Chapter 1:
Introduction

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CHAPTER 1: Introduction

Putting California on the High Road: A Jobs and Climate Action Plan for 2030

I. Background

Over the last 15 years, California has emerged as a national and world leader in the fight to avoid climate disaster, passing a comprehensive and evolving suite of climate measures to accelerate the transition to a carbon-neutral economy. The state has also emerged as a national leader in embracing economic equity as a goal for state policy, charting a path towards a new social compact for shared prosperity in a rapidly changing world.1 Meaningful commitment to both of these goals requires the development and implementation of a bold agenda that aligns California’s ambitious climate and workforce action plans. This report presents a framework for California to advance that agenda in order to simultaneously improve equity, mobility, and job quality for workers, deliver skills and a level playing field for the state’s best employers, and address the challenges of climate change across the economy.

Assembly Bill 398 (E. Garcia, Chapter 135, Statutes of 2017) required that the California Workforce Development Board (CWDB) present a report to the Legislature on strategies “to help industry, workers, and communities transition to economic and labor-market changes related to statewide greenhouse gas emissions reduction goals.”2 To fulfill this mandate, the CWDB contracted with the Center for Labor Research and Education at the University of California to review the existing research from leading experts in the field and prepare this report.

The legislation3 specifically requires that the report address:

- Creating and retaining jobs and stimulating economic activity in the state;
- Embedding workforce training and employment services in infrastructure investments so that services more directly connect to the jobs created;
- The use of community benefits agreements, community workforce agreements, and project labor agreements that connect workforce services and job training directly to jobs impacted or created;
- Preparing the state’s students with relevant career technical education that responds to business and industry demands;
- Developing worker retraining programs to assist the existing workforce with the necessary tools to upgrade their skills;
- Responding to the job creation and workforce needs of the state’s new and emerging industries, including emerging technologies that will result in greater greenhouse gas emission reductions;
- Developing job training programs to assist specific populations, such as at-risk youth, displaced workers, veterans, the formerly incarcerated, and others facing barriers to employment;

- Opportunities for community-based organizations to partner with local workforce agencies to improve the labor-market outcomes of targeted disadvantaged populations;

- Targeting workforce development programs and activities in disadvantaged communities, as identified pursuant to Section 39711, and communities that are located near entities regulated by the CWDB pursuant to this division; and

- Identifying and leveraging state and federal funding resources to implement the recommendations made in the report consistent with the regulatory purposes of this division.

The directive in AB 398 makes clear that this report should address workforce interventions that affect both job creation and worker training and should highlight the importance of diverse actors inside and outside of government. This report presents a comprehensive strategy that identifies roles for agencies implementing climate policy and those implementing workforce policy, as well as key partners such as business, labor, community, and education and training institutions. As mandated in the legislation, all recommendations align with the CWDB’s Unified Strategic Workforce Development Plan, which has put forth a set of actions to leverage and coordinate the state’s myriad workforce and education programs to support high-quality careers for Californians.4

California’s 2017 Climate Change Scoping Plan (Scoping Plan)5 presents a roadmap of policies and programs to reach the climate protection target in Senate Bill 32 (Pavley, Chapter 42, Statutes of 2016), which is a 40-percent reduction in greenhouse gas emissions from 1990 levels by 2030. The Scoping Plan is organized into six sectors based on sources of greenhouse gas emissions and corresponding climate action measures, as follows: Transportation, Industrial, Energy; Natural and Working Lands (including Agricultural Lands); Waste; and Water.6

The report organizes the available information from existing academic research, economic models, and industry studies for the six sectors identified in the Scoping Plan and presents for each of them:

- The available information about current labor conditions and major climate measures’ impact on jobs;

- How to best generate family-supporting jobs, broaden job and career opportunities for workers from disadvantaged communities, deliver the skilled workforce that employers need to achieve California’s climate targets, and protect workers in declining industries; and
Guidance for policymakers, agencies, and institutions that implement climate and/or workforce policy, offering examples of concrete, scalable strategies that have connected effective climate action with workforce interventions to produce good outcomes for workers.

In keeping with the statutory directive, the report’s discussion was further enriched by comments provided to the CWDB through a series of stakeholder meetings organized by Scoping Plan sector and constituency held in July and August 2018.

