations

On March 11, 2022, DOL proposed the most comprehensive update to DBRA regulations in 40 years to "reflect better the needs of workers in the construction industry and planned federal construction investments."[172] The proposed rule returns prevailing wage determination to the three-step process and the "30%

rule," used since the law's passage in 1931 until its rescission in 1983.[173] The three-step process establishes the locally prevailing wage as: (1) the rate paid to the majority of workers in the classification and given locality; and (2) in the absence of a majority wage rate, the rate paid to at least 30% of such workers; and (3) in the absence of a modal wage rate, a weighted average of the workers in that classification and locality.[174] The return to the 30% rule is intended to reduce the overuse of weighted averages, a change long sought by unionized contractors and NABTU.[175]

Other notable proposed changes include: (1) removal of the prohibition on mixing wage data between rural and metropolitan counties if the DBRA analysis of the county is insufficient to determine prevailing wages;[176] (2) periodic adjustment of wage rates between surveys using Bureau of Labor Statistics' Employment Cost Index (ECI) data to address the prevalence of substandard wages due to out-of-date wage determinations;[177] (3) making applicable wage determinations effective as a matter of law, irrespective of a mistaken textual omission from the written contract;[178] (4) adding anti-retaliation regulations to provide relief for workers discriminated against due to real or perceived actions concerning DBRA;[179] and (5) harmonizing debarment standards under DBRA.[180]

V. Strengthening and Improving the Implementation of the Job-Quality and Labor Standards

a. Project Labor Agreements (PLAs)

PLAs are public and private sector construction coordination tools—executed between labor unions and construction contractors and/or project developers—that ensure a reliable source of highly qualified workers from all trades through an exchange of labor peace for high-road labor practices. Labor peace, most broadly, is the promotion of cooperation and gain between the parties, including the workers, unions, and management. Labor peace also can be used as a term of art indicating an enforceable promise obtained from a union to not engage in strikes, pickets, and other labor disruptions at the workplace.

The National Labor Relations Act (NLRA) authorizes pre-hire agreements in the building and construction industry, as Congress understood the industry's unique conditions, including the "short-term nature of employment which makes post-hire collective bargaining difficult, the contractor's need for predictable costs and a steady supply of skilled labor, and the long-standing custom of pre-hire bargaining in the industry."[181] PLAs and Community Workforce Agreements (CWAs) (a broader form of PLA that often includes provisions for local or targeted hire, apprentices and training, and other community-oriented benefits) can maximize a project's high-quality, cost-effective completion through the assurance of high-road labor practices and broad-based economic development.[182] In the clean energy sector, for example, most California-based utility-scale renewable energy construction projects have used PLAs, providing workers with union representation, prevailing wage, pensions, health care, and apprenticeships.[183] PLAs, however, are limited to the construction industry—a crucial, but not singular, industry at the center of the clean energy transition.

The administration's PLA requirement on projects over $35 million is important but insufficient since it only applies to direct federal procurement, excluding federal assistance for construction through grants, loans, cooperative agreements, tax credits, or other financial instruments.[184] PLAs thus remain largely discretionary under the suite of three laws, as the majority of funding is not channeled through direct federal procurement. Despite this

restriction, the administration estimates that the requirement could affect $262 billion in federal government construction contracting (based on fiscal 2021 figures).[185]

The EO expressly does not preclude agencies from requiring a PLA in financial assistance awards beyond the scope of the order: projects with lower estimated total costs or projects receiving other federal funding (e.g., grants, loans, or tax credits).[186] Yet, the challenge is the FAR Council's decision to maintain in its proposed rule the regulatory guidance promulgated under former President Obama's PLA EO on agency discretionary decision-making for when to require a PLA.[187] Under the Obama administration, the list of factors agencies were directed to consider (see Page 37) ultimately yielded PLAs only 12 times out of approximately 2,000 eligible federal contracts.[188] Although this extremely low uptake is concerning for current PLA use under a largely discretionary framework, the operative policy of Obama's EO—for which those factors were first issued—was "encouragement" to consider the use of PLAs.[189] The FAR Council rule implementing Obama's EO stated: "Simply put, the use of project labor agreements by Federal agencies is voluntary."[190]

The astonishingly low use of PLAs is explained, in part, by the directive to use "market research" in assessing the relevant criteria. The North American Building Trades Unions (NABTU) has revealed the shortcomings of this approach taken by procurement officers when determining the appropriateness of a PLA. For example, NABTU highlighted the predisposition to direct consultations to the contracting community rather than a wider array of stakeholders; the generic nature of questions used to prompt consideration of the tool's utility, inviting broader critiques of PLAs rather than a specific analysis of the benefits that might accrue to a particular construction project's use; and the cursory "consideration" required overall, which is most vividly illustrated by the Department of Defense's (DOD) "Review Checklist."[191, 192]

There appear to be no empirical studies analyzing the causes of low uptake and its economic effects. However, the Associated Builders and Contractors (ABC)—the national trade association of nonunion contractors—hinted at its role, touting the group's successful "campaign [that] helped prevent PLA mandates and preferences on more than 99% of federal contracts exceeding $25 million during fiscal years 2009-2021."[193] Further, ABC emphasized the support provided for nonunion contractors in responding to more than 500 federal agency surveys requesting public consultation on PLA use.

Evidently, the low usage reflected the executive imposition and agency embrace of a voluntary PLA regulatory regime. Moreover, this voluntary framework was compounded by minimal internal guidance and the broader strength of industry opposition. The proposed rule maintains this existing approach to discretionary decision-making, stating that contracting officers "will continue to conduct market research and consider factors to support

a decision to use, or not to use, PLAs in large-scale construction projects.[194] Although this rule specifically applies to the procurement context, there does not appear to be newly issued public guidance on a new approach to PLAs in the non-procurement context.

This is a problem for an administration that has expressly directed the agencies to implement the new climate and infrastructure investments with the aim of creating good jobs. Fortunately, Biden's PLA EO takes an entirely different approach than Obama's by setting an affirmative policy in support of PLAs to raise labor standards, mitigate coordination challenges on complex construction projects, and minimize uncertainty in contracting. This new baseline federal policy—stating that "it is the policy of the Federal Government for agencies to use project labor agreements" in order "to promote economy and efficiency in Federal procurement"—should become the basis of a new administrative approach to PLAs.[195]

To understand how to strengthen and entrench PLA use, important legal principles and frameworks must first be addressed: (1) the "market participant" exception to NLRA preemption and (2) federal grant practice.

(1) Market Participant Exception to NLRA Preemption

The president has broad discretion under the Procurement Act to set policy regarded as necessary to promote "economy" or "efficiency" in federal procurement.[196] However, the NLRA may preempt the attachment of labor standards to government procurement.

By way of background, the NLRA contains no explicit statutory preemption clause, but the Supreme Court has developed several doctrines of preemption considered "necessary to implement federal labor policy" in accordance with congressional intent.[197] The first is *Garmon* preemption, which prohibits states and municipalities from regulating activity that "the NLRA protects, prohibits, or arguably protects or prohibits"[198] on the basis that states "must defer to the exclusive competence of the National Labor Relations Board [NLRB] if the danger of state interference with national policy is to be averted."[199] Plainly, *Garmon* preemption safeguards the NLRB's primary jurisdiction over conduct that is regulated by the NLRA. The second central preemption doctrine, *Machinists*, precludes NLRB, state, municipal, and federal regulation of conduct that Congress intended "to be controlled by the free play of economic forces."[200] The NLRA seeks to remedy the inequality of bargaining power and establish an "equitable process for determining terms and conditions of employment," but leaves the "substantive" terms of the bargain up to each party's relative strength of economic leverage.[201] The Supreme Court held, in an early notable case applying *Machinists*, that Los Angeles was preempted from conditioning the renewal of a taxicab company's

operating license on settling a strike because this interfered with the parties' legitimate use of economic weapons.[202] Most notably for our analysis, these principles have been applied "equally to federal governmental behavior that is thought similarly to encroach into the NLRA's regulatory territory."[203, 204]

One of the most important articulations of the "market participant" exception to NLRA preemption was stated in *Boston Harbor.* The court held that the NLRA did not preempt the Massachusetts Water Resources Authority (MWRA), acting as "owner" of a construction project, from requiring that work must be done pursuant to a PLA.[205] The court established a distinction between "government as regulator" and "government as proprietor," finding that state or local governments acting with "purely proprietary interests" and "no interest in setting policy" are not preempted by the NLRA.[206] MWRA's PLA bid specification was not preempted because the agency was a "proprietor," interested in the efficient completion of the project as "quickly and effectively as possible at the lowest cost," rather than a regulatory aim.[207] The assurance of labor peace through the PLA's triple no-strike provision—"not to engage in any strike, slowdown or interruption of work [or] the [employers] … to engage in any lockout" over grievances, jurisdictional disputes, and CBA negotiations—was important to the holding.[208] At the core, the PLA's promise of uninterrupted construction work through labor peace was essential to advance the government's financial interest.

The court distinguished *Boston Harbor* from its holding in *Gould* a few years prior, finding in *Gould* that the NLRA preempted a state statute disqualifying employers who violated the NLRA from doing business with the state because the penalization scheme was "tantamount to regulation."[209] In *Gould*, Wisconsin was not acting as a "market participant" when it sought to deter labor law violations, and the prohibited employer conduct at issue in the statute was "unrelated to the employer's performance of contractual obligations of the state."[210]

This distinction between proprietary and regulatory objectives was further clarified in *Brown*, the most recent Supreme Court case on the issue. The court held that a California law prohibiting employers who receive state funds (via reimbursement, grant, contract, or otherwise) from using that money to either support or oppose union organizing was preempted. California acted as a regulator, the court held, not as a market participant, in enacting a law that was neither "specifically tailored to one particular job" nor a "legitimate response to state procurement constraints or to local economic needs."[211] While the court acknowledged that California had a legitimate proprietary interest in ensuring state funds were spent in accordance with the appropriation's purposes, this particular law evinced additional regulatory objectives. Specifically, the court emphasized the imposition of both compliance burdens on employers to demonstrate that state funds were not used and legal

risks through a liability scheme that collectively prevented employers from using their own money to assist or deter union organizing.[212]

Following *Boston Harbor*, circuit courts developed tests that further distilled the core principles. The 5th U.S. Circuit Court of Appeals developed a two-part "market participant" test in *Cardinal Towing*:

> First, does the challenged action essentially reflect the entity's own interest in its efficient procurement of needed goods and services, as measured by comparison with the typical behavior of private parties in similar circumstances? Second, does the narrow scope of the challenged action defeat an inference that its primary goal was to encourage a general policy rather than address a specific proprietary problem?[213]

Although a full treatment of these issues is beyond our scope, courts have refined the scope of legitimate "efficient procurement" interests and the outer bounds of market participation.[214] "Efficient procurement" may include goals beyond economic cost considerations, such as health, safety, and the environment. On the line between proprietorship and regulation, courts are mixed on several important issues. One of those issues, for example, is the nature of how tailored the requirement is. While the court in *Boston Harbor* emphasized that the challenged PLA requirement was not regulatory because it was "specifically tailored to one particular job," other courts have upheld "across-the-board" determinations as legitimate proprietary action.[215]

For our purposes, the District of Columbia Circuit's holding in *Allbaugh* represents an important contribution to the judicial treatment of the market participant exception.[v] The court upheld former President George W. Bush's EO barring both federal agencies and entities that receive federal assistance for construction projects from either requiring or prohibiting bidders or contractors from entering into PLAs.[216] The EO constituted proprietary action: The "Government unquestionably is the proprietor of its own funds, and when it acts to ensure the most effective use of those funds, it is acting in a proprietary capacity."[217] Importantly, the court concluded that this proprietary interest need not only exist for "Government-owned projects," but also applies to government as "lender" or "benefactor" in federally funded projects.[218] The court rejected the contention that across-the-board rules are necessarily regulatory, noting that the more important

[v] Ten years before *Allbaugh*, the District of Columbia Circuit found that the NLRA preempted former President Bill Clinton's EO barring federal contracts with employers who hired permanent replacements during a lawful strike. The court held that the EO went to the "heart" of labor policy and could not have been equated with a "contracting decision" like in *Boston Harbor*. See *Chamber of Com. of U.S. v. Reich*, 74 F.3d 1322 (D.C. Cir. 1996).

consideration is whether the requirement implicates employer conduct unrelated to the work being undertaken for the government.[219, 220] Consistent practices regarding PLA use, therefore, do not themselves make a requirement regulatory. Lastly, the court found sufficient authority to enact the EO under Article II of the Constitution without regard to specific statutory authority.[221]

PLA grant conditions have been upheld at the state level under this doctrine. The 7th Circuit upheld an Illinois grant program subsidizing the construction or renovation of renewable-fuel plants (producing ethanol) that required recipients to sign PLAs.[222] The court in *Lavin* conceded that Illinois did not own any project either before or after granting the subsidy (the "true" proprietor is the project's owner), but the voluntary conditional grant program was not tantamount to broadly affecting labor relations.[223] Citing *Boston Harbor*, the court affirmed the distinction between legitimate activity that affects labor versus regulates labor relations.[224] Moreover, the court noted that conditions are a matter of standard grant practice and are typically not regulatory for the purposes of the NLRA both because the federal government cannot direct a state to pass or enforce laws and because states or other recipients may decline the financial offer and its attached conditions.[225]

Ultimately, government activity that is typically deemed proprietary includes: (1) ownership or management of property; (2) purchasing goods or services; (3) hiring, paying, or directing contractors on a project; (4) lending money; and (5) providing project funding. Tax credits have been found not to be proprietary because reducing the tax burden is not "direct state involvement in the market."[226] Financial assistance may be somewhat contested, but there is precedent to indicate its designation as proprietary. The D.C. Circuit expressly rejected the notion that federally funded projects are not proprietary as "too crabbed an understanding of proprietorship."[227] The court is clear that the government is the "proprietor of its own funds" when it acts as the "benefactor" of a project because of its concern that "its financial backing be used efficiently," as implied in *Lavin*.[228] Moreover, *Allbaugh's* conclusion further comports with Supreme Court commerce clause decisions that have held a state to be a "market participant" when providing municipal grant funds.[229] Thus, the contractual arrangement between the recipient project developers or owners and the federal grantor is predicated on an enforceable agreement that the funds will be used in accordance with the government's proprietary purposes, which can require labor peace to achieve.

(2) Federal Grant Practice

Although the "market participant" exception addresses the threshold issue of whether the government acts as a proprietor, the agency must also have the statutory and constitutional authority to condition funding on a PLA. An

administrative law scholar has argued that the "legal framework governing Executive Branch operations over policymaking through federal grants is fairly well settled" and "the norms are fairly well agreed upon."[230] Agencies must always have the statutory authority to act, and administering grant programs is no different. Attached conditions on grant programs cannot be so "untethered" to the grant statute's language.[231] Grants are exempted from the Administrative Procedure Act's (APA) formal notice-and-comment rulemaking procedures, and most of the discretionary grants at issue in these three laws are being announced through exempted FOAs and NOFOs.[232, 233] However, grant requirements cannot be changed "by fiat overnight," and—in addition to compliance with administrative law requirements, including the APA, internal agency regulations, and statutory authority—newly attached conditions must be applied to the subsequent funding cycle.[234]

The Office of Management and Budget's (OMB) Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (the so-called Uniform Guidance) sets standard procedures for establishing policy priorities in FOAs and NOFOs. The public notice must contain the evaluation criteria the awarding agency will use in the merit review process to select funding recipients.[235] Agencies are required to disclose how applicants are evaluated against these pre-established criteria and, as such, may include qualitative descriptions or rubrics outlining how projects will be evaluated, prioritized, and scored.

