

CALIFORNIA'S CLIMATE INVESTMENTS AND HIGH ROAD WORKFORCE STANDARDS

GAPS AND OPPORTUNITIES FOR ADVANCING
WORKFORCE EQUITY



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Introduction

California continues to lead the nation in charting a path to economy-wide decarbonization. On this path, the state has committed to pursuing a *high road* transition that prioritizes the development of a sustainable economy grounded in equity for workers and communities.

In our 2020 report *Putting California on the High Road: A Jobs and Climate Action Plan for 2030* (JCAP), commissioned by the California Legislature in Assembly Bill 398 (Garcia, 2017), the UC Berkeley Labor Center offered guidance for policymakers on how to ensure an equitable energy transition for workers in California.¹ That report describes clear, proven strategies for maximizing the creation of high-quality jobs across the low-carbon economy, broadening opportunities for workers of color and workers from historically marginalized communities, delivering the skilled workforce needed to achieve California's climate targets, and protecting workers in transitioning industries.

This report presents a current snapshot of the state's progress in implementing several of these strategies by examining the integration of high road workforce standards across California's climate investments. Specifically, we review existing high road standard policies in California, and assess the reach of high road standards across the state's proposed climate investments in California's 2022-23 state budget.

Findings

- The Legislature, California agencies, and the Governor have made clear indications of support for a high road approach to the transition to a low-carbon economy and to workforce standards in particular. Additionally, the state has a strong foundation of workforce standards policies in the construction sector to build on, but significant opportunities remain for improvement.
- About 60% (\$19 billion) of the state's projected climate investments budget through 2026 incorporates a workforce standard. Public works construction and utility-scale energy construction constitute the vast majority of programs with standards, while clean economy manufacturing, plant and transportation operations, land, technical, and other services, and residential building upgrades largely lack any form of workforce standard.
- Where workforce standards exist, as in the construction sector, programs could be improved by incorporating stronger training and targeted hire requirements (e.g., community workforce agreements) to build career pipelines for workers of color and historically excluded workers.
- Increased interagency coordination and capacity will be needed to comprehensively design, adopt and implement workforce standards across climate investments. Agencies can also take the prerogative to adopt and strengthen workforce standards under their own authority.
- Programs that do not incorporate workforce standards represent untapped potential for California to capture the full value of its climate investments to improve job quality and job equity across the state, increase unionization, and ensure that the transition to a low-carbon economy maximizes economic benefits and shared prosperity for all Californians.

In this report we provide analysis that supports these conclusions and offer recommendations to accelerate progress toward a comprehensive approach to high road workforce standards in California.

California's support for the high road

Policymakers and state agency officials have emphasized the importance of a *high road* approach to the energy transition: one that prioritizes environmental sustainability, job quality, and equity as equal and integral components of the state's strategies for responding to climate change. High road workforce standards have begun to catch on both rhetorically and in practice in California policymaking, with a notable uptick in promotion and adoption of these policies since the JCAP's release in 2020.²

Shortly after publication of the JCAP, Governor Newsom referred to the need for high road strategies in the 2020 Climate Executive Order (N-79-20) which stated: "we must accelerate the transition to a carbon neutral future that supports the retention and creation of high-road, high-quality jobs." The Order posed high road jobs as essential to California's economic future: "a sustainable and inclusive economic future for California will require retaining and creating high-road, high-quality jobs through sustained engagement with communities, workers and industries."³

California's lead agency for climate change and energy transition, the Air Resources Board (CARB), notably promoted workforce standards in its most recent investment guidance to California climate investments spending agencies, the 2021 *Cap-and-Trade Auction Proceeds Fourth Investment Plan*. The plan encourages agencies to direct "funding towards high-quality jobs and high road workforce development" by "[i]ncorporat[ing] job quality and job access measures (e.g., standards, requirements, and targets) across more investment types, prioritizing investment types that directly support or create jobs."⁴