All the recommendations in this report have been successfully implemented by state and/or local government bodies. The report provides guidance on how the state can build on these successes to systematically embed job quality and job access strategies in all climate legislation, regulation, and program design.

II. The High-Road Framework

As the state advances toward its clean energy goals for 2030 and beyond, climate policy will drive far-reaching changes in the state economy as it adapts to a new, low-carbon paradigm. Climate policy creates both disruptions and opportunities for businesses in California as well as for the workers they employ. This report starts with the premise that California climate policy can and should provide multiple benefits: it should generate family-sustaining, career-track jobs; create pipelines to these jobs for workers from disadvantaged communities; and contain supports for workers and communities in carbon-intensive industries at risk of decline. This premise is consistent with the Scoping Plan as well, which notes that “the implementation of California’s climate change goals provides great opportunity to not only improve the habitability of the planet, but also to increase economic vitality [and] employ historically disadvantaged people in secure jobs.”

Optimizing climate policy outcomes while supporting the creation of and access to family-supporting jobs is the “high-road” approach to economic development—and, it should be noted, the vision of equity, climate and jobs advanced by the CWDB. As the term is used here, a high-road economy supports businesses that compete on the basis of the quality of their products and services by investing in their workforce, paying the wages and benefits necessary to attract and retain skilled workers, who in turn perform high-quality work. Building the high road requires interventions on both the demand side and the supply side of the labor market.

Demand-side strategies are those that affect the demand for labor, including the kinds of jobs that are generated, the skills that are needed, the wages and benefits employers provide, and who employers hire. Public policy can encourage
improvements in job quality through industry-specific or economy-wide wage and benefit standards, such as prevailing, living, and minimum wages; skill certification requirements; enforcement of all labor and employment laws including proper classification of employees (vs. independent contractor arrangements); and collective bargaining rights. These types of policies support the high-road employers within an industry and help them attract and retain a skilled workforce by limiting competition based on low wages. Demand-side policies also include interventions to increase hiring of qualified workers from disadvantaged communities and to ensure that standards do not create barriers for historically excluded groups.

AB 398 specifically calls for the report to focus on opportunities to use project labor agreements (PLAs), community workforce agreements (CWAs), and community benefits agreements (CBAs), which are all well-tested demand-side strategies. PLAs are pre-hire collective bargaining agreements unique to the construction industry that set wage and benefit standards. Although terminology varies, CWAs, as defined in this report, are PLAs that also include goals and processes for hiring from local communities or targeted disadvantaged groups. CBAs are legally enforceable agreements negotiated between community groups and a developer and require specified local benefits, in some cases related to job quality and hiring goals, in exchange for community support.

Demand-side strategies can be incorporated into climate measures through either policy or program design. Agencies responsible for implementing climate investments and other measures play a key role here and are essential to the alignment of climate and workforce actions.

Supply-side strategies are also critical. They focus on preparing the workforce for changes in the labor market due to climate policy and on delivering a skilled workforce to businesses involved in the transition to a carbon-neutral economy. For workers, training is valuable if it leads to job placement and wage and career advancement as they acquire skills; for employers, training is valuable if it leads to increased productivity and improved work quality. Public funding will only benefit both workers and employers if skilled workers are hired and retained, making it critical to target public training investments for high-road employers who see their workforce as a worthwhile investment rather than a cost to be minimized.

Workforce development is essential to building economic opportunity for those who have been marginalized, disadvantaged, and/or denied opportunities. Programs targeted to disadvantaged workers can secure more equality in the distribution of job opportunities, but the shortage of good jobs is an ongoing challenge for these pipeline programs. For low-wage jobs, the most effective strategies are those that build skills, respond to employer needs, and improve job quality, simultaneously.
Supply-side strategies are the traditional purview of the state’s workforce development community, which is made up of a complex web of institutions providing adult basic and postsecondary education, skill building, job matching, and other employment support and services. The workforce development community includes the community college and four-year college systems, certified apprenticeship programs, nonprofit training organizations, labor-management partnerships, the public workforce development system, and a host of state, county and municipal agency partners, as well as intermediaries who may align these systems and/or provide training themselves.