In addition to compliance with administrative law, the conditions must also pass constitutional muster. The Supreme Court has identified five constitutional spending clause limits. The condition: (1) must ensure funds support the general welfare; (2) is stated unambiguously (the "clear notice" rule); (3) relates to the funding program; (4) is not coercive; and (5) does not otherwise violate the Constitution.[236, 237] While much of the spending clause jurisprudence has arisen in the context of federal funding conditions applied to states and cities, several of these constitutional limitations—such as the clear notice rule that requires the condition to be unambiguous and the independent constitutional bar—have been applied in cases with private federal funding recipients.[238]

In addition to express statutory conditions, a federal agency can impose conditions in the administration of a grant program so long as there is congressionally delegated authority. Although courts have recognized the constitutional authority for executive conditions, the limits remain contested and somewhat uncertain. Circuits were split on this precise issue in the context of recent challenges to immigration-related conditions imposed by the Trump administration's Department of Justice (DOJ) in Byrne Program Criminal Justice Assistance grants (Byrne grants).[239] The circuits that found no delegated authority

to the attorney general (AG) to impose spending conditions rested their decisions on several grounds, including the lack of statutory authorization for priority purposes or conditions.[240, 241] Notably, however, the 2nd Circuit found that the AG did not exceed its authority in imposing a spending condition.[242] The court found that the condition fell within the broad grant of discretionary authority delegated to the AG to administer the grant according to such "rules as the Attorney General prescribes."[243]

The 2nd Circuit also grappled with the clear notice rule, stating: "To be sure, that notice was provided by DOJ rather than Congress. But the Supreme Court has recognized that, in establishing federal grant programs, Congress cannot always 'prospectively resolve every possible ambiguity concerning particular applications of the [program's statutory] requirements."[244] However, scholars have emphasized the inconsistency with which the clear notice rule has been applied, such as its applicability to the congressional delegation of authority, the executive condition itself, or both.[245] More broadly, several legal analysts have considered the "*Pennhurst-Chevron* problem," on whether the clear statement rule or *Chevron* deference to an agency's interpretation of a statute should apply.[246, 247] One scholar has recently posited that despite "some tension between a requirement for delegatory clarity and *Chevron* … there need not be clarity from Congress on the conditions to be imposed, only on the fact that authority to add conditions has been delegated."[248] Yet, perhaps the biggest uncertainty regarding this tension is how the "major questions doctrine" might supplant *Chevron* deference, with implications for the clear notice rule and other spending clause considerations.[249]

RECOMMENDATIONS

The relevant implementing agencies—namely DOE, DOT, and DOC—should adopt a three-tiered approach to operationalize systematic PLA use under the three laws. Agencies should consider (in descending order depending on legal viability): (1) a PLA condition for specific federal programs depending on proprietary interest; (2) use of PLAs as an encouraged but optional default compliance tool; and (3) where PLAs must be entirely discretionary, strong incentives for their use through robust scoring criteria and grant merit reviews. To aid this process, agencies should adopt new internal guidance that aligns discretionary decision-making through the "market research" approach with the administration's new affirmative PLA policy.

(1) Condition Funding on PLAs

Without purporting to analyze the full statutory and constitutional ramifications of such a PLA condition—wading into hotly contested spending power issues amid this court's evolving views on the administrative state—agencies should consider

the opportunity to exercise their untapped authority to impose such a requirement for non-procurement projects, depending on specific proprietary circumstances.[250]

First, the administration acts in a proprietary capacity when it seeks labor peace through PLAs to ensure the efficient, cost-effective, and successful completion of clean energy and infrastructure projects foundational to the nation's urgent energy transformation. The administration's PLA EO is predicated on the fundamental role of PLAs for labor peace in large-scale construction projects where labor disputes would threaten the efficient and timely completion of projects by federal contractors. This underlying justification remains true in the non-procurement context; the government has a substantial financial interest in the successful completion of major public works projects that are central to catalyzing multi-level governance to decarbonize our national economy. These investments are crucial for catalyzing private sector investment, especially within the least developed industries (e.g., clean hydrogen), to encourage innovation of technological solutions at a rapid pace.

Second, IIJA, IRA, and CHIPS provisions provide both the specific authorization to consider priority purposes and broad grants of secretarial discretion to administer the programs. The following are several provisions authorizing agency action that—especially under the 2nd Circuit's analysis of what is required for executive spending conditions—are worthy of further consideration:

- **Regional clean hydrogen hub (IIJA)**: DOE will support at least four regional hubs advancing the development of a "clean hydrogen economy." The statute states that the "Secretary may take into consideration other criteria that, in the judgment of the Secretary, are necessary or appropriate to carry out" the program.[251]
- **Regional direct air capture (DAC) hubs (IIJA)**: DOE will award $3.5 billion to the development of four domestic DACs to accelerate the commercialization of air capture and storage of CO_2 pollution. The statute states that the "Secretary may take into consideration other criteria that, in the judgment of the Secretary, are necessary or appropriate to carry out this subsection."[252]
- **Rebuilding American Infrastructure and Sustainability and Equity (RAISE) (IIJA)**: Under the Local and Regional Project Assistance Program, the transportation secretary must consider the project's "demonstrated readiness" and cost-effectiveness.[253]

- **Advanced Technology Vehicles Manufacturing (ATVM) incentive program (IIJA)**: DOE's Loan Program Office (LPO) makes loan guarantees to projects that "avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases" and "employ new or significantly improved technologies in service in the United States."[254] In selecting eligible projects for the ATVM incentive program, the secretary may determine that the loan recipient must meet "other criteria as may be established and published by the Secretary."[255]
- **CHIPS Incentives Program (CHIPS)**: In administering the program, the secretary is authorized to enter "contracts, grants and cooperative agreements, and other transactions as may be necessary and on such terms as the Secretary considers appropriate," and may "establish such rules, regulations, and procedures as the Secretary considers appropriate."[256]

There are certainly other analogous statutory provisions worthy of further analysis. Any condition could be project- or program-specific—tailored to the statutory authority and "efficient procurement" interests of the funding and implementing agency. The White House appears to contemplate this form of executive conditioning, noting in the Worker Organizing and Empowerment report that the Department of the Interior (under another law) could require "developers to make every reasonable effort" to establish a PLA to ensure a reliable labor supply and assure labor peace in offshore wind leasing projects.[257] And several agency IIJA FOAs indicate this authority as well. For example, the DOE FOA for battery materials processing and manufacturing states: "Applicants should consider that for large construction projects (above $35M or possibly lower, on a case-by-case basis), DOE may require a Project Labor Agreement (PLA)" and participation in DOL's Mega-Construction Project to promote employment opportunities for disadvantaged workers.[258]

(2) Establishing PLAs as an Optional Compliance Tool

PLAs could serve as an encouraged but optional compliance tool to demonstrate conformity with a particular grant's efficiency, cost-effectiveness, and quality-control objectives. In addition to the statutory language, this is aligned with the president's statement of policy in the PLA EO, requiring PLAs in federal procurement "to promote economy and efficiency in the administration and completion of Federal construction projects."[259] Crucially, PLAs would not be required for compliance with any criteria set forth in the FOA or NOFO. Instead,

an applicant's existing PLA could indicate conformance with those objectives by providing a mechanism for labor-management cooperation that would minimize labor disputes and reduce risk of delays in project delivery. As noted, agencies have discretion to specify policy priorities in competitive grants and could identify PLAs as one strong indicator of conformance with the stated objectives.

Some agencies have adopted this approach, but its use should be expanded where legally viable and appropriate. For example, DOC's Broadband Equity, Access, and Deployment (BEAD) Program has established that a subgrantee may, but is not required to, provide certification that the project will use a PLA.[260] If no PLA is certified, the subgrantee must provide additional information indicating steps taken that, among other objectives, will minimize labor disputes that would jeopardize the timely and cost-effective competition of the project. The commerce secretary has broad discretion to achieve the stated long-term objectives, which include the timely completion of subawards for broadband deployment.[261] DOC's CHIPS Incentives NOFO has similar language, stating that use of a PLA "will generally be likely to produce a construction workforce plan that meets the criteria in the NOFO."[262] Yet again, a PLA is not required. Applicants can otherwise submit information that meets the established workforce continuity objectives of the grant by indicating, for example, how the applicant plans to "reduce the risk of delays in project delivery."[263] DOE also has used this approach in the Carbon Dioxide Transportation Infrastructure Finance and Innovation Program.[264] Certainly, there are other grants—such as the RAISE grant noted above, which requires "demonstrated readiness" and cost-effectiveness[265]—that have similar overarching objectives and could use this approach.

PLAs could be an additional, entirely optional mechanism for compliance with the IRA's prevailing wage and apprenticeship bonus credit standards. At a minimum, Treasury and the IRS should undertake a formal assessment of viability. The IRA expressly provides that the secretary "shall issue such regulations or other guidance" as deemed necessary to carry out the prevailing wage and apprenticeship utilization standards, including on "requirements for recordkeeping or information reporting for purposes of administering requirements of this subsection."[266] Thus, the secretary has discretion to determine what recordkeeping or information can be used for compliance with the two standards. Because the IRA is not, in fact, a Davis-Bacon and Related Act, Treasury and the IRS are not bound by DOL's regulations. Crucially, regulatory language could ensure that PLAs are a supplemental, entirely optional compliance tool that would not supplant any other required compliance mechanisms (e.g., if forthcoming regulations establish certified payroll records [CPRs] as the baseline compliance tool). However, the PLA would have to expressly require compliance with the statutory prevailing wage and apprenticeship utilization requirements (e.g., the appropriate wage determination under the DBRA). Lastly, Treasury has internal

precedent. In administering the State and Local Fiscal Recovery Funds (SLFRF) authorized under the American Rescue Plan Act (ARPA), Treasury required grant recipients to comply with labor reporting requirements where PLAs were not used.[267]

(3) Incentivizing PLAs in Competitive Funding and Robust Internal Guidance

If PLAs cannot be required or used as a compliance tool, agencies should incentivize applicants to sign PLAs through a robust evaluation and scoring practice in competitive funding. The comprehensive discussion of DOE's CBP framework is in the CBP section of this analysis. However, the detailed exposition of priority criteria for agency merit review to yield grant recipients most aligned with the grant's policy objectives is a routine and legally viable grant practice.[268] As demonstrated by the statutory language above, the laws delegate secretarial discretion to further specify priority criteria for the grant's administration. A recent 9th Circuit case that will be explained further in the CBP section highlights that the practice of providing additional points for an applicant's choice to focus on a particular programmatic objective in a competitive grant is not arbitrary and capricious under the APA, nor unconstitutional.[269]

Most DOE IIJA FOAs list PLAs as one type of labor agreement to which the applicant may commit as part of the application process. However, DOE and other agencies could more strongly encourage PLA use. For example, the CHIPS Incentives NOFO states: "The Department strongly encourages the use of project labor agreements (PLAs) in connection with construction projects. Applicants that commit to using best-practice project labor agreements will generally be likely to produce a construction workforce plan that meets the criteria in this NOFO."[270] Where appropriate, based on statutory authority and project feasibility, this type of language should be used. However, as will be discussed further, successful implementation of a voluntary incentive framework for high-quality jobs in competitive funding requires effective participation throughout the agency—from the reviewers to top agency officials. Otherwise, under the current CBP framework, construction projects that would benefit from a PLA could earn a high score even with no intention of using one for a federally funded project.

To aid the CBP's voluntary incentive framework, agencies should adopt new internal guidance for discretionary, project-by-project PLA decision-making. The new guidance should reform the "market research" approach discussed above to better align with the administration's new presumption that PLA use results in higher market performance standards across areas of proprietary interest. Instead of open-ended, general questions regarding PLAs, contracting and grant officers should undertake a specific evaluation of the potential benefits of using a PLA for a project, including: access to a sufficient supply of skilled and unskilled labor; the

required professional certifications or training, safety and health performance standards; potential for labor disputes and disruptions; DBRA adherence; and overarching project deliverables and timelines. Such an approach might curtail the prior unbalanced authority given to the contracting community in survey responses.

b. Davis-Bacon and Related Acts and Prevailing Wage

Prevailing wage was extended to substantial portions of the federal funding for construction projects in the three laws. This extension will prevent the "race to the bottom" of local wage and benefit standards, as federally funded energy and infrastructure projects multiply. The administration's concurrent DBRA rulemaking is a necessary step to ensure that the enlargement of DBRA coverage yields legitimate compliance with the law, given the vast expansion of newly regulated entities.[vi] Ample literature has demonstrated the effects of prevailing wage laws on higher incomes, better health care coverage and pensions, expanded apprenticeship and training programs, improved workplace safety, and a narrowed racial wage gap.[271, 272, 273] Research also finds that prevailing wage laws are good public investments by reducing worker reliance on public assistance programs.[274]

The primary challenge with the expansion of DBRA in the IIJA and CHIPS, and the extension of prevailing wage to IRA bonus tax credits, is that the DBRA regulations are outdated, resulting in substandard wages and poor enforcement. Moreover, there are also intrinsic limitations, as prevailing wage applies only to the construction industry (like PLAs) and, as a majority wage rate derived from surveys, often reflects 40 years of wage stagnation, union decline, and wide geographic variability in earnings. Understanding both the weaknesses of the outdated regulations and the inherent shortcomings requires a brief explanation of the Reagan administration's DBRA reforms.

From 1935 until the Reagan administration's 1981-82 rulemaking, DOL used a three-step process to identify the prevailing wage rate: (1) a wage rate paid to the majority of workers in the appropriate classification and geographic area (typically county or group of counties); and if there was none, (2) a wage rate paid to at least 30% of workers; and if there was none, (3) a weighted average of the wage rates paid.[275] The Reagan administration eliminated the second step, referred to as the "30% rule," and published a final rule that had

[vi] Currently, DOL estimates that the DBRA applies to $217 billion in federally funded construction, providing prevailing wage rates to approximately 1.2 million construction workers.

only two steps: (1) a wage rate paid to more than 50% of workers; and if there was none, (2) a weighted average rate.