In parallel, the California Public Utilities Commission (CPUC) released its *Environmental and Social Justice Action Plan* (ESJ Action Plan) in 2020 with a priority placed on high road frameworks in internal policymaking and external stakeholder engagement. The ESJ Action Plan calls on the CPUC to "promote high road career paths and economic opportunity for residents of ESJ communities" by working toward three main actions: maximizing authority to promote the high road; educating on high road careers; and partnering with utilities and sister agencies. The CPUC entered into an MOU agreement with CWDB in 2020 to help the agency achieve these goals. From this partnership, the CPUC has reportedly "gained a much deeper and clearer understanding of the need to leverage its authority and jurisdiction to focus on the jobs created or supported by CPUC policies."⁵

In 2021, the California Future of Work Commission convened by the Newsom administration similarly recommended workforce standard measures to increase job quality in its final report. The commission recommended "linking state spending to quality job creation with accountability and transparency." The report emphasized that "state procurement contracts, tax expenditures, and workforce development funding are among the important levers that the state may utilize."⁶

The California legislature's recent commitments to workforce standards policies are described in the policy sections below.

Why is the high road important?

California's substantial investments in decarbonizing the economy present an unprecedented opportunity for the state to pursue equitable economic development. High road workforce standards are a core component of a strategy for linking high road economic development and an equitable energy transition.⁷ They ensure public investments generate high-quality jobs, with family-supporting wages and benefits, and long-term training. Creating more high-quality jobs opens up new opportunities for workers who have historically been marginalized in the labor market, such as workers of color, immigrants, and people involved in the justice system. Workforce standards can also help target new job opportunities at priority communities, and build a pipeline for these workers to access good careers.

Most of the jobs involved in building California's low-carbon economy are blue-collar jobs that do not require a college degree, in sectors like construction, manufacturing, energy, transportation, waste, water, and natural and working lands.⁸ Across the state's economy, the quality of these jobs varies substantially. Many blue-collar jobs are low-wage, non-union jobs, with inadequate safety and job performance training, subpar or no health and retirement benefits, and limited opportunities for career advancement. In certain market segments where standards are stronger and union density is higher, blue-collar jobs can offer workers family-sustaining wages and benefits, long-term training and skills upgrading, and a collective voice on the job to provide input about working conditions.

California's energy and climate investments offer the potential to move the state's economy away from the low road and toward the high road, by improving the quality of blue-collar jobs across the state, and protecting the state's good jobs from deterioration in quality. Achieving this outcome requires a comprehensive, coordinated approach to workforce standards across the state's portfolio of climate and energy policies, including standards on investments as well as programmatic regulatory frameworks.⁹

What are high road workforce standards?

High road workforce standards are policies designed to ensure that public investments, policies, and programs generate the best economic and equity outcomes possible. For policymakers in California, that means creating and sustaining good jobs locally, ensuring these jobs pay family-supporting wages and benefits, offer long-term career pathways with robust training and safety requirements, support workplace democracy through collective bargaining, and include job access strategies for historically marginalized workers.

As the JCAP explains, supporting good job quality and equitable job access outcomes requires strong standards on the mechanisms that create demand for work, such as public investments and regulatory frameworks.¹⁰ Public investments are a powerful avenue for building the high road, because the government has substantial leverage to directly and indirectly affect economic outcomes by growing and shaping markets. Workforce standards on public investments operate through contract competition criteria, investment enhancements based on labor commitments, market access for high-quality employers, and by other means.¹¹

High road workforce standards are not exclusive to the climate and energy sectors; any type of public investment can and should incorporate high road workforce standards. Here, we focus on California's investments in climate as a priority area of need and opportunity for building the high road in the state, and in modeling the high road nationally.

Inclusive procurement mechanisms

The *Jobs and Climate Action Plan* defines inclusive procurement mechanisms as public policy mechanisms that “give bidders an opportunity to disclose additional detailed information about their commitments to high-road labor practices...to awarding agencies to identify the ‘best-in-class’ employer as a component of bid evaluation.” Inclusive procurement policies focus on public contracts that are administered through requests for proposals (RFPs), and structure such contracts to award points for job quality and access. The U.S. Employment Plan is a notable inclusive procurement policy instrument.¹²

Baseline workforce standards

Baseline workforce standards requirements are policy instruments that set a job quality requirement for firms to access state funds or participate in state programs. The authority of agencies to adopt these requirements may be limited by legal precedent and federal preemption under the Fair Labor Standards Act, although significant legal precedent exists for the state of California to enact a wide array of baseline workforce standards. Industry minimum wages, domestic or California sourcing requirements, targeted hire requirements to leverage careers for disadvantaged and dislocated workers, and labor peace requirements may be considered baseline workforce standards.