Best practice workforce development emphasizes training that:

- Responds to actual labor market demand by partnering closely with industry;
- Supports the state’s high-road employers and pays attention to job quality;
- Emphasizes broad skill training for an occupation rather than just for one technology;
- Leverages the state’s existing workforce education and training infrastructure rather than creating boutique programs unconnected to workers’ education and career trajectories; and
- Assesses success of training based on outcomes, including job placement rates and improvements in wages and benefits improvements, higher worker productivity, and ongoing commitments by employers.

The comprehensive and proactive supply-side and demand-side approach described above—in which state climate investments intentionally improve job quality, while workforce investments broaden access to those jobs, and in which training focuses on broad occupations rather than narrow technologies—differs significantly from a common but incomplete view of how to deliver skills for the climate transition. The conventional approach relies primarily on a supply-side strategy: fund training programs that identify perceived skill gaps. The result is a rush to fund new short-term training programs aimed at new “green jobs.”

However, research and practice have confirmed that it is more accurate to talk about “greening jobs,” rather than new and different “green jobs.” The vast majority of the jobs that will be involved in work to lower greenhouse gas emissions across the economy are in traditional occupations where specific knowledge and skills related to emission reduction are only one component of a broader occupational skill set. A comprehensive study of energy efficiency programs found that approximately two-thirds of the jobs generated directly by energy efficiency investments in California are in traditional building and construction trades—e.g., electricians, sheet metal workers, plumbers, carpenters, stationary engineers, and others. Only around one-sixth are in professional occupations, and only 2 percent are specialized energy efficiency occupations like energy auditor.
Likewise, mechanics for zero-emission vehicles are still motor vehicle mechanics, and workers who manufacture electric cars are still autoworkers, even though their skill sets continually evolve. In other words, there are very few new occupations created by climate mitigation activities, but instead new aspects to old occupations.

Moreover, simply funding more training—particularly short-term, technology-specific training—does not necessarily help workers. Training neither creates jobs nor ensures job placement for graduates. To be effective, training strategies must connect directly to the labor market, explicitly addressing industry needs and connecting participants to actual jobs. The CWDB’s comprehensive approach—as exemplified by its High Road Construction Careers and High Road Training Partnership initiatives—integrates demand- and supply-side strategies, avoiding the pitfalls of niche “green jobs” training and ensuring that California workers are prepared for long-term careers in a rapidly-evolving, carbon-constrained economy.

Exhibit 1.1 presents the high road conceptual framework illustrating the alignment of climate and workforce action plans. It starts with (1) examples of climate measures that use (2) a variety of specific policy mechanisms, and have (3) impacts on the number of jobs, job quality, and who is hired in the key industries affected by each climate measure. Without specific demand-side and supply-side labor interventions, these job impacts will replicate current trends and practices in the labor market, which in some sectors will simply reproduce low wages and ethnic and gender disparities. The graphic illustrates two distinct choices: a low-road approach that does not incorporate workforce strategies (in gray), and a high-road approach that manages changes in the labor market using the strategies recommended in this document (in red).
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Exhibit 1.1. Conceptual Framework

1. CLIMATE POLICIES
   EXAMPLES:
   - RENEWABLES PORTFOLIO STANDARD
   - IOU EE INCENTIVE PROGRAMS
   - EV INFRASTRUCTURE AND REBATES
   - CAP-AND-TRADE PROGRAM

2. POLICY MECHANISMS THAT AFFECT LABOR DEMAND
   EXAMPLES:
   - PUBLIC INVESTMENT
   - MANDATES
   - PUBLIC ENTERPRISES
   - INCENTIVES
   - PRICING POLICIES
   - PROCUREMENT

3. IMPACT OF POLICIES ON NUMBER OF JOBS, JOB QUALITY, AND JOB ACCESS
   EXAMPLES:
   - CONSTRUCTION
   - MANUFACTURING
   - TRANSPORTATION
   - UTILITIES

HIGH-ROAD APPROACH

DEMAND-SIDE LEVERS FOR CLIMATE AGENCIES:
- Skilled workforce standards
- Wage standards
- Community workforce agreements
- Procurement for the public good
- Targeted/local hire mechanisms

SUPPLY-SIDE STRATEGIES FOR EDUCATION AND TRAINING INSTITUTIONS:
- Pre-apprenticeship and pipeline training
- Industry training partnerships
- Curricula upgrades in post-secondary institutions