The effect was to detach the wage rate determination from market pay by increasing usage of weighted average rates—what was previously understood to be a "final, fallback method" for determining the prevailing wage rate.[276] Effectively, the use of a weighted average allows a single, low-wage contractor to drive down wages below the actually prevailing rate in the geographic area.[277] In the current rulemaking, DOL states that the elimination of the 30% rule has resulted in a dramatic overuse of these "artificial" average rates.[278] In fact, the weighted average has become a "central mechanism" to set wage rates, in direct contravention of the long-standing purpose and policy of the act to find the "predominant," "prevailing," or "most frequent" wage rate.[vii]

This detachment is compounded by long delays in conducting wage surveys that update the prevailing wage rate. The Government Accountability Office found that DOL surveys can be so delayed that nonunion prevailing wage rates "in some cases" had to be updated outside of the regular survey process because they did not comply with federal minimum wage.[279] That this applied only to nonunion rates is a function of the law. Prevailing wages are set using the data voluntarily submitted in the DOL wage surveys, but if the union rate is deemed "union prevailing" and adopted as the wage rate, then the rates are automatically updated as collective bargaining agreements are updated. Surveys are supposed to occur every three years, but a DOL Office of Inspector General review found that about 25% of nonunion wage rates were between six and 20 years old, compared to just 1.4% of union prevailing rates.[280]

Although union prevailing rates do not suffer from the same wage survey delays, the geographic disparity in union density is inherently reflected in disparate wage rates. A study of California's "high-road" approach to utility-scale solar construction highlighted how the state's union density enabled higher prevailing wages and benefits as compared with those in Arizona, a right-to-work state with lower union density.[281] As of March 2023, the prevailing wage of an electrician in Kern County, California, was $49.65/hour compared with $33.10/hour in Maricopa County, Arizona.[282] Indeed, the DBRA's strength and purpose is to ensure that local wages are not undercut by federal procurement, but the consequence of varied union density for prevailing wage rates should be acknowledged.

Overall, these inaccurate and infrequent wage determinations are further exacerbated by long-standing compliance and enforcement challenges. Insufficient tools and strained

[vii] The NPRM stated that weighted averages currently account for 64% of classification determinations. "Updating the Davis-Bacon and Related Acts Regulations," 87 FR 15698 (2022).

resources have enabled repeated federal funding awards to entities that consistently violate prevailing wage and other workplace safety, health, and wage laws.[283]

These challenges were reflected in the implementation of the American Recovery and Reinvestment Act (ARRA), the last major disbursement of federal spending subject to the DBRA. DOL's acting Wage and Hour Division (WHD) administrator at the time, Nancy Leppink, recently lamented the many challenges WHD faced in securing DBRA compliance under ARRA. Leppink stated: "If there isn't buy-in, then you're going to have a problem," citing the struggle to obtain commitments on DBRA standards from other implementing agencies, like DOE and DOD, that contested DBRA applicability in the awarding of federal funds.[284] Leppink also emphasized the obstacles for both implementing agencies and regulated entities that had little experience with the law's complexities yet were tasked with ensuring DBRA compliance. Compounded by the lack of available wage data and delayed surveys, workers ultimately received lower earnings than they were statutorily due, and federal projects were delayed.[285]

These challenges are exacerbated by WHD staffing levels that are at a 50-year low.[286] Given the increased enforcement duties under the three laws, the attrition is problematic. DOL's WHD is not the only agency strained by this massive influx of federal dollars. The IRS is central to IRA implementation, yet is understaffed, underfunded, and a continued political target of congressional Republicans (whose first act in the Republican-controlled House was to repeal $71.5 billion in IRS funding authorized by the IRA).[287, 288]

RECOMMENDATIONS

(1) DOL Must Adopt and Strongly Enforce the Proposed DBRA NPRM

DOL should adopt and strongly enforce the DBRA NPRM in order to counter the trend of prevailing wage rates detached from actual market pay. The return to the three-step process, re-incorporating the 30% rule at the second step, should do just that. Moreover, the NPRM proposes other important changes that will address the law's shortcomings, including use of BLS's ECI to update nonunion wage rates between formal wage surveys. The NPRM makes several other notable changes to update compliance and enforcement procedures as noted above, such as making wage determinations effective as a matter of law, irrespective of a mistaken textual omission from the written contract. In promulgating the rule, DOL has strong legal backing. In upholding the Reagan administration's 1982 DBRA regulation, the D.C. Circuit held that the "statute delegates to the Secretary, in the broadest terms imaginable, the authority to determine which wages are prevailing."[289]

(2) Strengthen WHD's Authority Over Prevailing Wage Compliance

Beyond issuing new regulations, the administration must overcome the challenges posed during the last expansion of DBRA. The White House must clearly indicate to all implementing agencies that the WHD has full authority to coordinate DBRA compliance for the expanded array of applicable infrastructure projects. If empowered to assume a leadership role, WHD can help all relevant agencies streamline implementation through the provision of best practices, clear procedural guidelines, and identification of applicable programs. This may help to avoid replicating the types of disputes that arose during ARRA with respect to agency contracting officers who challenged WHD assessments of DBRA applicability. The OMB or Domestic Policy Council could oversee or support this interagency coordination, in addition to the necessary communications emphasizing WHD's leadership role and legal authority over DBRA determinations. The NPRM's proposed revision to make DBRA contract clauses or wage determinations effective by operation of law will also usefully address this challenge.

DOL has already signed three memoranda of understanding (MOU) with DOT, DOC, and DOE to collaborate on the prioritization of the creation of good-paying, high-quality jobs in federal infrastructure investments.[290, 291, 292] DOL should sign an additional MOU with Treasury for IRA implementation, as well as with all other relevant implementing agencies (e.g., EPA). Under the MOUs, the WHD should establish formal collaboration with the agencies' relevant offices to implement a standardized coordination process for effective compliance. Early indications that WHD is preparing for its enlarged enforcement role—such as through investigator trainings and external webinars—are encouraging signs that the division will develop increased bandwidth to undertake interagency collaboration.[293]

(3) Supporting the IRS's Robust Enforcement of IRA Prevailing Wage Requirements

While other agencies have been engaged in overseeing prevailing wage compliance, Treasury and the IRS are doing so for the first time. This makes DOL and WHD collaboration with Treasury and the IRS particularly crucial, especially because forthcoming regulations and guidance should adopt and adapt many of the DBRA's provisions and WHD's compliance and enforcement processes.[294, 295] The IRA statutorily mandates use of DBRA prevailing wage rates but, as noted, leaves the Treasury secretary discretion to adopt the regulations and guidance deemed necessary for the implementation of the requirement.[viii] One of the tailored adaptations Treasury and the IRS may consider under DBRA authority is

[viii] Note that the DBRA itself does not apply because these tax credits are for private taxpayers, not federal construction contracts. Nonetheless, the IRA imports the wage rate determinations from the DBRA.

collaboration to support WHD in proactively publishing wage determinations for localities that lack classifications necessary for qualified clean energy projects under the act.[296] This could avoid the more onerous work of obtaining project-by-project conformances. New wage classifications, by contrast, should be narrowly granted under this new law. The creation of new classifications for clean energy work risks undue limitation of a worker's ability to gain broader training and mastery over skills (so-called de-skilling). Limited-skills classifications can result in lower-paid, less-skilled jobs with less safety and occupational training and little additional career opportunity.[297]

On recordkeeping and compliance frameworks, the DBRA regulations—such as on use of CPRs and contract provisions—should largely guide Treasury's approach.[298, 299] However, the statutory requirement to promulgate regulations on recordkeeping and information reporting for administration of the tax credits—irrespective of what DBRA regulations currently require—provides Treasury and the IRS with an opportunity to examine other compliance mechanisms that can effectively and efficiently achieve the IRA's prevailing wage objectives. As suggested in the PLA section, both PLAs and collective bargaining agreements should be straightforward means of establishing taxpayer compliance with the prevailing wage requirement.

Finally, transparency is essential for both beneficiary and broader public accountability. Several options are worthy of further consideration. One option is periodic notice to employees who are working on a project for which the taxpayer developer or owner is claiming the bonus tax credit. This may be more administrable if mandated by Treasury and the IRS but undertaken by the taxpayer developer or owner. Additionally, Treasury or the IRS should create an Office of Labor Advisors to be a resource akin to the Labor Advisors at other federal agencies that promote federal labor law compliance in federal contracting.[ix, 300, 301, 302] Advocates have suggested that transparency tools can create what political scientists call "policy feedback loops" that attract sustainable mass public support and mobilization, both of which are essential for long-term programmatic success.[303]

c. Local and Targeted Hire

Congress took an important step in the IIJA by ending the 40-year local hire ban that prohibited DOT funding recipients from using geographic or economic hiring preferences.[304] Now, cities and states receiving DOT funding can hire workers from a defined local

[ix] The OMB issued a memorandum regarding the imposition of labor advisors at agencies "to improve implementation and compliance with contract labor law requirements for Federal contractors." However, labor advisors should also be a resource for tax credits and federal grantmaking.

geographic area or based on specific economic conditions without running afoul of the UG or requiring the Federal Highway Administration's (FHWA) approval.[305]

By way of background, the local hire ban stems from a DOJ Office of Legal Council (OLC) opinion issued during the Reagan administration regarding Section 112(b) of the Federal Aid Highway Act (FAHA).[306] The OLC found that New York's Anti-Apartheid Local Law 19 violated FAHA by unlawfully limiting competition in highway construction contracting by including a preference for bidders without investments in South Africa's apartheid state—a bid criteria unrelated to price. FAHA's "full and open competition" provision held that construction contracts can only be awarded "on the basis of the lowest responsive bid submitted by a bidder meeting established criteria of responsibility."[307] The OLC found that the "efficient use of federal funds afforded by competitive bidding is to be the overriding objective of all procurement rules for federally funded highway projects, superseding any local interest in using federal funds to advance a local objective," premised on the notion that any non-price contract specifications would curtail efficiency, limit bidders, and raise prices.[308] This interpretation has since been empirically refuted, and advocates, such as Jobs to Move America (JMA), have suggested that this was a major reinterpretation of the law. Yet, the legal interpretation was subsequently embedded into the then-Common Grant Rule (known today as the UG). Consequently, non-federal entities were restricted to competitive bidding practices that prioritized the lowest-cost responsive bid over any other criteria, including local and targeted hire.

This remains in effect today. Under the UG, federally assisted procurement "must be conducted in a manner providing full and open competition" and must be consistent with UG-defined methods of procurement.[309] For example, situations that may be deemed "restrictive of competition" include "placing unreasonable requirements on firms" as condition precedent or noncompetitive pricing practices between firms or affiliated companies.[310] Further, the federal funding recipient "must conduct procurements in a manner that prohibits the use of statutorily or administratively imposed state, local, or tribal geographical references in the evaluation of bids or proposals, except in those cases where applicable Federal statutes expressly mandate or encourage geographic preference."[311] Following a 2007 6th Circuit case holding that the UG's competitive bidding specifications were procedural requirements rather than substantive bid specifications, the OLC issued a new memo clarifying that state or local requirements that have "only an incidental effect" on potential bidders would not violate full and open competition.[312] [313, 314] Subsequent advocacy successfully prompted: (1) DOT to launch a FHWA and Federal Transit Administration local hire pilot program in 2015 (which the Trump administration later rescinded),[315] and (2) the Treasury Department's encouragement of local hire in its final regulations implementing the ARPA's SLFRF.[316] This growing coalition of local elected

officials, labor organizations, and community groups was fundamental to the IIJA's removal of the DOT prohibition.[317]

However, this win is limited. The IIJA removed the ban for local hire only in DOT funding, and the discordance between this provision and the UG's local hire ban may cause confusion for federal funding recipients. Furthermore, local or targeted hire is typically incorporated within PLAs and CWAs—though not exclusively, as they can be implemented through ordinances, CBAs, or individual contracts—which, as discussed, are largely voluntary under this administration's regulatory framework.[318] Moreover, local or targeted hire's benefits are greatly enhanced if tied to one of these labor agreements or other training programs, such as pre-apprenticeship or RA programs, that formalize a career pathway for historically disadvantaged or underrepresented workers. Thus, the tool's beneficial impacts may be blunted without a more holistic job-quality implementation framework.

Overall, the administration has not affirmatively made local and targeted hire a core pillar of creating high-quality jobs beyond its inclusion in the Job Quality Check List. This partly reflects the conflict between the administration's job-quality agenda and the outdated UG that obstructs federal funding recipients from creating high-quality jobs with federal funding. JMA and other advocates argue that the UG's "full and open competition" standard internally contradicts several other UG provisions that have collectively prevented federal funding recipients from adopting job-quality preferences in their federally assisted procurement. As one example, Section 200.317 requires states to follow the same procurement policies and procedures it uses for procurements from its non-federal funds, yet Section 200.319 prohibits local hire and other noncompetitive procedures that states may otherwise use.[319]

Legally, states and cities must be aware of constitutional and federal, state, and local law restrictions.[320] Many municipalities have learned to tailor local hire goals and programs to abide by these legal requirements.[321, 322] For example, in assessing the legality of the city of Cleveland's local hire mandate for public projects, the 6th Circuit found that Cleveland avoided violating the Constitution's privileges and immunities clause by tailoring the definition of "Construction Worker Hours" to exclude work performed by out-of-state residents, thereby allowing contractors who used entirely out-of-state workforces to be exempt.[323] Despite avoiding conflict with the privileges and immunities clause, the 6th Circuit still found that the law *as applied* (not per se) violated FAHA and its regulations—highlighting JMA's argument that attempts to enact job-oriented, equitable procurement policies have been blocked by both judicial and administrative interpretations of FAHA and the intersecting web of other rules and regulations. Yet, the ultimate death knell for Cleveland's local hire requirement came from the state level: The Ohio General Assembly passed a law in 2016 prohibiting public authorities from requiring that contractors hire a

certain percentage of local residents. Cleveland's legal challenge, arguing that the law violated home-rule authority, failed in the Ohio Supreme Court.[324]

RECOMMENDATIONS

(1) Federal Encouragement of Local and Targeted Hire

The administration should proactively affirm and incorporate local and targeted hire as a good jobs policy across all federally funded projects authorized by the IIJA, IRA, and CHIPS Act. This should prompt agencies to analyze where they may further encourage use of local or targeted hire in forthcoming guidance and regulations.

(2) Remove the UG's Local Hire Ban and Empower Use of Job-Quality and Labor Standards in Federally Assisted Procurement

The administration should reform the UG to promote uniformity across federal policy and to incorporate provisions that permit the inclusion of job-quality and labor standards in federally assisted procurement. The OMB's request for information (RFI) inviting public comment on forthcoming revisions to the UG is a welcome and important update to ensure that IIJA, IRA, and CHIPS accomplish these goals.