In the construction industry, project labor agreements and community workforce agreements (PLAs and CWAs), along with prevailing wage requirements, skilled and trained worker requirements, local hire requirements, and apprenticeship utilization requirements, form a backbone of baseline workforce standards policies that leverage job quality and access on publicly funded projects. The report *Advancing High Road Standards in Zero-Emission Transportation*, by Gridworks and BlueGreen Alliance, offers an illustrative list of workforce standards applicable to various climate-related industries.¹³

Summary of workforce standards in key industries

Construction: Strong standards, but critical gaps

The construction industry is core to much of the work involved in transitioning to a low-carbon economy, including building decarbonization; energy, transit, and other infrastructure projects; and the construction or retrofit of manufacturing and other energy plants and facilities. California has high road workforce standards for many segments of the construction industry, in particular public works projects, including but not limited to those focused on energy and climate.¹⁴

Workforce standards applied to portions of the construction sector in California include prevailing wage requirements, project labor agreement and community workforce agreement requirements on particular projects and project types, apprenticeship requirements on particular projects and project types, and the Skilled and Trained Workforce Requirement statute.¹⁵ In Figure 1, we briefly describe these standards, how they have been applied in California, and where gaps in coverage exist.¹⁶ Figure 2 shows state bills that have extended these standards in recent years to new project types and state programs.

Figure 1 also shows where federal investments include high road construction workforce standards for projects in California.¹⁷ Recent action by the Biden Administration has substantially increased workforce standards in the federally-subsidized construction sector. President Biden's Executive Order on Use of Project Labor Agreements For Federal Construction Projects requires a PLA on any investment (private or public) subsidized by a federal investment of \$35 million or more.¹⁸ In 2023, the California legislature took a step further with SB 150 in requiring that any California agency expenditure of CHIPS and Science Act (CHIPS), Inflation Reduction Act (IRA), or Bipartisan Infrastructure Law (BIL) funds must also include a community workforce agreement.¹⁹

Many areas of the publicly-subsidized construction industry in California benefit from high road workforce standards, but important gaps remain. In general, large public works construction and utility-scale investments (e.g., large solar, wind, and grid storage projects) are most likely to incorporate standards.²⁰ High road workforce standards apply to major infrastructure projects eligible for expedited California Environmental Quality Act (CEQA) review and certain energy generation projects that are procured through state agencies. In 2022, the California legislature adopted PLA requirements (via AB 205 and AB 209) for streamlined development approvals for several types of projects exceeding \$250 million of investment. In 2023, SB 149 enacted a Skilled and Trained Workforce Requirement for investments greater than \$100 million seeking CEQA streamlining.

The state's prevailing wage statutes and apprenticeship programs form an important foundation of workforce standards and leverage points for workforce equity in the publicly-subsidized construction industry. Public works prevailing wage requirements allow high road contractors to compete against low road contractors based on work quality rather than labor cost, and set minimum wages that deter against wage erosion and intergroup wage inequalities.²¹ State-approved apprenticeship programs provide comprehensive skills development and train a diverse pool of skilled workers. The California Division of Apprenticeship Standards requires that apprenticeship programs include equal opportunity and affirmative action plans to recruit historically marginalized entrants.²² Currently over 70% of registered apprentices in California are people of color.²³

CWAs are the most comprehensive construction standard: by combining the wage, benefit, and workplace democracy elements of PLA with targeted hire of historically marginalized workers, CWAs embody equitable workforce development principles.²⁴ These requirements have been least commonly applied through state policy compared to other construction standards. SB 150 (Durazo, 2023) begins to change this situation by requiring that any PLA entered into by a state agency after January 1, 2026, include community benefit provisions as described in the legislation to “promote employment and training opportunities for veterans and individuals who reside in economically disadvantaged areas.”²⁵