JUST TRANSITION:
- Planned industrial phase-out
- Displaced worker supports
- Community economic development
- Displaced worker assistance

OUTCOMES:
- SKILL NEEDS ARE MET
- QUALITY WORKMANSHIP AND SAFETY ARE THE NORM
- JOB QUALITY IS IMPROVED
- ACCESS FOR WORKERS FROM DACS INTO QUALITY JOBS IS BROADENED
- DISPLACED WORKERS MAINTAIN THEIR LIVELIHOOD
- COMMUNITIES DIVERSIFY THEIR ECONOMIES

LABOR DEMAND MANAGED

LABOR SUPPLY MANAGED

TRANSITION MANAGED

LOW ROAD APPROACH

- No labor standards
- Little to no training; minimal training unconnected to jobs
- No advanced planning for displaced workers

OUTCOMES:
- Low-wage job trends permeate low-carbon economy
- Recruitment & retention of skilled workers is low
- Problems of low quality workmanship and safety persist, undermining market adoption
- Disadvantaged workers have limited access to career training and middle-class jobs
- Workers lose jobs and income
III. Rethinking How to Assess the Job Impacts of Climate Policy

Attention to skill delivery and equity issues requires going beyond the most common method of assessing job impacts of climate policy, which looks at job numbers only. Numbers alone do not tell the full story. This report also focuses on job quality (wages, benefits, etc.) and access (who gets the jobs).

1. Job Quality

Climate policy cannot be the “silver bullet” that solves the state’s low-wage job problem, but it does not have to exacerbate the problem and, in fact, can and should be implemented in ways that promote development of good, accessible jobs.

While the specifics will vary, there is general agreement that a good, family-supporting job pays a living wage; offers a stable schedule; provides benefits such as health care, retirement, paid sick days, and paid family leave; offers wage increases as skills are acquired; and complies with all workplace laws (e.g., laws on wage and hours, employee classification, health and safety, anti-discrimination, workers’ compensation, and the right to organize). Additional elements of job quality include respect for and inclusion of worker voice, and opportunities for training and advancement.

2. Job Access

To ensure that the benefits of the emerging carbon-neutral economy reach all Californians, the job opportunities generated from the growth of this economy must be shared across a workforce that reflects the diversity of the state’s population. Historical patterns of discrimination and institutional racism have led to concentrations of people of color and women in low-wage jobs. As a consequence, efforts to improve job quality must be coupled with efforts to promote inclusion (and vice versa). If not, we will simply replicate and reinforce the existing disproportionate concentration of African Americans, Latinos, and women in low-wage jobs.

California uses a variety of criteria to identify disadvantaged workers, including measures for identifying workers with specific barriers to employment, such as at-risk youth, veterans, single mothers, and workers with criminal records. In the climate arena, the CalEnviroScreen tool is used to identify communities at the census tract level that bear disproportionate burdens of environmental degradation and social and economic disadvantage. This place-based ranking of disadvantage can complement criteria
measuring an individual’s disadvantage, such as employment status, ethnicity, history of incarceration, etc. The identification of these workers and communities can inform decisions concerning the allocation of public investment and training funds and the development of hiring strategies to promote inclusion.

3. Job Numbers

Of course, it is also critical to examine job numbers. This report uses available information from economic models and industry studies for each of the critical sectors identified in the Scoping Plan to assess relative job growth in sectors affected by climate policy. The California Air Resources Board (CARB) has produced economic modeling of jobs with and without climate policy. CARB economic modeling estimates that when comparing scenarios with or without climate policy in 2030, there will be no net job loss: at most job growth could be 0.3-percent lower by 2030 than job growth without climate policy, but there will be more jobs than in 2020. Even as the state has reached its 2020 targets four years ahead of schedule, California’s diverse and booming economy and historically low dependence on coal have facilitated rapid economic growth concurrent with greenhouse gas emission reductions. With an economy made up of 18 million jobs and a state GDP of $2.7 trillion, the cost of reducing greenhouse gas emissions is small, and climate policy is not expected to change growth trajectories to any significant degree.