First, the language of Section 200.319(c) that prohibits local hire should be removed. This will promote consistency with the IIJA authorization of local and targeted hire for DOT-assisted procurement. Second, the UG should incorporate affirmative language clarifying that federal funding recipients are allowed to implement procurement policies promoting high-quality jobs. This language should be broad enough to expressly authorize the range of provisions that should be allowed and encouraged, such as targeted hire of individuals facing barriers to employment, the payment of family-sustaining wages, or the use of a PLA on construction projects. The strongest language would clarify that non-federal entities can incorporate a "job-quality scoring credit" akin to the federally approved U.S. Jobs Plan (USJP). The USJP provides model contractual procurement language that entities can use to require that bidders provide job-quality information and enforceable commitments that are scored and evaluated in the overall bid.[325, 326] This has been successfully used by several municipal transit authorities—including the Chicago Transit Authority and Los Angeles County Metropolitan Authority—incentivizing a "race to the top" on inclusive hiring practices, job-quality, and labor standards.[327, 328] Advocates have illustrated how the USJP may be used in the electric school bus context, including through its incorporation in statewide bulk purchasing contracts.[329, 330]

This could make federally assisted procurement consistent with DOC's newly imposed grantmaking practice—which should itself be expanded—that requires eligible federal funding applicants to detail how prospective subcontractors or subgrantees will commit to job-quality and labor standards. DOC's BEAD NOFO requires that if the eligible applicant includes a labor agreement as a "mandatory requirement," then the applicant must describe how it plans to incorporate that agreement as a "binding legal commitment" in the subgrants it makes.[331] This approach to federal grantmaking, in combination with reformed federally assisted procurement, would strongly empower IIJA, IRA, and CHIPS federal funding recipients to ensure high-road labor standards through the use of local or targeted hire and other tools.

d. Workforce Development and Apprenticeship

Workforce training and education to develop a skilled labor force is needed to accelerate the transition to net zero. The creation of high-quality jobs with accessible skill development and career advancement opportunities must occur in parallel with retraining of the existing energy workforce. The federal investments in the IIJA, IRA, and CHIPS provide an opportunity to develop a holistic, national workforce training framework for the clean energy sectors. Given concerns over a tight labor market, a national coordination plan—deployed jointly with labor, industry, business, state workforce development agencies, and other stakeholders—is particularly important in a period of economic transition.

There are several challenges to developing a comprehensive interagency approach to workforce training. Only a few of the IIJA's grant programs are exclusively dedicated to workforce development. Most of the relevant investments simply permit states and other federal funding recipients to obligate formula and competitive grant funding to workforce development, including RA and other labor-management training programs. This provides the funding recipients with a lot of discretion in what resources, if any, are allocated to workforce development. Furthermore, the competitive grant programs could lead to subpar workforce development outcomes without robust internal agency evaluation criteria, grant merit review, and scoring.

The most promising provisions are those directing agencies to undertake comprehensive national workforce development planning—such as the establishment of a DOT working group to develop a transportation workforce development implementation plan, or the 21st Century Energy Workforce Advisory Board. However, these initiatives are not coordinated and are without any direct investments for the encouraged state human capital plans for transportation and public infrastructure.

The same coordination challenges apply to CHIPS. To reach the 50,000 new semiconductor engineers needed for the planned investments in fabrication facilities, the CHIPS Incentives Program workforce provisions must be aligned with broader interagency planning, including through the National Semiconductor Technology Center and the Workforce and Education Fund. In 2016, DOE attempted to address this lack of interagency coordination on workforce training and curriculum development by forming the Energy and Advanced Manufacturing Workforce Initiative (EAMWI) to link DOE with DOL, DOD, DOC, National Science Foundation, and the Department of Education. EAMWI was subsequently dismantled by the Trump administration.

For the IRA, the primary obstacles are twofold. First, although the tax credit bonus apprenticeship requirement mandates the use of DOL-certified RAs, it applies to taxpayers who likely have never interfaced with RA programs. Thus, taxpayers may use non-federally approved or state-certified apprentices, or find apprenticeship programs that either fail to provide the required wage progressions or prevent an apprentice's achievement of a broad-based skill set.[332] This would disqualify the project. Second, Treasury and the IRS are, for the first time, responsible for compliance and enforcement of apprenticeship utilization requirements. One major challenge is to ensure that the good faith exception does not become exploited as a loophole for taxpayers who might undertake cursory but failed attempts to meet the requirement and yet still receive the bonus tax credit. Lastly, as noted in the prevailing wage context, the IRS faces staffing and resource constraints and is under continued political scrutiny, which may amplify existing implementation and enforcement challenges.

Overall, neither the IIJA nor the IRA provide additional dedicated investment in the public workforce system or career and technical education programs. Moreover, the programmatic shortcomings are especially problematic if the administration maintains the conventional approach to workforce training, which assumes that a good training program itself can solve the problem of creating a skilled clean energy workforce. As has been documented, exclusive focus on either short-term or targeted "green jobs" training programs can lead to underwhelming results.[333] Apprenticeships or training programs do not themselves necessarily create new, high-quality jobs unless they are linked to the rigorous standards of DOL's RA program and require placement on actual projects.

Lastly, the laws do not directly address the reskilling and upskilling programs, supplemental income and benefits, or community economic development needed for workers and their communities in transitioning sectors, such as those in the coal, oil, gas, and traditional automotive sectors. For example, while there are several provisions in the IIJA and IRA addressing the EV industry workforce, there is no nationally coordinated plan or policy to

address the severe labor shocks that will continue as internal combustion engine automotive manufacturing jobs are lost in the transition to EVs.

RECOMMENDATIONS

(1) National Workforce Development Plan and Key Principles

A comprehensive national workforce development plan should incorporate the laws' workforce development provisions within a broader framework aligning national labor, industrial, energy, and education policies. Re-establishing EAMWI under the current DOE Office of Energy Jobs, which is currently responsible for producing the annual USEER, would be an important first step. Additional "workforce mapping" would enable a holistic assessment of the types of workers, skills, qualifications, and occupations that are needed to inform workforce development, education, and job creation policies at the federal, state, and community levels.

A national framework should address two pillars: training programs needed for (1) entrants into the workforce, especially from disadvantaged communities, to obtain high-quality jobs; and (2) the large-scale redeployment and skills' upgrades for the existing workforce in declining or transitioning sectors, matching existing skills with those needed by emerging technologies (including by incentivizing existing energy employers to retain current employees for clean energy jobs). These training and apprenticeship programs must be a direct pathway to career-track, high-quality jobs, including for disadvantaged or historically underrepresented workers.[334] Moreover, a core plan principle also must be that training and apprenticeship programs provide a broad, foundational skill set that enables flexibility and adaptability to other jobs and evolving technologies, rather than narrowly tailored to "green jobs" or skill sets. Although this analysis focuses primarily on the federal government, a proper comprehensive plan would build upon the complex existing workforce development infrastructure at the state and local levels.

A comprehensive workforce plan also must support and expand apprenticeships—the gold standard of "earn while you learn" workforce training that combines on-the-job training with classroom instruction—including for emerging technologies in critical industries.[335] Some RA programs are oversubscribed, but the use of apprenticeship requirements in federal funding may help increase supply because of the connection with real job opportunities. EFI's IRA job study found that an additional 590,000 construction jobs would be created by 2030, demonstrating the need for the expansion of the existing RA infrastructure.[336] Apprenticeships also can be developed in the context of "high road" industry-led partnerships, such as California's High Road Training

Partnerships, a proven model joining industry, labor leaders, and state workforce and education entities to identify skill and workforce needs and develop training and education programs directly tailored to those industry needs.[337]

The CHIPS Incentives NOFO is an example of the melding of both approaches—a commitment to apprenticeships and industry-led partnerships—that could be replicated in other contexts. The required facility and construction workforce plans applicants must complete include proposed use of pre-apprenticeship and RA programs, but also actions taken to create a "sectoral partnership," defined as "a systems-level approach to equitable workforce development that aligns employer demand for a skilled workforce with available workers by bringing together a range of key partners to train and place workers into high-quality jobs."[338] The NOFO states that demonstrative actions can include convening or conducting outreach to potential partner organizations, establishing the constitution and layout of the partnership, defining roles and responsibilities, or identifying a "backbone organization" to facilitate the partnership.[339] Certainly, however, the pipelines into and training for skilled construction trades, technical operations, and professional occupations each bring their own set of apprenticeship, education, and training programs that must be appropriately tailored.

(2) Prioritizing Workforce Development and Apprenticeship in Competitive Grants

For competitive grants, agencies should prioritize demonstrated commitments to appropriate workforce development and apprenticeship programs. Many CBPs require the applicant's description of plans to provide skilled workforce training and commit to using an appropriately credentialed workforce (i.e., requirements for the relevant training, certification, and licensure). The following are guidelines that can be used to assess an applicant's stated commitments to workforce development:

- Stated plans to partner with relevant and identified pre-apprenticeship, federally registered or state-certified RA programs; career and technical education programs; or community colleges (depending on the industry, sector, and occupation)
- Commitment to foundational skills training that can promote adaptability to evolving technologies, industries, sectors, and occupations
- Express recognition that training is connected to job placement (including by demonstrating alignment of licensing, certification, and skill standards)

- Demonstrated commitment to advancing equity, through use of pre-apprenticeship programs, targeted or local hire, supportive services, and partnerships with relevant organizations
- Commitment to holistic high-road labor standards through the embrace of demand-side policies that connect training and apprenticeship to high-quality jobs

Although this analysis has primarily focused on competitive grants where agencies have discretion in setting policy priorities, agencies could leverage formula grants to obtain holistic workforce development commitments tied to a broader high-road framework.

The IIJA's National Electric Vehicle Investment (NEVI) Formula Program—which provides funding to states to deploy EV charging infrastructure—is a relevant example of how this might occur. FHWA's final rule setting forth national standards for NEVI aligns certification requirements with minimum industry standards to ensure a "well-qualified, highly-skilled, and certified, licensed, and trained workforce" to increase safety, reliability, and mitigate project delivery disruptions.[340] Specifically, the rule requires that technicians installing, operating, or maintaining EV chargers and supply equipment have either graduated from an RA program with charger-specific training or received Electric Vehicle Infrastructure Training Program (EVITP) certification. The EVITP—developed by a consortium of automakers, electric vehicle supply equipment (EVSE) manufacturers, and educational institutions—is an upskilling program for journey-level electricians that expands their work opportunities, and, in turn, those of apprentices.[341] The final rule, however, did not include any further requirements for subcontractors or subgrantees that would combine these supply-side training measures with holistic commitments to high-quality jobs. The International Brotherhood of Electrical Workers and the National Electrical Contractors Association proposed inclusion of responsible contracting requirements in their public comment to ensure that subgrantees and subcontractors commit, at a minimum, to self-certifications for labor standards compliance; use of proper licenses, registrations, certifications, or permits, and other industry-specific technical qualifications, equipment, financial resources; and personnel needed to complete the project.[342] This recommendation is, in some ways, analogous to JMA's federally approved USJP or DOC's BEAD NOFO by requiring the eligible applicant (in this case a state) to give preferential weight to subgrantees based on their demonstrated job-quality and labor commitments. More specifically this recommendation illustrates how workforce training certification requirements can be tied to demand-side high-road labor standards. Although the national NEVI standards are finalized and state procurement laws vary, the FHWA still could

proffer guidance and technical assistance to states on how to maximize subgrantee and subcontractor adherence to a high-road approach.

(3) Strong Enforcement of the IRA Tax Credits' Apprenticeship Requirement

As with the prevailing wage requirement, for the first time, Treasury and the IRS are overseeing apprenticeship utilization requirements. This necessitates collaboration among Treasury, IRS, and DOL, which, as noted in the DBRA section, should be the impetus for an MOU between the two agencies. Formal collaboration between the IRS and the Office of Apprenticeship (OA) will be hugely beneficial as the IRS seeks to adopt and adapt the existing standards and procedures for RA programs into the taxpayer context. As suggested in the DBRA section, Treasury or the IRS should establish an Office of Labor Advisors to coordinate collaboration with the OA, lead staff training for compliance and enforcement, and be a resource for apprentices and taxpayers seeking guidance.

The same statutory language granting the Treasury secretary discretion to adopt regulations and guidance as determined necessary for the prevailing wage requirement applies here. The secretary should adopt and adapt several of the recordkeeping requirements for DBRA to the apprenticeship requirement. For example, Treasury may seek to use CPRs with additional information regarding the RA program used, certifications of state or federal approval, registration verification of the individual apprentices hired, and their wages and benefits. California's and Washington state's apprenticeship forms may serve as useful models for forthcoming regulations and guidance.[343] As with the prevailing wage requirement, PLAs and collective bargaining agreements are straightforward means of monitoring taxpayer compliance with the apprenticeship requirements and should be proposed in forthcoming regulations.

The good faith exception should be interpreted narrowly under the two specified statutory exemptions: denial and failure to respond. The Laborers' International Union of North America (LIUNA) directed attention to DOT's Disadvantaged Business Enterprise Program as a model of the good faith standard.[344] The program—which aims to provide equal opportunity through at least 10% of federal transportation contracts awarded to small businesses owned and controlled by "socially and economically disadvantaged individuals"—states that recipients cannot be penalized for noncompliance if the program was administered in good faith as indicated by taking "all necessary and reasonable steps" with "scope, intensity, and appropriateness to the objective."[345] LIUNA's public comment also emphasized good faith standards in two state apprenticeship programs as instructive models.[346]

Treasury and the IRS, in collaboration with DOL and OA, should undertake a deliberative, empirically driven effort to promulgate regulations detailing guidance on what does and does not constitute a good faith effort. The following are

possible benchmarks by which to assess a taxpayer's good faith effort, where the taxpayer:

- Identified in project planning documents the types of apprentices most suitable for the construction work to be performed
- Conducted adequate research to identify relevant RA programs, labor unions, workforce development boards, labor-management partnerships, community-based organizations, and technical and community colleges in the appropriate geographic region
- Solicited interest from several RA programs as early as possible in the project development stage to increase likelihood of at least one successful partnership if several deny the bid or fail to respond
- Communicated to those RA programs adequate information regarding workforce needs, including plans, specifications, license, and certification requirements
- Demonstrated that no or insufficient apprentices for the specific crafts were available for the duration of the project and periodic contact with the RA program was made to reconfirm

The most effective method of avoiding the exception's overuse altogether is a coordinated national effort in collaboration with unions and other stakeholders—aligned with the earlier recommendation of a national workforce development plan—to increase the availability of RA programs more broadly. Moreover, Treasury, DOE, DOT, and DOC should collaborate in the development of sector-specific guidance to increase awareness for taxpayers, companies, unions, and RA programs of this tax credit opportunity, thereby increasing potential partnerships.