Notable decarbonization investments are excluded from public works labor provisions. These include single family home improvements and rehabilitation like solar panel installations, single family home energy and water retrofits, home weatherization, building decarbonization improvements, and other building upgrades.²⁶ These omissions have contributed to the proliferation of low-wage, low-road contractors in the weatherization, energy efficiency, home solar, building retrofit, and building decarbonization sectors.²⁷

Figure 1. State and federal construction workforce standards in California

Description	Legal requirements	Applies to	Gaps
Public works requirements – apprenticeship standards			
Apprenticeship utilization requirement for construction, alteration, demolition, installation, or repair work done under contract with public funding contributions greater than \$30,000. ²⁸	Contractors are required to hire apprentices at a rate of 1:5 apprentices to journeypersons as determined by the Department of Industrial Relations. ²⁹ Required to have affirmative action plans.	Any public or private construction project with greater than a \$30,000 public funding contribution.	Projects paid for by utility ratepayer-funded subsidies; projects with less than \$30,000 public investment; single family home solar PV installations, energy efficiency upgrades, building decarbonization upgrades, and other single family home construction and rehabilitation. ³⁰
Public works requirements – prevailing wage standards			
Prevailing wages are geography-specific wage requirements for construction, alteration, demolition, installation, or repair work done under contract within public funding contributions greater than \$1,000. ³¹	All workers employed on public works projects must be paid the prevailing wage per the Department of Industrial Relations, according to the work type and location. Prevailing wage rates are often based on rates in collective bargaining agreements. ³²	Any public or private construction project with greater than a \$1,000 public funding contribution.	Projects paid for by utility ratepayer-funded subsidies; single family home solar PV installations, energy efficiency upgrades, building decarbonization upgrades, and other single family home construction and rehabilitation. ³³

Description	Legal requirements	Applies to	Gaps
Skilled and trained workforce requirement			
Training standard that all workers on applicable projects be apprentices or skilled journeypersons and that a baseline percentage of apprenticeship graduates are employed, as defined in Public Contract Code Sections 2600-2603.	All workers in an apprenticeable occupation on a project must be either DAS-approved apprentices or "skilled journeypersons" and "Minimum Percentage Graduation Requirements" from apprenticeship programs among workers must be met. ³⁴	Legislatively-specified projects and programs, including, in the clean economy, renewable manufacturing plants, renewable power plants, CEQA streamlined infrastructure projects; and elsewhere, State Design-Build Contracts, School District Construction, and others. ³⁵	The Skilled and Trained Workforce Requirement is limited to projects, project types, and programs specified by enacted legislation since the creation of the statute in 2013. Local jurisdictions can also adopt the requirements for specific projects.
Project labor agreement			
Pre-hire collective bargaining agreement between unions and employers specifying wages, benefits, hiring, strike clauses, and other job criteria. ³⁶	PLAs include no-strike, no-lockout clauses and grievance/arbitration procedures. Usually, PLAs specify wages and benefits and require union hall hiring. ³⁷	In the clean economy, federal investments greater than \$35M, transmission line construction, Climate Catalyst Fund, DWR Design Build Contracts, and others. ³⁸	Construction projects with less than \$35M federal investment; PLAs are primarily signed as private agreements and not enforced as public policy.
Community workforce agreement			
CWAs are a type of PLA that includes community oriented commitments regarding equitable workforce development, social justice, small business support, and/or other issues. ³⁹	In state code, defined as a PLA "that includes a targeted hire plan" which "demonstrate[s] how the applicant will create jobs for under-resourced, tribal, and low-income communities, and how the applicant will ensure access to those jobs." ⁴⁰	In the clean economy, any federal investment greater than \$35M in California per SB 150 after Jan 1, 2026; High Speed Rail Project, yet undetermined subset of Transit and Intercity Rail Capital Program investments. ^{41, 42}	Public construction projects with less than \$35M federal investment; CWAs exist primarily as private agreements although they can be required or encouraged via policy. CWAs are least common among the four standards described.