However, macroeconomic modeling does not provide the detailed information needed for workforce planning, nor does it provide information on job quality or job access. Effective labor market analysis that informs planning for workforce development and identifies opportunities to improve job quality and job access requires combining labor market information with deep on-the-ground knowledge for each detailed sector, industry, and set of occupations and is most effectively carried out within the context of industry training partnerships at the regional level.

In assessing job growth or loss, it is important to understand the following:

- **Net vs. Gross**

  The overall health of an economy depends on net growth (growth minus loss) in jobs, and job creation and destruction is a continual feature of all market economies. In terms of net growth, CARB models suggest positive growth but at a slightly lower rate than without climate policy. It is also critical to assess the risk of absolute job loss where previously employed workers are displaced, so as to avoid a disproportionate burden of transition on a particular group of workers.
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Direct, Indirect, and Induced

Most job impact studies use economic models to capture the entire effect of a policy as its impact ripples through the economy by counting direct, indirect, and induced jobs (the so-called multiplier effect). The policies and training strategies presented here are most able to influence direct jobs, which are the focus of this report. “Direct jobs” are those generated in firms that directly benefit from public or private investment that occurs due to climate policy. “Indirect jobs” are those generated by the supply chain (i.e., the purchase of equipment, materials, fuels, and other inputs needed for the activities of the recipient firms). There are limited circumstances, discussed in this report under procurement strategies, in which the alignment of climate and labor policies can impact some jobs in the supply chain, particularly when the supply chain involves large equipment or other capital inputs. “Induced jobs”—those generated as wage and business income from the direct and indirect investments is spent on a wide variety of goods and services in the economy—are not addressed in this report, which is limited to sectors most directly affected by climate policy.

Sector, Industry, and Occupation

In this report, we follow CARB’s use of the term “sector,” which is a clustering and categorization of similar economic activities that create greenhouse gas emissions and that are subject to Scoping Plan policies to reduce emissions. For CARB, the term “sector” includes both production and consumption (end use) activities. For example, CARB’s Low-Carbon Energy Sector includes both generation of renewable electricity and energy efficiency activities that reduce energy consumption. For the terms “industry” and “occupation,” we follow the Bureau of Labor Statistics (BLS) which defines industry as a group of establishments that produce similar goods and services (a production rather than a consumption category); and occupation as a set of activities that employees carry out in their jobs. The BLS definitions allow us to utilize BLS data on jobs in industries and occupations, using the North American Industry Classification System (NAICS) for industry and the Standard Occupational Classification (SOC) for occupation.

Job Tracking vs. Job Modeling

Most job impact studies use modeling techniques to estimate job impacts, often using government data to derive estimates of the number of jobs per million dollars of investment. While this is useful for some planning purposes, it is not the same as actual tracking of the number, quality and workforce characteristics of jobs that are generated or lost due to climate policy. Tracking and reporting on the job impacts of climate policy is necessary to measure progress over time. The CARB is currently
developing methods and metrics for tracking job numbers, job quality, and job access. Local jurisdictions commonly use commercial software that processes certified payroll records to track compliance with prevailing wage and local/targeted hire rules (while maintaining confidentiality of worker information).

IV. Organization of Report

The report is organized into two sections: Chapters 2 through 4 address labor policy tools and Chapters 5 through 11 address each Scoping Plan sector. The three chapters on policy tools consist of:

- **Chapter 2.** Demand-side tools that can ensure good jobs for workers and support for employers who invest in a skilled workforce;

- **Chapter 3.** Supply-side tools that can prepare the workforce for the low-carbon transition and ensure skill delivery to employers; and

- **Chapter 4.** Just transition policies to protect workers and communities at risk of displacement and disruption due to climate policy. These include both demand-side and supply-side tools to create a comprehensive planning process to address job loss.

Chapters 5 through 11 of the report address the six Scoping Plan sectors: Energy, Transportation, Industry, Waste, Water, and Land. First, Chapter 5 provides an overview of the sectors’ importance in terms of emissions and emissions reduction efforts, the industries and occupations that are affected by climate policies, and an explanation of this report’s approach to analyzing job impacts and developing workforce recommendations. The report’s recommendations are first explained in the three chapters on policy tools and then applied where relevant in the Scoping Plan sector chapters.
Endnotes


3  Garcia, Sec. 38591.3.b.


7  A summary of these meetings is included as Appendix B to this report.