Lastly, as with the IRA's prevailing wage requirement, transparency will be crucial for accountability and enforcement. Periodic reporting on the use of apprentices should be required to the IRS, DOL, and appropriate state agencies.

e. Preference for High-Quality Jobs in Competitive Federal Funding

The administration's most innovative approach to creating high-quality jobs is the prioritization of competitive funding applicants who commit to embracing high-quality jobs with strong labor standards. For the purposes of this analysis, DOE's CBP is used as the

operative framework (although DOC's similar approach is referenced). As stated in the PLA section, an applicant's demonstrated commitment to the grant's objectives for high-quality jobs is evaluated and scored higher in the formal merit review process. The implementation and enforcement of the CBP remains the most crucial lever for the federal government to create high-quality manufacturing, operations, service, and other permanent jobs. To realize the promise of the CBP, agency officials must encourage applicants and grantees to design enforceable contractual commitments to job-quality and labor standards. This process, by its nature, will require engagement among applicants, labor unions, and other community and local government stakeholders, all of whom may need additional training in CBP design. Although a potentially powerful tool, there are at least five existing challenges and variables that may influence the CBP's effectiveness:

First, the CBP (or CBP-like) approach is not consistent across all relevant agencies, and within DOE, the CBP's FOA language varies widely. Across agencies, several DOC NOFOs, such as the BEAD or CHIPS Incentives NOFOs, incorporate job-quality and labor standards but fail to expressly list the holistic set of issues addressed in the DOE CBP.[xi, 347] And within DOE, an assessment of several FOAs revealed inconsistent language across the CBP pillars. For example, at least one DOE FOA stated that labor peace agreements (LPAs) can be an assurance of an applicant's plan to support workers' free and fair choice to join a union, but most others have not included this language.[348] Lastly, existing programs that were amended and/or received additional funding—such as the LPO's ATVM Loan Program—will require proactive updating to align existing regulations and guidance with the statutory amendments and the administration's commitments to job-quality and labor standards.[xii, 349, 350, 351] The lack of standardization across implementing agencies raises uncertainty regarding how the CBP will be improved, streamlined, and made widespread in all forthcoming FOAs and NOFOs under the three laws.

Second, the CBP's impact on high-quality job creation is highly dependent on agency engagement and commitment to job-quality and labor standards. Reviewers may not have a sufficient understanding of broader labor and organizing challenges, which might, for example, be particularly important to discern the difference between an applicant's mere recitation of labor law compliance and a genuine, good faith commitment to providing workers with a free and fair choice to join or form a union. Reviewers also may miss stronger internal rubrics and guidelines, such as more comprehensive benchmarks provided

[xi] For example, the DOC's CHIPS Incentives Program NOFO states that the GJP provide a framework to ensure high-quality jobs, but neither provides specifications for how these principles can be achieved in the specific context (beyond workforce development) nor explicitly discusses a worker's right to join or form a union and collectively bargain.
[xii] The IIJA amended the ATVM Incentive Program to provide the Secretary with additional discretion to determine "other criteria" that can be established and used in selecting eligible projects.

as part of the Good Jobs Principles (GJP) or Job Quality Check List. Moreover, without the commitment of mid- and high-level officials, agencies are missing opportunities to stress the importance of these issues in project funding and implementation. As such, institutionalizing the core aims and objectives of the CBP within federal agencies remains one of the fundamental challenges.

Third, DOE states that the CBP becomes a "contractual obligation" of the funding recipient but provides little clarity on compliance and enforcement protocols. Specifically, DOE is requiring periodic project evaluations during "Go/No-Go" reviews, which could lead to several actions if project performance metrics are not met, such as redirecting the work, placing a hold on federal funding, or discontinuing the funding. But DOE has not clarified how the CBP will be an assessed factor. Funding cutoff and clawback represent the "nuclear option," rarely used by agencies to enforce substantive implementation.[352, 353] Thus, there is uncertainty regarding the enforceability of this "contractual obligation." Given the low likelihood that agencies will enforce CBP breach, the entry of the funding recipient into binding contractual commitments with private enforcement mechanisms becomes even more crucial. While entry into enforceable labor agreements is encouraged, there is little express language requiring the federal funding recipient to detail how subcontracts and subgrants will be made in accordance with strong, enforceable job-quality and labor standards. This is particularly important for state and city federal funding recipients, who will likely subcontract or subgrant the federal funds.

Fourth, disclosure is thus far insufficient. DOE states that a summary of CBPs "will be publicly posted on DOE's website for transparency and accountability," but this has not occurred.[354] For example, DOE awarded $2.8 billion to 20 companies for commercial-scale facilities to extract and process battery materials, manufacture components, and demonstrate innovative methods.[355] DOE's announcement stated that out of the 20 companies selected, 13 included commitments to negotiate at least one community or labor agreement. Yet, the published fact sheets on selectees mentioned only one company's plans to enter labor agreements: Talon Metal's PLA with the building trades and a neutrality agreement with the United Steelworkers (USW) at its Minnesota nickel mine and North Dakota processing facility.[356] The challenge is to disentangle the legal complexities of confidential business information (CBI), trade secrets, and other nondisclosure or confidentiality agreements to remove the overbreadth with which confidentiality is being invoked.

Lastly, although NLRA preemption necessarily circumscribes what the CBP can require, the CBP remains a voluntary incentive framework. Thus, the CBP's strength largely lies in its ability to incentivize voluntary third-party agreements between the funding applicant and the

union (or other community stakeholder). Otherwise, the only requirement is to submit a CBP as part of the overall grant application, but no other substantive provision is imposed. Applicants need not commit to strong job-quality and labor standards nor enter into labor agreements as a requirement to receive the federal award.

Several of these challenges played out in the LPO's $2.5 billion commitment to Ultium Cells under the ATVM, an existing program whose application process requires preliminary and advanced due diligence on the technical, financial, legal, and other aspects of the application but did not require CBPs.[357] Ultium, a partnership between GM and LG Energy Solution, initially declared neutrality in organizing efforts at its Lordstown plant, but then rejected the United Auto Workers' (UAW) card-check proposal. In response to the months long battle, which ultimately led to an election win, one UAW regional director stated: "Despite the UAW engaging in good faith discussions, it is clear now that the company's strategy was to delay and deny workers union representation for as long as possible."[358] Eventually, however, GM's CEO publicly supported the UAW one week before the successful election.[359] Some labor advocates viewed this conflict as an example of bad labor policy and bad lending protocols.[360] At the very least, it indicated potential missed opportunities to use federal funding to design a labor peace requirement.[xiii, 361] The Ultium example illustrates the difficulty of introducing new competitive requirements to existing programs and the need for monitoring systems and enforcement mechanisms. Nonetheless, the introduction of CBPs into the award process of federal grants and loans, as well as the possible use of labor peace requirements, will be important tools in the creation of high-quality jobs. Before providing additional recommendations for the effective use of CBPs, federal grant practice and NLRA preemption issues are addressed.

The CBP as Ordinary Federal Grantmaking Practice

As discussed above, policymaking through grant administration is an ordinary and largely "well settled" practice.[362] Agencies must have the statutory authority to administer grants and comply with the APA, internal agency regulations, and constitutional limits. However, the elucidation of policy objectives through FOAs and NOFOs is a routine practice, and as previously described, the UG provides standard procedures for establishing evaluation criteria and scoring practices. The CBP is effectively the elucidation of the agency's evaluation criteria, and the FOAs follow UG procedure by outlining how applicants will be evaluated against those pre-established criteria in the grant merit review process (including through disclosure of relative percentages, weights, or points ascribed to the various

[xiii] The requirement likely could have been established, at least for future funding, within the ATVM's required due diligence assessment. Moreover, as noted above, the IIJA's amendment of the program provided the Secretary with authority to establish "other criteria" that may be used in selecting eligible projects.

criteria).[363] Thus, use of a scoring mechanism to assign higher points to those applications that best meet the evaluation criteria is a standard federal grantmaking practice.[364]

A recent 9th Circuit case considered this issue in the context of the Trump DOJ's implementation of a competitive federal grant program under the Public Safety Partnership and Community Policing Act. The court found that the scoring practice of providing applicants additional points for choosing to focus on a particular programmatic objective did not exceed the agency's authority and was neither arbitrary and capricious under the APA nor unconstitutional under the spending clause.[365] The court invoked the *Chevron* doctrine to find that Congress "authorized DOJ to fill gaps through its promulgation of the Application Guidelines and implementation of the grant program," and thus the inclusion of scoring factors was "well within DOJ's broad authority to carry out the Act."[366] The court emphasized that the operative question is only whether the agency's interpretation of the statute's gaps is reasonable and not whether the interpretation serves an administration's policy goals.[367] The APA challenge failed on similar grounds, finding that DOJ gave adequate reasons for its decision to give additional points for the specific policy focus.[368] The 9th Circuit held that the bonus points feature did not violate the spending clause, but noted, importantly, that those principles "do not readily apply" to competitive grant funding because this standard practice did not raise the core constitutional issues at the heart of spending clause jurisprudence:

> Because an applicant is free to select other prioritized focus areas or not to apply for a grant at all, such a subtle incentive offered by DOJ's scoring method is far less than the coercion in *Dole*, which directly reduced the amount of funds allocated to a state, and which the Court held was consistent with Spending Clause principles.[369]

Ultimately, as one legal scholar highlighted in a recent case study of the Trump administration's federal grant practice: "whether the underlying policy choices are 'good' ones and whether the individual grant statutes permit these particular policy choices are fundamentally different questions from whether in principle it is permissible and normal for agencies to make these moves of specifying program priorities and conditions for competitive grants and elucidating formula grants with conditions."[370]

A thorough analysis of the statutory authority for each relevant program is beyond the scope of this report, and certainly, the statutory authorities and distinct agency authorities vary. However, this analysis provides several examples across four agencies to illustrate that the CBP's objectives are expressly contemplated:

(1) **Regional clean hydrogen hubs program (IIJA):** Authorizes the secretary of energy to "give priority," among other criteria, to "regional clean hydrogen hubs that are likely to create opportunities for skilled training and long-term

employment to the greatest number of residents of the region."[371] Moreover, the secretary is authorized to take into consideration "other criteria that, in the judgment of the Secretary, are necessary or appropriate to carry out this title."[372]

(2) **Battery materials processing (BMP) and battery manufacturing and recycling (BMR) grants (IIJA):** On BMP, the statutory purposes include to "expand the capabilities" of advanced battery manufacturing and "enhance the domestic processing capacity of minerals."[373] Accordingly, the secretary of energy is to prioritize grants that provide "workforce opportunities in low- and moderate-income communities."[374] On BMR, the statutory purpose is to ensure a "viable domestic manufacturing and recycling capability."[375] Accordingly, the secretary is to prioritize "workforce opportunities in low- and moderate-income or rural communities" and in "communities that have lost jobs due to the displacements of fossil energy obs."[376]

(3) **Grants for charging and fueling infrastructure (IIJA):** Authorizes the secretary of transportation to establish a grant program to "strategically deploy publicly accessible electric vehicle charging infrastructure … along designated alternative fuel corridors."[377] Grant applicants must include information "as the Secretary shall require," including a description of how the entity will "ensure that a properly trained workforce is available to construct and install electric vehicle charging infrastructure."[378]

(4) **CHIPS Incentives Program (CHIPS):** Authorizes the secretary of commerce to prioritize projects that "address gaps and vulnerabilities in the domestic supply chain" and "provide a secure supply of semiconductors" for domestic manufacturing.[379] Eligible entities must make "commitments to worker and community investment," including through education and training benefits and "programs to expand employment opportunity for economically disadvantaged individuals," and must demonstrate "workforce needs" and a strategy to meet them.[380] The "sense of Congress" states that funds should be allocated in a manner that "supports job creation" and "bolsters the semiconductor and skilled technical workforces."[381]

(5) **Clean heavy-duty vehicles (IRA):** Authorizes the EPA administrator to make grants supporting the replacement of Class 6 and 7 commercial vehicles with zero-emission vehicles, including for "purchasing, installing, operating, and maintaining infrastructure needed to charge, fuel, or maintain zero-emission vehicles" and "workforce development and training to support the maintenance, charging, fueling, and operation of zero-emission vehicles."[382]

Moreover, he administration's EOs implementing the three laws require the relevant agencies to prioritize the development of well-paying, high-skilled jobs with high-road labor standards and a free and fair choice to form or join a union.[383, 384, 385]

NLRA Preemption

No NLRA preemption issue is raised because mere encouragement or endorsement of job-quality or labor standards does not amount to a deprivation of legal rights that would interfere with private sector labor relations under the NLRA. If government action is expressly contingent on the requirement to engage in or forgo behavior protected under the NLRA, preemption may be implicated.[386] However, the CBP makes no intrusion into arguably protected or prohibited NLRA rights. As noted above, an applicant could hypothetically win a federal award without committing to any job-quality or labor standard given that the CBP is only 20% of the overall score.

However, the NLRA preemption analysis would be invoked if the CBP were to condition federal funding on entry into a labor agreement. If the CBP included a PLA condition, the preceding "market participant" discussion would apply. As discussed in that section, although financial assistance that is not repaid may be contested, there is precedent, including in *Allbaugh* and *Lavin*, to indicate its designation as proprietary (see Pages 44). For non-construction jobs, the government's only viable approach in federal discretionary funding is to require labor peace. Cities with a proprietary interest have conditioned public funding on a guarantee of labor peace. Those cities that have successfully upheld labor peace requirements (see *Sage* and *Los Angeles World Airports* below) exclusively required labor peace: a binding and enforceable prohibition on strikes, picketing, and other labor disruptions regardless of what may be required, if anything, in exchange. Labor peace requirements that have resulted in LPAs leave substantive terms to the private negotiation between the two parties. LPAs have included workplace access, neutrality or anti-disparagement provisions, and card check recognition.[387, 388]

The PLA "market participant" doctrine similarly applies to labor peace requirements. In *Sage*, the city of Pittsburgh agreed to provide Sage Hospitality a $3.5 million tax increment financing (TIF) loan for the development of a local hotel.[389] The city agreed to provide the TIF financing but required that the developer obtain an assurance of labor peace from the union representing the hotel employees to avoid any potential disruption that might interfere with repaying the city's loan. Subsequently, the City Council adopted an ordinance requiring labor peace in projects for which Pittsburgh had a proprietary interest due to the expenditure of public funds (including the hotel at issue). However, the ordinance did not require any other substantive term that might be sought by the union in exchange for labor peace.

The 3rd Circuit used a "market participant" test similar to that of the 5th Circuit described above, finding that the proprietary interest "in the success of the project that will yield the tax revenues … [is] precisely that of any developer who is relying upon cash flow to support debt service, repay bonds, and finance other development."[390] The ordinance was

specifically tailored to "protect [the state's] proprietary interest in the value of the tax-revenue-generating property" because the no-strike provision ensures that "labor strife does not damage the development" and was limited to hotels and hospitality projects that received the TIF funds.[391] In demarcating the fine line between preempted regulatory action and acceptable market participation, the 3rd Circuit stated:

> The pivotal difference is that in [*Gould*] the state deployed its spending authority to achieve a goal far broader than merely protecting or fostering its own investment or proprietary interest, while in [*Boston Harbor*] the public agency limited its spending conditions to the protection of its investment or proprietary interest.[392]

A similar labor peace requirement was upheld in *Los Angeles World Airports*.[393] The 9th Circuit upheld the city of Los Angeles's licensing agreement requiring airline service providers to enter LPAs with any union that requested one. The court found this requirement to be consistent with the city's proprietary interest in avoiding disruptions to the revenue-generating business activities at the airport. Moreover, the requirement was narrowly tailored to the "specific proprietary problem" without affecting any employment relationships beyond the airport.[394] The policy did not require the company to recognize a union or negotiate any substantive terms and conditions of employment.