Source: Author's analysis of state and federal legislation

Figure 2. Clean economy construction workforce standards legislation in California, 2020-2023

Program	Industry	Bill	Workforce standard
CPUC Net Energy Metering Program	Solar Construction	AB 2143 (2022)	Prevailing Wage requirement on >25kW installations
CPUC Community Solar Program	Solar Construction	AB 2316 (2022)	Prevailing Wage requirement
Community Economic Resilience Fund	Flexible funding for local economic development	SB 162 (2021)	PLA and CWA recommended by legislation but still undefined
CEC Equitable Building Decarbonization	Building Retrofitting	AB 205/209 (2022)	Prevailing Wage recommended by legislation but still undefined
Transit Intercity Rail Capital Program; Low Carbon Transit Operations Program; Affordable Housing and Sustainable Communities Program	Transportation Manufacturing, construction, and operations; Affordable Housing Construction ⁴³	AB 680 (2021)	“Fair and Responsible” Standards under development and Community Workforce Agreement requirement
Climate Catalyst Fund - Transmission	Transmission Construction	AB 205/209 (2022)	Project Labor Agreement Requirement
CEC and CARB Electric Vehicle Infrastructure investments	Electric Vehicle Infrastructure Construction	AB 841 (2020)	EVITP certification requirement
CEC Renewable Power Plant Certification	Renewable Generation Construction	AB 205/209 (2022)	Skilled and Trained Workforce Requirement
CEC Renewable Manufacturing Certification	Manufacturing Plant Construction	AB 205/209 (2022)	Skilled and Trained Workforce Requirement
CEQA Streamlining Program	Renewable generation and storage, semiconductor manufacturing	SB 149 (2023)	Skilled and Trained Workforce Requirement
CA BIL/IRA/CHIPS Investments (multi-agency)	Federally funded construction >\$35M	SB 150 (2023)	Community Workforce Agreement requirement

Source: Author’s analysis of state and federal legislation

Manufacturing, operations and services: Broad lack of workforce standards

The low-carbon economy requires blue-collar jobs, and non-managerial jobs generally, outside of the construction sector. California's investments in decarbonizing energy, water, transportation, and natural and working lands sectors and supply chains require workers in jobs in facility and transportation operations, manufacturing, and a wide variety of service occupations. Job quality varies considerably across these sectors and occupations, which include public sector and private sector work, unionized and nonunionized employers, and formal and even underground economies. While union jobs at public and private utilities are often high-quality jobs, many low-wage, low-quality jobs exist in private transportation operations (e.g., truck driving) and environmental services (e.g., wildlands services) where illegally misclassified workers can earn less than the minimum wage.⁴⁴

Manufacturing supply chains in the low-carbon economy include those for zero-emission vehicles; solar, wind and renewable energy generation, transmission, and storage; transit and infrastructure equipment; and electrical appliances, among others. Notable facility and transportation operations jobs involved in the low-carbon economy include truck driving, power plant operations, transit operations, mining and refining operations, and port, rail, and warehouse operations. Many of these jobs will be subject to substantial changes as their industries and the technologies they work with decarbonize. Service jobs include activities like wildlands management, urban forestry, transit services, janitorial work, research, and government services.

California invests billions in many of these activities (see *findings* section below), but it largely does so without incorporating any form of high road workforce standards. Unlike public works construction, manufacturing, operations, and service jobs do not benefit from a clear framework and established standards for promoting high road job quality and job access, at either the state or federal level.⁴⁵ In construction, California's Department of Industrial Relations, Division of Apprenticeship Standards, and Labor Commissioner work together to enforce public works statutes. There is no similar comprehensive policy and administrative capacity for non-construction industries.

In recent years, however, California agencies and the legislature have taken some initial steps towards enacting high road workforce standards for non-construction work. These standards are listed in Figure 3. Some legislative highlights include:

- SB 674 (Durazo, 2021) established a baseline standard for electric vehicle school bus and transit bus manufacturers serving state contracts exceeding \$10 million.⁴⁶
- AB 181 (Ting, 2022) set wage and other standards on \$1.25 billion in zero-emission school bus purchases allocated to CARB and the CEC.⁴⁷
- AB 794 (Carrillo, 2021) set a baseline standard for truck companies to not misclassify truck drivers when receiving CARB's heavy-duty incentives.⁴⁸
- SB 150 (Durazo, 2023), emerging from the 2023 budget deal as an agreement among lawmakers, proposed workforce standards to the legislature for consideration on BIL, CHIPS, and IRA investments across operations, services, and manufacturing industries in California.⁴⁹

These standards also build on AB 2267 (Fuentes, 2008) which incentivized California-based manufacturing of home energy equipment by offering a 20% increase in incentive amounts for users of the CPUC’s behind-the-meter solar and storage program (Self-Generation Incentive Program, or SGIP) deploying California manufactured technologies.⁵⁰

Figure 3. Notable manufacturing and operations workforce standards legislation in California, 2020-2023

Program	Industry	Bill	Workforce standard
DGS/CARB Electric School Bus	School bus manufacturing	SB 674 (2021), AB 181 (2022)	Labor peace and high road job standards ⁵¹
Community Economic Resilience Fund	Regional economic development	SB 162 (2021)	“Labor standards” in legislation, specifics yet to be determined
CARB Heavy Duty Trucking Funds	Truck driving	AB 794 (2021)	Non-misclassification requirement

Source: Author’s analysis of state and federal legislation

The 2023 California budget: Untapped potential for high road workforce standards

The state of California invests billions of dollars into climate programs each year, across a broad array of industries and sectors of the economy. These investments represent a powerful form of market leverage: they help ensure that public investments directly create high-quality jobs for workers of color and other excluded workers, and they raise the bar of competition across the labor market and shift the state’s whole economy toward the high road and workforce equity.

Methods

At the date of publication, the 2022 Budget Addendum offers the most comprehensive, publicly accessible projection of climate spending in the 2022 to 2026 period and the most comprehensive synopsis of allocated 2022-23 and 2023-24 state budgeted climate spending.⁵² For this report, we analyzed workforce standards related to the Budget Addendum, defining workforce standards as any explicit public policy regarding workforce conditions linked directly to spending, notably, the four construction workforce standards described in Figure 1, electric vehicle infrastructure installation

certification requirements in AB 841 (Ting, 2020), the three operations and manufacturing standards described in Figure 3, and local manufacturing incentives in AB 2267.⁵³

The programs we analyzed cover a wide range of sectors and economic activities, affecting many different types of jobs. Some programs affect multiple sectors and occupations. This analysis does not include modeled projections for the specific job impacts of the state's investments. However, we do consider which sectors are likely to be most affected for non-managerial jobs associated with each program: construction, manufacturing, operations, or services.

In addition to lacking specific estimates about the job count and occupational breakdown associated with each program, we also lack fine-grained data about the quality of these jobs. Some of the jobs supported by California's climate investments are public sector jobs while others are in the private sector; many are unionized, while many are not. Job quality, wages, benefits, and working conditions vary considerably across industries and affected occupations.

To analyze total Budget Addendum allocations with and without workforce standards, we first calculated total spending by individual programs across budget years, then coded each program for workforce standards where applicable. We then summed total spending across programs with and without workforce standards to arrive at the subtotals presented in Figure 4.

To identify spending without workforce standards by sector — construction, services, operations, and manufacturing — we began with the universe of programs without a workforce standard and aggregated programs by manufacturing, service, operations, and construction subsectors of the clean economy. We then summed program allocations by subsector to arrive at subtotals in Figure 5.

This analysis provides an approximate estimate of program allocations covered by workforce standards, by major sectors of impact. It does not parse out labor impacts for the full range of spending related to a program; it is important to note that each program may have workforce standards in one area (e.g., construction) but not in another (e.g., operations). For instance, a transit infrastructure program may fund both equipment purchases and construction labor costs. While construction may be covered by a PLA, transit rail cars procured may not be covered by a workforce standard, leaving no guarantee that state investments yield good manufacturing jobs in California or the U.S. Where programs involve non-managerial jobs in multiple sectors we include the investments in the sub-category total for each sector (Figure 5), since we do not have an estimate of the proportion of jobs associated with each sector. We have not double-counted these in the total, however (Figure 4).