Notably, these two cases can be distinguished from the preempted ordinance in *Metropolitan Milwaukee Association of Commerce*.[395] The Milwaukee ordinance at issue not only required contractors with the county for the provision of elderly services to sign LPAs, but unlike the requirements in *Sage* and *Los Angeles World Airports*, it also required additional conditions favorable to union organizing (e.g., limiting the contractor from expressing false or misleading information that is intended to influence employee preference regarding union representation or providing the contact information of all workers).[396] Moreover, the ordinance suffered from overbreadth, applying to all of the contractor's employees, irrespective of whether they worked on county contracts.[397] This regulated labor relations beyond the government-subsidized project or contract. Lastly, the "mismatch" between the "interest in uninterrupted service" and the type of LPA required, illustrated that the law was more concerned with "the balance that the [NLRA] strikes between unions and management" than the proprietary interest.[398] Similarly, requirements that employers agree to card check have been preempted for interfering with the substantive rights of employers to insist on secret ballot elections.[399]

RECOMMENDATIONS

(1) Strengthening CBP Language and Streamlining Use

Each agency should require the CBP (or a CBP-like framework, such as DOC's) in all IIJA, IRA, and CHIPS competitive funding FOAs and NOFOS. Where viable, elements of this framework also should be included in formula grant applications. Moreover, agencies should update existing grant and loan programs that were amended and/or received additional funding under the laws to align those programs with the statutory and regulatory efficiency, cost-effectiveness, quality-control, job-quality, and labor standards of the three acts.

The model CBP also should identify and incorporate the strongest job-quality and labor standards language that has been included in various FOAs and NOFOs. At the core, however, the CBP's two primary job-quality and labor pillars should remain the crux of the framework: (1) community and labor engagement and (2) investing in the American workforce. The second pillar should be further subdivided to address the differences between construction and ongoing facility jobs.

A. Community and Labor Engagement

On engagement, the stronger FOAs request that letters of support "state the specific nature" of the partnership, as opposed to general letters reflecting engagement on labor and community benefit issues.[400] The strongest FOAs, in addition to letters from proposed partners, require specific illustrations of roles, responsibilities, reporting procedures, and remedies for noncompliance for any relevant labor agreements.[401] More recently, DOE has published "Community Benefits Plan Guidance" documents for several specific grant programs that provide examples of how to find the relevant unions and appropriate contacts within a particular geographic area.[402] This guidance should either be further adapted for specific programs or abstracted as a broader tool of best practices that can be used to guide labor and community engagement for all relevant programs.

All FOAs should adopt the language used in some DOE FOAs regarding the utility of labor and community agreements for community, labor, social buy-in, the distribution of community and economic benefits, job quality, and the mitigation of project delays and risks.[403] The FOA should always state the comprehensive list of agreements that can be considered and negotiated between unions, communities, and grant applicants: CBA, good neighbor agreement, PLA, CWA, LPA, card-check, neutrality, local or targeted hire, and collective bargaining agreements. FOAs should encourage applicants to demonstrate the

existence of those contractual agreements with private enforcement mechanisms or the applicant's plan to enter into them. If legally viable based on the efficiency, cost-effectiveness, and quality-control objectives, PLAs should be encouraged, required, or used as a compliance tool. And as will be discussed below, these same proprietary interests may warrant legitimate use of labor peace requirements.

Where applicable, FOAs should require the applicants to detail how they will encourage or require prospective subgrantees or subcontractors to enter into enforceable labor agreements and comply with standards committed to in the CBP. Although our discussion has primarily focused on competitive funding, this approach to subcontractors and subgrantees could be particularly useful for formula grants to states, cities, and public agencies where federal funds are allocated by specified statutory formulas.

DOC's BEAD Formula Grant provides a useful model, by allocating states and territories a mandatory minimum grant, while simultaneously providing procedures and accountability mechanisms for the state's or territory's subsequent allocation to individual subgrantees.[404] The NOFO requires the eligible state or territory to evaluate and give priority to projects based on the prospective subgrantee's demonstrated record and plans to comply with labor and employment laws. This includes an evaluation of the subgrantee's record of compliance over the last three years through an assessment of contracting arrangements and staffing plans. Moreover, the eligible applicant must describe in the initial and final proposals what information it will require the prospective subgrantees to provide in their applications and how that information will be weighed.

DOC also mandates that the eligible applicant require the submission and evaluation of the prospective subgrantee's plans for ensuring compliance with federal labor and employment laws. Plans may include information on applicable wage scales and workplace safety. Most crucially, DOC expressly states that an effective compliance plan can include a "subgrantee's binding commitment to strong labor standards" manifested by job-quality tools, labor standards, and entry into a labor agreement (e.g., DBRA, PLAs, local hire, union neutrality, LPAs, RAs, use of an appropriately credentialed workforce, etc.). If an applicant includes any of these tools, standards, or agreements as "mandatory requirements" for its subgrantee (including contractors and subcontractors), the applicant is encouraged to describe these

requirements and how it will incorporate them as binding legal commitments in its subgrants.

Alternatively, JMA's USJP is an additional federally approved model that could be incorporated in both competitive and formula grants. Agencies could encourage use of the USJP in the subcontractor or subgrantee bidding process to increase the job quality-related information provided in the bid and incentivize enforceable contractual commitments. Lastly, agencies should concertedly assess what other elements of the CBP can be translated into the formula grant context.

B. Investing in the American Workforce

The CBP should address three specific issues: job quality, workforce development, and workers' rights. On job quality, the applicant should describe important features to attract, train, and retain a "skilled, qualified, local, and diverse workforce" for both construction and ongoing operations jobs. The FOA should require separate plans for construction and ongoing operations jobs to ensure an applicant addresses both phases of a project. The applicant should further describe plans to pay family-sustaining wages (including opportunities for wage progression), and as noted above, tools like the MIT Living Wage Calculator can be used to assess the sufficiency of wages, based on geography and household size.[405] Moreover, the applicant should be required to describe plans to provide comprehensive, wraparound benefits, including health care, pensions, paid family and medical leave, paid sick leave, paid time off, and caregiving supports (e.g., flexible schedules, telework, child care facilitation). On workforce development, the applicant should be prompted to describe a coherent framework for worker skill acquisition, education, and training programs (e.g., pre-apprenticeship and RA programs), as well as opportunities for career advancement, including through the utilization of an "appropriately credentialed workforce."[406]

On workers' rights, FOAs should request concrete assurances for how the applicant would support and protect workers' free and fair choice to form or join unions of their choosing, bargain collectively, and participate in the decisions that affect them. All FOAs also should incorporate the Solar and Wind Grid Services and Reliability Demonstration FOA's request to describe plans to support employees' ability to "build meaningful economic power, safeguard the public interest, contribute to the effective conduct of business, and facilitate amicable settlements of disputes between employees and their

employers."[407] As the FOA states, these rights provide assurances of "project efficiency, continuity, and multiple public benefits."[408]

FOAs should explicitly state that LPAs, card check, neutrality, support for existing unions, voluntary recognition, good faith negotiations, and commitments to not require signed noncompete, arbitration, and class-action waiver agreements are all assurances of complying with these rights.[409] The FOA should put applicants on notice by briefly listing the types of behaviors and tactics that employers often use to stymie the exercise of workers' rights. For example, the Solar and Wind FOA states that these tactics may include "misclassification, pitting workers against each other, hiring union-busting consultants, intimidation and harassment, holding 'captive audience' meetings, delays and exploitation of loopholes, and others."[410] Lastly, the FOA should require a description of how worker engagement in development and execution of workplace safety, health, anti-discrimination, and anti-harassment plans will be structured.

(2) Agency Commitment: Strengthening Implementation from the Bottom Up

Institutionalizing CBP use, perhaps one of the biggest challenges to successful project implementation, requires collective agency commitment to implementing the CBP as a core component of grant administration. High-level officials should use their authority to facilitate and encourage stronger labor commitments in the early grant- and loan-making phases. Agency officials are authorized to undertake "preselection discussion" with applicants so long as everyone is treated fairly.[411] There are otherwise no formal guidelines, likely contributing to agency reticence in undertaking preselection discussion (in addition to a host of other political and strategic factors). However, administration officials have the discretion in the pre-selection phase to discuss best practices and more broadly set an affirmative tone regarding the CBP's importance.

Grant managers and reviewers also must commit to strong CBP implementation. CBP reviewers should be technically qualified, ideally with labor-related backgrounds, or otherwise be required to undertake trainings on substantive job-quality and labor issues. A broad, nuanced understanding of labor and organizing dynamics is important to assessing the good faith nature of commitments to workers' rights, among other elements of the CBP. An additional guardrail might include obtaining consensus from a panel of trained reviewers to alleviate any discrepancies in reviewer training and knowledge.

Moreover, the internal agency rubric should be strengthened.[xiv] The rubric should incorporate DOL's GJP and Job Quality Check List and also should provide additional benchmarks with which to assess the strength of the commitments. For example, the evaluation guidelines suggested for workforce development and apprenticeship (see Page 62-63) should be expanded to each pillar of the CBP to aid reviewers for a robust evaluation. High points should be reserved for projects that commit to family-sustaining wages, comprehensive wraparound benefits, pre-apprenticeship and RA programs, worker engagement on a workplace health and safety plan, and entry into binding labor agreements with private enforcement for both the construction and operations phases. Moreover, high points should be reserved for applicants who describe how job-quality and labor agreements will be required or strongly encouraged for all subgrantees and subcontractors.

DOL should supplement the GJP and Job Quality Check List with "Neutrality Principles" and a model neutrality agreement to aid those involved in grant management with a comprehensive understanding of neutrality best practices. Specifically, this would aid reviewers in assessing stated commitments to assure that the applicant will provide workers with a free and fair choice to form or join a union. More broadly, however, this would be a welcome statement of policy for a president who has vowed to be the "most pro-union administration in American history."[412] The Neutrality Principles could be established under DOL's GJP framework, in coordination with the Task Force on Worker Organizing and Empowerment and the NLRB. Tenets of Neutrality Principles might include:

- Unions and employers will refrain from making unlawful, or lawful but unprincipled, statements, threats, or disparaging remarks regarding unionization
- Affirmative statements from management that workers choosing to unionize will not lead to any negative repercussions or retaliation from management
- Willingness to discuss neutrality agreements with individual unions upon request
- Dispute resolution of neutrality issues with an independent arbitrator

[xiv] This is based on an assessment of a CBP rubric that was published with DOE's Grid Resilience and Innovation Partnerships Program FOA that no longer appears to be online.

Tenets of a model neutrality agreement with a specific union might include:

- Card check recognition, verified by an independent auditor, in lieu of an NLRB-supervised election
- Employers will provide a signatory union with physical worksite access
- Employers will provide a signatory union access to employee lists of contact information
- Formal dispute resolution procedures, including binding arbitration
- Pledge to submit first contract negotiations to arbitration, if unresolved, after 120 days

Lastly, agencies should undertake a "labor risk assessment" as part of the UG-required risk assessment to ensure responsibility of the potential recipient.[413] The performance risk analysis evaluates the applicant's financial stability, quality of management systems, history of performance in managing federal awards, findings from past grant audits, and applicability to effectively implement statutory or regulatory requirements imposed.[414] Labor risk directly bears upon the ability of the federal funding recipient to effectively and efficiently complete a timely and high-quality project. Labor engagement experts should be consulted and/or contracted to undertake the risk assessment. A labor risk assessment could cover the following five broad categories:

1. **Union organizing:** Provision of any past communications regarding notice of intent to organize at any of an applicant's North American facilities and the hiring of legal or communications firms in response to union organizing attempts
2. **Legal disclosure:** An assessment of the Unfair Labor Practice, Mine Safety and Health Administration (MSHA), Occupational Safety and Health Administration, discrimination, or other complaints that are already available from the mandatory disclosures the applicants provide pursuant to the UG[xv,415]

[xv] In addition to conflicts of interest and criminal conduct, certain entities must report civil cases and administrative proceedings that: (1) are in connection with the award or performance of the federal financial assistance; (2) reached a final disposition in the preceding five-year period; (3) and is a (i) criminal proceeding that resulted in conviction; (ii) a civil proceeding that resulted in a finding of fault, liability, and payment of a fine, penalty, reimbursement, restitution, or damages of a certain threshold; (iii) an administrative proceeding that resulted in a finding of fault and liability and fines, penalties, restitution, or damages of a certain threshold; or (iv) any other criminal, civil, or administrative proceeding if it could have led to one of these aforementioned outcomes and other requirements.

3. **Worker health and safety:** Reports of recent inspections or statistics on fatalities, reported lost-time incident and total incident rates, and health and safety awareness programs
4. **Firm culture:** How firm culture is communicated and encouraged with employees, including environmental, social and governance strategies; diversity, equity, inclusion, and accessibility strategies; and corporate board diversity
5. **Opportunities for worker advancement:** Policies on retaining employee talent, turnover rates for both management and hourly employees, training, advancement, and career counseling

The labor risk assessment could inform the imposition of specific conditions for "high-risk" grantees. The UG authorizes the awarding agency to adjust award conditions for high-risk grantees based on several factors, including findings established in the performance risk analysis, the applicant's history of compliance or ability to meet expected performance goals, and an agency's responsibility determination.[xvi, 416] These conditions may be terms of the initial award or an amendment during grant execution, so long as certain notice requirements are met. For example, specific conditions, such as heightened oversight, may be appropriate for specific companies that are deemed eligible for federal investments but have a history of labor law noncompliance. Even if specific conditions are not ultimately placed on the recipient, they can be leveraged to convey the agency's strong commitment to ensure compliance with job-quality tools and labor standards during the term of the grant award.

(3) CBP Enforcement

Although breach of the CBP is unlikely to trigger DOE funding cutoff or clawback, DOE (and other agencies that adopt this framework) should clarify what it means for a CBP to become a "contractual obligation" of the funding recipient. The agencies should develop a coherent, transparent framework of breach and its repercussions, including when pausing or declining further funds or clawing back existing funds may be necessary.[417, 418] Specifically, DOE must articulate how assessment of CBP compliance will be a factor in the Go/No-Go review. In certain contexts, the midstream leverage or imposition of specific conditions, such as heightened oversight or technical assistance, may be a more constructive tool for "rehabilitation" and "deterrence."[419, 420] The Go/No-Go framework expressly

[xvi] Specific conditions include payment by reimbursement rather than advance payments; withholding authority to proceed to the project's next phase until receipt of evidence of acceptable performance within a given period; additional, more detailed financial reports; additional project monitoring; requiring the recipient to obtain technical or management assistance; establishing additional prior approvals.

contemplates such authorized action, noting that DOE may recommend redirection of work under the project or impose a funding hold pending further data. This may be especially useful for grantees who have never negotiated with labor partners; at the very least, such conditions would put the recipient on notice about expected actions for compliance.

In the final analysis, the best approach is to obtain enforceable contractual commitments and agreements via the CBP. Agency officials should interactively encourage potential grant and loan recipients during the pre-selection process to either enter into binding labor agreements with private enforcement mechanisms or require a description by which they or prospective subgrantees and subcontractors will enter into those binding agreements. Such contractual arrangements would typically include independent, private arbitration as the dispute resolution mechanism, which is the ordinary instrument for contractual disputes in collective bargaining agreements and PLAs. This would require a commitment with unions to proactively engage at the federal, state, and local levels and seek potential partnerships with applicants for federal funding.

(4) CBP Disclosure

Agencies should commit to affirmative disclosure of the CBPs, in whole or redacted, of selected grantees. Ideally, agencies would commit to online publication of the whole CBP, but at a minimum, should commit to publication of a redacted version that removes CBI, trade secrets, and any other information agreed upon by federal awarding agencies in a standardized set of public redaction principles. If a redacted version is published, the disclosure should include the type of labor agreement into which the selected grantee has entered, or indicated plans to enter, and with whom.

Recent DOE FOAs appear to be attempting to rectify past practice that has allowed the agency to keep most of the selected grantee's CBP information concealed. For example, the Direct Air Capture FOA states that the DOE "reserves the right to share non-procurement sensitive (or otherwise non-confidential/non-privileged) portions of information contained in CBPs publicly after awards are announced."[421] Because agencies are generally "accommodating" of recipients' requests to withhold information of innovative or economic value, all forthcoming FOAs should include similar language safeguarding the right to undertake affirmative disclosure.[422, 423, 424]

There are other avenues to consider that would increase transparency and facilitate public accountability. For example, the Federal Funding Accountability and Transparency Act authorizes the OMB to require disclosure of "any other relevant information" (in addition to the name of the entity receiving the award, the amount of the award, the entity's location, and several other technical details regarding the transaction type), yet an administrative law scholar noted that as of

2014 the OMB had not used this authority.[425, 426] The Project on Government Oversight highlighted progress on transparency of federal award documents, such as through the posting of spending data on USASpending.gov; it also called on the Administrative Conference of the United States to include a recommendation on proactive disclosure of award documents for contracts, grant agreements, loans, and other awards over $1 million.[427]

There appear to be fewer options for public CBP dialogue with grant applicants before their selection because an agency's pre-decisional deliberative communications are exempt from public disclosure under the Freedom of Information Act.[428] Agencies, however, could at least improve access to and awareness of IIJA, IRA, and CHIPS FOAs, NOFOs, guidance, and proposed rules in streamlined, organized, and clear online repositories. To further improve public awareness, tools such as the Inflation Reduction Act Tracker[429]—created by the Environmental Defense Fund and Columbia Law School's Sabin Center for Climate Change Law—or Drexel University's Infrastructure Funding Tracker[430] are crucial to providing the public with real-time updates on federal agency action that are otherwise not combined for easy public consumption.

(5) Conditioning Funding on Labor Peace

Where statutorily viable, the federal government should consider labor peace requirements that are consistent with its proprietary interest. At a minimum, this analysis strongly encourages agency counsel to undertake a formal assessment of where the government's proprietary interest might justify labor peace. In addition, analogous to the PLA discussion, the federal government could act as a proprietor with a legitimate interest in labor peace when it seeks to protect its investments through climate and infrastructure grant and loan financing.

The administration has a strong proprietary interest in the efficient, cost-effective, and successful implementation of its publicly financed climate and clean energy programs. Labor peace can be particularly crucial to the government's role as "seed investor" in groundbreaking clean energy technologies that further catalyze and accelerate public and private sector investment in those technologies. The administration has a keen interest in labor peace whereby labor disputes would threaten the successful completion of major programs that are central to the technological transition.[431]

Agencies should undertake an internal programmatic and/or project-specific assessment of the government's proprietary interest and statutory authorities in the context of CBPs.[xvii] Of note, DOE and DOC appear to have contemplated the legal viability of labor peace in at least two IIJA FOAs and NOFOs:

[xvii] The statutory provisions proffered as examples in the PLA section would apply in this context.

- **By a governmental entity:** Where a governmental entity receives DOE grant funds, whether directly as an Eligible Entity or as a subgrantee, and the governmental entity uses those funds for the construction of facilities over which it will maintain a proprietary interest (e.g., governmental ownership of the network), it is authorized and encouraged to require labor peace agreements, unless prohibited by state or local law.
- **By a non-governmental subgrantee:** Subgrantees that are non-governmental entities and engage in construction or operations over which no governmental entity maintains a proprietary interest, are authorized and encouraged to require labor peace agreements, unless prohibited by state or local law.[432, 433]

According to doctrine, a labor peace requirement would not require anything beyond a guarantee of labor peace from the relevant union. No substantive agreement or term beyond labor peace could be instructed. Moreover, the requirement would be confined to a federally supported project, facility, or plant and would be designed to prevent any spillover effects on workforces unrelated to the federally funded project. Any assessment would need to abide by all administrative law and spending clause obligations.

f. Energy Community Tax Credit Bonus

The energy community tax credit bonus is a welcome innovation in the tax code to spur investment in disinvested and deindustrialized regions most affected by the transition to clean energy. However, as a tool to address the economic challenges of fossil fuel communities, the bonus is quite limited in application and scope. The bonus applies only to the IRA's four energy and electricity production and investment tax credits (as well as partially to a fifth, the advanced energy project credit). An "energy community" is designated based on one of three location-based criteria:

(1) Brownfield category: Brownfield sites under the Comprehensive Environmental Response, Compensation, and Liability Act

(2) Fossil fuel employment and fossil fuel local revenue (statistical area category): An MSA or non-MSA that (i) has (or had any time after Dec. 31, 2009) either 0.17% or greater direct employment (fossil fuel employment) or 25% or greater local tax revenues (fossil fuel local revenue) related to the extraction, processing, transport, or storage of coal, oil, or natural gas, and (ii)

has an unemployment rate that is at or above the national average rate for the previous year

(3) **Coal closure category**: A census tract (or adjoining census tract) in which a coal mine has closed since Dec. 31, 1999, or a coal-fired electric generating unit has been retired since Dec. 31, 2009

Recent analyses of the bonus credit have highlighted large definitional and data challenges and limitations. However, Treasury and the IRS's April 2023 notice clarified several rules that the agencies intend to include in forthcoming proposed regulations.[434] Several of the specific changes and remaining uncertainties are highlighted below.

(1) **Brownfield sites:** First, there is a scope issue. Brownfield sites are not exclusively defined by the presence or potential presence of hazardous substances, pollutants, or contaminants due to fossil fuel industry activities. As such, this category does not directly target communities undergoing a transition away from fossil fuels.[435] The guidance does, however, identify the relevant data sources and seeks to assuage concerns that the bonus could perversely incentivize to not remediate. It did so by creating a safe harbor for brownfield site qualification based on either previous certification as a brownfield site or designation under the American Society for Testing and Materials's Environmental Site Assessments. Despite the safe harbor, the guidance, as written, may nonetheless create confusion regarding siting a facility on a former brownfield site that has been 100% cleaned up prior to siting.

(2) **Fossil fuel employment and fossil fuel local revenue (statistical area category):** Fossil Fuel Employment: Before the guidance, there was ambiguity regarding which occupations would constitute fossil fuel employment in the coal, oil, and natural gas sectors, as well as which of the three primary employment data sets would be used. In response, the guidance identified eight North American Industry Classification System (NAICS) codes specified by the Census Bureau's County Business Patterns. However, the guidance provided no rationale for the narrow adoption of eight codes that excluded relevant occupations that fit the statutory definition (e.g., petroleum wholesalers, natural gas distribution, fossil fuel electric power generation, and several others). Furthermore, a Resources for the Future (RFF) study released before the guidance's publication found that the 0.17% statutory threshold for direct employment is substantially lower than the national average of fossil fuel employment (making internal data assumptions prior to Treasury and the IRS's specifications). This should be analyzed and clarified to avoid confusion over eligibility. Lastly, further clarity is needed on the data sets used to calculate the total direct fossil fuel employment in an MSA or non-MSA.

Fossil Fuel local revenue: The guidance acknowledges the analytical challenges posed by the lack of data on local and state fossil fuel revenue and the variation in local tax regimes. The RFF analysis noted above questioned whether many localities would even qualify under the 25% threshold.[436] The guidance invited public comments addressing the possible data sources, revenue categories, and procedures. One further issue not clarified in the guidance is the statutory text—"tax revenues related to the extraction, processing, transport, or storage of coal, oil, or natural gas"—which does not clearly define the parameters of "related to," nor accounts for localities that may receive sizable non-tax revenue from fossil fuel production on public lands.

Unemployment rate: The guidance clarified that the annual unemployment rates will be released annually in April using BLS's Local Area Unemployment Statistics to determine whether the MSA or non-MSA has an unemployment rate at or above the national average unemployment rate for the previous year. Treasury and the IRS will then annually issue a list in May regarding qualifying MSAs and non-MSAs. Those MSAs and non-MSAs will remain as designated energy communities until the subsequent year's update. This alleviated concerns regarding oscillating unemployment rates within a given year, but it did not address remaining financial concerns around long-term planning given fluctuations in eligibility.[437] The guidance does, however, provide for a begin-construction safe harbor that designates a facility to be located in an energy community for the duration of the tax credit period so long as the location was an energy community on the date construction began. Thus, a facility in an energy community that satisfies the begin-construction safe harbor will be deemed located in an energy community during each year of the 10-year production tax credit period, even if the eligibility of a given MSA or non-MSA fluctuates year to year because of changes in the local and national unemployment rates.

(3) **Coal-fired power plants and coal mines:** The designation of an entire census tract, while likely useful for developers, could allow for facility siting geographically far from former or current fossil fuel communities. However, the guidance does provide some other limiting parameters. On coal-fired electric generating units, the guidance clarified that the unit must be characterized as coal-fired at the time of retirement, implying that the more than 100 coal-fired power plants that have been replaced or converted to natural gas would not qualify.[438] The guidance clarified qualifying mines under the MSHA data set ("abandoned" and "abandoned and sealed"), but left uncertain the potential qualification of "non-producing" mines that may be abandoned in-fact and mines that cross census tracts. Furthermore, a Charles River Associates (CRA) study found that there were serious limitations and errors in the MSHA

data set: Five percent of qualifying coal mines were listed in the wrong state and 10% in the wrong county.[439]

Treasury and the IRS also published eligibility information, including a list of known eligible energy communities and a searchable mapping tool.[440] The map does not include brownfield sites nor easily and directly provide the underlying brownfield site data. Moreover, the fossil fuel revenue qualification remains undetermined, as noted above, and thus is not reflected on the map. More importantly, however, an April 2023 CRA public webinar on the guidance noted discrepancies between the online map and CRA's own map when it replicated the IRS's proposed methodology.[441]

The RFF, CRA, and Vibrant Clean Energy studies indicate that the regions with the largest concentrations of eligible energy communities are Appalachia, the Intermountain West, Texas, and several surrounding Gulf states.[442, 443, 444] However, the RFF study found that the current approach is "unlikely to steer investment specifically towards those communities that will be most heavily affected" by the transition to clean energy.[445] The 2022 study found that the statutory approach could cover as much as 42% to 50% of total U.S. land area. Other studies have projected more limited coverage, but the expansive nature of the definition remains a concern given the intention to target communities most affected by the transition away from fossil fuels.[446]

RECOMMENDATIONS

(1) Regulatory Clarification Definitions and Data

Overall, Treasury and the IRS must clarify the remaining uncertainties regarding each of the three designations in the forthcoming proposed regulations.

1. **Brownfield sites:** The proposed regulations should clarify the subtle uncertainty regarding the applicability of the safe harbor provision to new facility siting on former brownfield sites that have been 100% cleaned up before siting. Brownfield sites should be added to the public online map or, alternatively, the relevant data should be easily accessible.
2. **Fossil fuel employment and fossil fuel local revenue (statistical area category):** The 0.17% and 25% thresholds are statutory and unlikely to change even though the former is overinclusive and the latter is likely underinclusive. Therefore, Treasury and the IRS may seek to publicly clarify for the regulated community the underlying justifications of these seemingly misaligned thresholds. On fossil fuel employment, future guidance or regulations may consider adding

the additional relevant NAICS codes. If the codes are not added, the agencies should provide a rationale for why relevant codes were excluded. Furthermore, Treasury and the IRS should clarify the data sources used, including for the calculation of total direct fossil fuel employment in a MSA or non-MSA. On fossil fuel local revenue, the agencies must clarify the statutory text, delineate the categories of revenue that will be included, and outline the process by which state and local data will be amalgamated and used. RFF proposed three potential sources in its analysis: (1) local property tax revenue; (2) local distributions of state-collected severance, production taxes, and fees on fossil fuels; and (3) local distribution of state- and federally collected coal, oil, and natural gas leasing revenues.[447] CRA recommended use of the 2022 Economic Census, which will be published in 2024.[448] Lastly, on the unemployment rate, the agencies may seek to provide technical guidance on how developers can plan given uncertain year-to-year eligibility.

3. **Coal-fired power plants and coal mines:** On the coal-fired electric generating units, the regulations should provide a rationale for the exclusion of coal-fired plants that have been converted to natural gas. Forthcoming regulations should address the remaining uncertainties regarding “non-producing” mines, mines that cross census tracts, and the MSHA data set limitations.

(2) Online Digital Tools for Accountability and Outreach

Treasury and the IRS should promptly update the online mapping tool to reflect all three qualifying energy community categories. The map should provide the underlying data that designates the eligible brownfield sites, census tracts (and adjoining tracts), MSAs, or non-MSAs. Further diligence is required to rectify the discrepancies that were found when the IRS’s methodology was replicated. Interested parties should closely monitor these changes, as subsequent map updates, guidance, and regulations will likely change qualifying energy communities.

g. Domestic Content

DC provisions are an important industrial policy tool to develop robust domestic supply chains, manufacturing sectors, and expanded job opportunities. DC preferences are somewhat distinct from the tools described above. If successful, DC requirements, as part of a larger suite of job-quality and procurement policies, can be important to reviving domestic manufacturing and establishing domestic markets that facilitate the strengthening of a skilled

workforce. However, their effect on job quality is more attenuated, as the requirement itself does not necessarily ensure that affected firms commit to high-road labor standards.

Nonetheless, the administration's DC requirements are a core pillar of the overarching climate and industrial policy framework and must be addressed. Considerable research has addressed the broader, long-standing problems with U.S. DC policies, and a distinct literature has analyzed the legality of DC requirements under World Trade Organization (WTO) law and other trade obligations.[449, 450] These broader questions of how to design a 21st century procurement framework alongside a fair global trade regime that accounts for the needed resurgence in industrial policy are essential but largely beyond the scope of this analysis. This section draws on this literature and highlights several of the more immediate challenges posed by current implementation of the new DC requirements.