Findings

Figure 4 summarizes our findings. Out of a total of approximately \$32 billion in projected climate investments identified in the 2022 Climate Budget Addendum—across wildfire resilience, drought resilience, energy investments, extreme heat, nature-based solutions, cap and trade allocations, and zero-emission vehicle (ZEV) investments—approximately 60% is covered by any workforce standard. This leaves approximately 40%, or \$12.7 billion, in anticipated climate spending over the next four years without any workforce standard.⁵⁴

Figure 4. Climate investments and workforce standards, 2022-26 budget projections

Total climate investment projected	\$32,568,800,000	100%
Spending with a workforce standard	\$19,859,000,000	60%
Spending without a workforce standard	\$12,709,800,000	40%

Source: Author’s analysis of 2022 Budget Addendum

A closer look at spending reveals areas with an acute lack of progress on integrating high road workforce standards. Figure 5 shows the total allocations for programs in construction, manufacturing, operations, and services that lack any workforce standards. Approximately 17% of state climate funding going to programs involving manufacturing is covered by a workforce standard; 5% of funding going to programs involving facility and transportation operations; and 0% of funding going to programs involving services. Additionally, over \$2 billion slated for residential solar, storage, and building decarbonization construction investments may not be covered by any workforce standard.⁵⁵

Between 2022 and 2026, more than \$9 billion in public dollars is slated for manufactured ZEV product funding programs, including cars, trucks, boats, and infrastructure. Only school bus manufacturing programs incorporate workforce standards among these, leaving nearly \$7 billion, or 80%, of ZEV manufacturing spending lacking standards. Similarly, while energy plant construction will incorporate a diverse array of workforce standards, energy operations, services, and energy-related manufacturing are projected to see more than \$9 billion in spending uncovered by a workforce standard (Figure 5).

Figure 5. Climate investment budget projections by sector, 2022-2026

Construction Allocations Without Workforce Standards

Residential solar and storage	\$900,000,000
Building decarbonization	\$1,107,000,000
<i>Construction total without workforce standards</i>	<i>\$2,007,000,000</i>

Manufacturing Allocations Without Workforce Standards

Energy generation technology and materials	\$4,610,000,000
ZEV and ZEV infrastructure	\$7,282,000,000
Building appliances and technology	\$1,142,000,000
<i>Manufacturing total without workforce standards</i>	<i>\$13,034,000,000</i>

Operations Allocations Without Workforce Standards

Water agency operations	\$4,394,000,000
Energy plant operations	\$3,750,000,000
Transportation operations	\$5,727,000,000
<i>Operations total without workforce standards</i>	<i>\$13,871,000,000</i>

Services Allocations Without Workforce Standards

Forest and wildlands services	\$2,584,000,000
Technical assistance, research, and government services	\$952,000,000
Conservation and habitat services	\$2,287,300,000
Energy services	\$1,233,000,000
<i>Services total without workforce standards</i>	<i>\$7,056,300,000</i>

Source: Author's analysis of 2022 Budget Addendum

Discussion

The figures presented above show that high road workforce standards cover climate investments involving construction, and a limited array of other investments. The analysis also shows that few construction programs are covered by the most comprehensive standards or those standards that ensure career-track jobs for workers of color and other historically marginalized workers. In fact, community workforce agreements, which entail these equity requirements, are the least common form of construction workforce standard in state climate investments, although SB 150 (Durazo, 2023) marks a major turning point in this arena, as noted above.

The goal of workforce standards is to ensure that career-track high-quality jobs for workers of color and other historically marginalized workers are created *and sustained*. As previously noted, many subsidized jobs in operations, services, and manufacturing are currently low-wage, low-quality jobs, but some are well-paid, and in certain cases unionized. For jobs that already are higher quality, workforce standards are important for ensuring the durability of job quality, especially in rapidly changing industries, such as clean economy manufacturing or transportation.

Conclusions and recommendations

California policymakers have stated clear intentions to pursue a high road approach to the transition to a low-carbon economy. The state has a strong foundation of workforce standards to build on in the construction sector, and also significant room for improvement, both in terms of equity in the public works construction sector, and incorporating high road standards in other sectors. Only about 60% of the state's projected climate budget allocations through 2026 incorporate high road workforce standards; the vast majority of these standards apply to public works construction and construction of utility-scale energy generation and transmission.

There is \$12.7 billion of climate-related investments in residential construction, manufacturing, operations and services that lack workforce standards entirely. That represents an unfulfilled opportunity for California to capture the full potential of its climate investments to improve workforce equity across the state, and ensure that the transition to a low-carbon economy maximizes economic benefits and shared prosperity for all Californians.

One of the greatest challenges facing designing and implementing high road workforce standards in non-construction sectors is the lack of a clear policy and administrative framework akin to the policies deployed in construction. Non-construction sectors do not have broadly applicable public works statutes, a fully developed apprenticeship system, or a comprehensive approach to workforce standards administration. As noted in the JCAP, state policymakers would benefit from increased capacity for inter-agency coordination to develop a comprehensive approach to workforce standards across agency programs and public investments.⁵⁶ Furthermore, climate spending and regulatory agencies can also take the prerogative to incorporate and strengthen workforce standards across their portfolios and rulemakings.

California decision makers should consider investing in strengthening interagency governance to design and administer high road workforce standards across climate spending agencies; setting clear timelines for adopting workforce standards on manufacturing, services, operations, and construction funding streams; and providing critical staffing to ensure the effectiveness of workforce standards policymaking.

Endnotes

- 1 Zabin, "Putting California on the High Road."
- 2 Since 2017 the California Workforce Development Board (CWDB) has supported the High Road Construction Careers program and the High Road Training Partnerships program across the state, designed to support model projects that promote high road outcomes. See "High Road Construction Careers"; and "High Road Training Partnerships."
- 3 Newsom, Executive Order N-79-20.
- 4 "Cap-and-Trade Auction Proceeds Fourth Investment Plan."
- 5 "Environmental & Social Justice Action Plan Version 2.0."
- 6 *"Future of Work in California: A New Social Compact for Work and Workers."*
- 7 Sachs and Foster, "Job Quality: The Keystone of Clean Energy Industrial Policy."
- 8 "California's 2017 Climate Change Scoping Plan."; Zabin et al., "Workforce Issues and Energy Efficiency Programs."
- 9 This memo focuses primarily on standards on investments, rather than regulatory frameworks. Both are important, complementary strategies for achieving high road outcomes.
- 10 Zabin, "Putting California on the High Road," chapter 2.
- 11 Osterman, "In Search of the High Road: Meaning and Evidence."
- 12 "U.S. Employment Plan."
- 13 "Advancing High Road Standards In Zero-Emission Transportation: Establishing a Framework and Recommendations for Workforce Standards."
- 14 Public works projects include construction, alteration, demolition, installation, or repair work subsidized by public funds. See State of California Department of Industrial Relations, "Public Works."
- 15 Many of these standards depend on the state-regulated construction apprenticeship system, overseen by the Labor Agency Department of Apprenticeship Standards. For a description of California's apprenticeship system, see Zabin, "Putting California on the High Road," chapter 3.
- 16 For a comprehensive explanation of policies, see Zabin, "Putting California on the High Road," chapter 2.
- 17 Local and state governments may also incorporate workforce standards above and beyond the state and federal standards.
- 18 Biden, Executive Order on Use of Project Labor Agreements For Federal Construction Projects.
- 19 Durazo, Construction: workforce development: public contracts.
- 20 Jones and Zabin, "Are Solar Energy Jobs Good Jobs?"
- 21 Wursten and Reich, "Racial Inequality in Frictional Labor Markets."
- 22 California Apprenticeship Council Title 8 Regulations.
- 23 "Registration Dashboard by California Apprenticeship."

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