Practical Implementation Challenges for BABA and IRA DC Requirements

A major hurdle of BABA is the first-time expansion of Buy America (BA) requirements to federal agencies and funding recipients, including contractors, subcontractors, and suppliers. Aside from DOT and EPA, which have both operated with BA requirements for decades, other agencies and their federal funding recipients will have to quickly learn and comply with the complex set of statutory and regulatory requirements. Moreover, BABA expansively extends BA provisions to all federally assisted infrastructure programs. The OMB's initial April 2022 guidance directed agencies to interpret "infrastructure" broadly, noting in a non-exhaustive list that agencies "should treat structures, facilities, and equipment that generate, transport, and distribute energy – including electric vehicle (EV) charging – as infrastructure."[451] BABA's standards apply only to the extent that the federal agency does not already have BABA-compliant BA requirements, thereby possibly setting up a patchwork of agency regulations.

Waiver practice is another area of concern. Scholars and advocates have proffered evidence that agencies have been too lenient with granting waivers in the past.[452] This has once again become the flashpoint of BABA implementation, as trade associations and industry groups have, at times successfully, pressured agencies to grant limited or temporary waivers for various programs. For example, the National Telecommunications and Information Administration vocally recommitted to BABA's requirements in enacting the BEAD program, stating that there is likely no need for waivers for fiber-optic glass or cable. But telecommunications groups continue to call for blanket waivers.[453, 454]

The challenge is how to ensure strict BA policy adherence while also recognizing legitimate concerns of the procurement community regarding pandemic-era global supply chain disruptions. One recent illustrative case is DOT's temporary public interest waiver for EV

chargers to provide manufacturers "a short ramp up period to make needed investments to build and expand domestic production."[455] The waiver, which would phase out in stages during 2023 and 2024, was issued based on an earlier RFI's findings that the industry and state DOTs are "not immediately prepared to certify compliance for EV chargers on FHWA-funded projects, with many commenters emphasizing strong support for establishing a waiver."[456] Affirming that current investments indicate the feasibility of accelerating the proposed timeline and narrowing the proposed waiver's scope, the AFL-CIO cautioned more generally against excessively broad or open-ended waivers that "risk real negative consequences on investment decisions in the private sector and the livelihoods of American workers."[457] The USW emphasized the historic use of broad waivers to delay and evade implementation of BA requirements in order to caution against the same fate with the new BABA requirements.[458]

Although Treasury has released additional guidance clarifying the IRA's DC bonus credit requirements, several lawmakers and other stakeholders have raised concerns regarding the guidance's silence on whether polysilicon wafers, a core component of solar panels, will be subject to the DC bonus credit requirements.[459] The executive director of the Solar Energy Manufacturers for America Coalition stated that the guidance was a "missed opportunity" for solar manufacturing and "will likely result in the scaling back of planned investments in the areas of solar wafer, ingot, and polysilicon production."[460]

Moreover, there has been criticism of the administration's implementation of the IRA's Clean Vehicle Credit (CVC) DC rules. The critical mineral sourcing issues will be discussed below, but another loophole remains. The IRS's interpretation of the Section 45W credit for a qualified commercial clean vehicle undermines the law's intent to boost domestic manufacturing by categorizing leased vehicles as "commercial" vehicles. This allows businesses that lease vehicles to claim the full $7,500 without satisfying the CVC (Section 30D) DC sourcing and manufacturing requirements.[461]

Lastly, monitoring and enforcement remains a long-standing challenge that will be exacerbated by the rapid expansion to nearly all federally funded infrastructure. The potential to evade the requirements through obfuscation of the origin of components or the inaccurate verification of the costs and value added domestically is already high and aided by the difficulty of public accountability for procurement-sensitive information.

Trade Obligations

There is uncertainty regarding how international trade obligations will apply to the IIJA's BABA requirements. The statutory language states that BABA "shall be applied in a manner consistent with United States obligations under international agreements."[462] As further

explained below, this implies that BABA requirements do not apply to infrastructure projects that are covered under international agreements. Although the OMB's initial guidance stated that public interest waivers "may" be made pursuant to international trade obligations, OMB's recently proposed guidance did not mention the statutory requirement.[463] As a practical matter, the lack of guidance on covered procurement under the trade agreements and their handling might create confusion for states, contractors, and suppliers who may not be aware of coverage and obligations under international agreements.

By way of background, the WTO's Government Procurement Agreement (GPA)—to which the United States is a party—generally prohibits parties from discriminating against the goods, services, and suppliers of other parties.[464] The U.S. has waived the 1933 BAA requirements for direct federal procurement covered by federal agencies under the GPA or federal trade agreements pursuant to the Trade Agreements Act of 1979.[465]

However, the IIJA's DC requirements mainly apply to grants, loans, and federal funding for infrastructure projects undertaken by non-federal entities. As party to the GPA, the United States has identified both the subnational entities—including 37 states, public utilities, and ports—as well as the types of goods, services, and construction services that are covered by the agreement. Thus, federally funded projects are subject to the GPA only if the project itself is covered by the GPA (by virtue of the subnational entity and good or service rendered being covered by the agreement). The operative question, then, is whether the non-federal entity is undertaking a GPA-covered project with federal funding. Note that when states were incorporated under the GPA, the U.S. waived its applicability to federally funded state mass transit and highway projects, thereby allowing BA requirements to apply. This meant that foreign companies could participate in that procurement so long as the BA requirements were met. Any IIJA-funded state mass transit or highway project thus remains waived from GPA requirements.

Many IIJA-funded projects, however, will be undertaken by counties, local authorities, or private companies that are not covered by the GPA or free trade agreements and are subject to BA requirements. This creates uncertainty regarding the imposition of BA preferences on federally funded projects, especially for newly covered infrastructure, such as electrical transmission facilities and systems, utilities, broadband infrastructure, and buildings and real property. Because states have largely been exempted from GPA requirements, they may be unaware of how to determine if BABA requirements apply to their procurement.

The IRA's DC preference is under greater scrutiny because of its attachment to tax credits. Under several WTO agreements—most notably the Subsidies and Countervailing Measures Agreement—subsidies with attached domestic preferences are highly disfavored and under

certain circumstances prohibited.[466, 467] European Union (EU) leaders have rebuked the IRA since its passage in August 2022, stating that the United States has started a trade war by threatening a global "race to the bottom" on clean energy subsidies. Further, the EU stated that the subsidies and DC requirements are discriminatory and violate WTO rules.[468] However, Katherine Tai, the U.S. trade representative, has put these investments in perspective, stating:

> The CHIPS Act and the IRA are significant accomplishments. Finally, after many years of inability and neglect, we are investing in ourselves. For a very long time, we have pursued a liberalization policy to integrate ourselves with the rest of the world without paying attention to the needs that we have here.[469]

The White House, Treasury, and the European Commission have engaged in several months of negotiations, leading most recently to efforts by the Treasury secretary to establish "surgical agreements"[470] with the EU and close allies to enable eligibility under the CVC despite the lack of a traditional free trade agreement.[xviii, 471, 472] However, the administration's efforts to broker trade agreements with the EU and Japan have provoked ire from lawmakers who view this as potential executive overreach and ignoring the law's overriding purpose.[473, 474, 475] Moreover, several unions and environmental organizations have urged the administration not to broaden critical minerals eligibility to the EU.[476] The United States will proceed on the presumption that the subsidies are consistent with international obligation. However, the United States' readiness to accommodate the EU's concerns do not necessarily address the lingering WTO issues. Nonetheless, scholars and politicians recognize that the WTO is in "the midst of a serious crisis" because the Appellate Body and the broader dispute resolution system are largely defunct.[477]

RECOMMENDATIONS

(1) Technical Assistance for Newly Applicable Agencies and Entities

The agencies must be prepared to provide adequate technical support to federal funding recipients who have not had to comply with BA statutory and regulatory requirements. Moreover, DOT should provide guidance to other agencies with less or no experience administering BA regulations as they work to implement the BABA requirements.

[xviii] The IRS and Treasury's NPRM on the CVC stated that "free trade agreement" is neither defined in the IRA nor other statutes and proffered several criteria to identify countries with which the U.S. has free trade agreements for purposes of the credit.

(2) Scrutinizing Waiver Practice

Federal agency officials should publicly commit to strong BABA adherence with narrow exceptions for waivers made in only a limited set of circumstances. Moreover, agencies should commit to robust transparency on time frames, standards, and underlying justifications. The administration has worked to increase transparency by centralizing all waiver requests and information on the General Services Administration-run Made in America website.[478] USW usefully highlighted the importance of timely federal agency reporting:

> Timely reporting … will support domestic manufacturing by allowing existing suppliers to access potential opportunities to manufacture and supply materials and products needed for EV chargers. It will also provide information on the frequency and value of federal procurements that are not being provided by domestic suppliers, which enables domestic manufacturers to make informed investment decisions that will fill gaps in our production capabilities.[479]

Waiver transparency is thus not only important for public accountability but also can expedite providing "clear market signals" to both manufacturers and investors. Legitimate supply chain concerns can, therefore, best be served through these mechanisms.

Agencies should also transparently indicate how they will address the challenges that undergird the justification for seeking a waiver. For example, in the EV context, both the AFL-CIO and USW urge DOT and FHWA to expand and strengthen collaboration with the Manufacturing Extension Partnership (MEP) to identify potential domestic manufacturers. More generally, where DC requirements statutorily rise over time, agencies—perhaps in coordination with DOC and the MEP—should provide technical support to small manufacturers on how to participate in supply chain development.

(3) IRA DC Requirements Regulations and Guidance

To ensure the growth of domestic production of solar panels, Treasury and the IRS should address the guidance's silence on polysilicon wafers in the forthcoming proposed regulations. Specifically, the agencies may seek to consider an appropriate phase-in timeline by which polysilicon wafers will be subject to the statutory DC requirements for the relevant tax credit to be eligible for the DC bonus credit. Treasury and the IRS also should rectify the use of the qualified commercial clean vehicles credit (Section 45W) as a loophole to lease EVs that do not comply with the CVC (Section 30D) DC sourcing and manufacturing requirements. This could be implemented through a sunset provision on the qualification of leasing under the qualified commercial clean vehicles credit.

(4) Trade Obligations

The OMB should precisely clarify covered procurement under the relevant trade agreements and how non-federal entities should handle BABA obligations with respect to newly covered infrastructure projects. Explicit guidance is vastly more efficient than states taking a case-by-case approach to assess GPA and free trade agreement coverage.

There is much uncertainty regarding contested foreign policy concerns with important allies and unsettled areas of WTO law. Nonetheless, the administration must proceed because energy transition industrial policy is necessary to facilitate the complex, rapid technological transformation needed to address the climate crisis. While some scholars have argued that U.S. climate policy—primarily enacted through subsidies and spending, rather than prescriptive regulation—is a sign of institutional weakness, the scope is unprecedented.[480]

The opportunity now is to implement both a new industrial strategy and a suite of multilateral agreements—based on those investments in clean energy—that can spur a "race to the top." There are, indeed, encouraging signs that this is underway. European Commission chief Ursula von der Leyen announced an EU Green Deal Industrial Plan (including fast-track energy permitting, subsidies, workforce development, and other provisions), and the commission announced the Net-Zero Industry Act as part of the Green Deal Industrial Plan to scale up domestic manufacturing of clean energy technology.[481, 482] This type of active government public investment is paramount. Other global regions, such as the Association of Southeast Asian Nations, are likely to follow in developing regional "Green Deal" strategies.[483]

In addition, the introduction of important new DC provisions in the IIJA, IRA and CHIPS Act, combined with pandemic supply chain disruption and growing national and energy security concerns, has sharpened public understanding of the need to recalibrate global trade rules. While much work remains to be done on the implementation of these DC initiatives, they underscore that the interweaving of labor and human rights with environmental standards, particularly focused on climate policy, must become central to the long-term solutions of creating a stable, global energy transition. In the U.S., for job quality to become a lasting outcome of these three pieces of legislation, labor and human rights must become enforceable components of a restructured trade regime. For climate policy to succeed on a global level, environmental performance must be embedded as well.

A discussion of how a fair multilateral global trade regime can empower countries worldwide to embrace clean energy industrial policy is beyond the scope of this analysis. However, it should be noted that there is a pressing need for the Office

of the U.S. Trade Representative and relevant labor and other stakeholders to develop new international principles of multilateralism, including WTO rules, that can facilitate mutual engagement, collaboration, and benefit for an age of global climate action.

VI. Conclusion

This analysis has emphasized from the outset that these measures alone are insufficient to address the deep structural inequalities facing American workers. None of these recommendations can supplant the urgent need to reform American labor law for the 21st century economy to restore workers' voice and bargaining power in the workplace. This report's proposed recommendations are predicated on a simple notion that has not been a reality for decades—that workers, if they choose, can organize a union without employer interference.

Many scholars have noted that worthy proposals to amend the "old regime" do not solve the inherent misalignment between New Deal-era labor law and the realities of the contemporary global economy.[484] Nor do such proposals address the limitations of the NLRA, which was arguably never designed to provide workers with resilient economic and political power in a dynamic economy.[485]

Nonetheless, the measures adopted through the implementation of the IIJA, IRA, and CHIPS Act have rekindled the broader discussion about how the balance between labor rights and economic entrepreneurialism can be restructured to speed up the adoption of clean energy technologies, remediate legacy pollution, restore economic vitality to fossil fuel communities, and model how greater social equity can flourish in the American economy.

Past industrial transitions have frequently played a role in unraveling previous social norms and the balance of political and economic power. Such was the experience of the 1970s, '80s and '90s, when the financialization of the global economy, integration of global labor markets, and decline of domestic manufacturing contributed to the dramatic drop of unionization rates and the subsequent rise in inequality. There is a short window of opportunity. The federal government will invest the remaining IIJA, IRA, and CHIPS funding over the next several years. There should be no question that the administration take every opportunity to do so in a manner that encourages a broad reform of labor management relations in the clean energy sectors. Successful implementation in this arena could open the door for a new social compact in America.

Appendix A

The Living Wage Calculator describes the living wage as follows: “the hourly rate that an individual in a household must earn to support his or herself and their family.” The calculator assumes the sole provider works full time (2,800 hours/year). The following is a selection of 16 states to illustrate geographic variability.

The Living Wage Calculator			
State	**1 Adult, 2 Children**	**2 Adults (1 Working), 2 Children**	**2 Adults (Both Working), 2 Children**
Alabama	$36.77	$35.02	$21.16
Arizona	$39.15	$37.82	$22.45
California	$54.95	$46.75	$30.54
Illinois	$43.49	$38.42	$24.66
Indiana	$36.35	$34.73	$21.03
Massachusetts	$57.19	$43.77	$31.60
Michigan	$47.08	$36.94	$26.43
Mississippi	$36.62	$35.67	$21.09
Nevada	$41.78	$36.58	$23.63
New York	$51.17	$43.10	$28.64
Ohio	$40.60	$34.83	$23.29
Pennsylvania	$40.68	$36.34	$23.28
South Carolina	$38.73	$37.61	$22.21
Tennessee	$35.10	$33.17	$20.17
West Virginia	$39.70	$34.88	$22.68
Wisconsin	$42.69	$36.34	$24.28

The Living Wage Calculator describes the living wage as follows: “the hourly rate that an individual in a household must earn to support his or herself and their family.” The Calculator assumes the sole provider works full-time (2,800 hours/year). The following is a selection of sixteen states to illustrate geographic variability.

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