About this series

California’s Jobs and Climate Action Plan for 2030 provides concrete recommendations that can be applied in other states and the nation to ensure that workers are supported as policies to meet stringent greenhouse gas emissions reductions are implemented. It is premised on the value of a high-road economy, in which businesses pay the wages and benefits necessary to attract and retain skilled workers, who in turn perform high-quality work.

The Action Plan identifies specific complementary labor policies that can be incorporated into climate policies to generate family-supporting jobs and career pathways for disadvantaged workers. It then shows how training investments can deliver the skills required to perform these high-quality jobs and broaden access for all workers. It also provides recommendations on the transition for workers in declining industries to comparable livelihoods if jobs are lost.

Briefs in this series summarize the recommendations for some of the critical climate sectors addressed in the Action Plan: electricity generation, energy efficiency, electric vehicle manufacturing and charging infrastructure, public transit and infill development, trucking, and waste.

Role of electric power generation in climate action

California has set a goal of 100% zero-carbon electricity generation by 2045. Emissions from electricity have thus far been reduced by 43% between 1990 and 2017. The main policy driving the adoption of carbon-neutral sources for electricity generation is the Renewables Portfolio Standard, and as a result there has been job growth in the construction of large, utility-scale renewable power facilities. Federal and state tax credits, rebates and subsidies, and net metering and feed-in tariff policies are also driving job generation in renewables, and these policies have been particularly critical to the growth of small-scale distributed energy generation projects such as rooftop solar.

The electric power generation sector will continue to play a major role in achieving emissions reductions as the state continues implementation of its Renewables Portfolio Standard to meet its goal.
Ensuring that renewable energy generation creates family-supporting jobs in middle-class careers

The majority of jobs in both utility scale and distributed renewable energy are in blue-collar construction occupations, making up about three-quarters of the jobs in renewable energy construction. However, there is a dramatic difference in the quality of jobs and careers between the utility-scale and distributed energy segments.

The construction of utility-scale renewable power facilities has been a major success in generating high-road middle-class skilled construction trades jobs in California. These facilities have been built almost exclusively under project labor agreements, which ensure prevailing wages, full pension and health benefits, and payment into and use of the registered apprenticeship system. Some of these agreements, often called community workforce agreements (CWAs), include goals for improving job access—the hiring of workers from disadvantaged groups into career-track jobs in the skilled construction trades. Along with investments in pre-apprenticeship programs, these agreements have a strong track record in California and other states of providing successful career pathways for immigrants and workers of color.

Workforce outcomes from distributed energy generation, supported by rebates and net metering, have been markedly less positive. Wages are lower, benefits are minimal, and career pathways are much more limited; most training is informal and on the job.

The promotion of project labor or community workforce agreements in California, which has supported middle-class careers, is part of the state's strategy to ensure job quality and broaden access. California has also developed a statewide pre-apprenticeship strategy to advance construction careers as a reliable pathway to the middle class for disadvantaged Californians, investing nearly $40 million in pre-apprenticeship partnerships across the state. These training partnerships link local building trades councils to workforce boards, community colleges, and community-based organizations, creating structured pathways—with a standard core curriculum and critical supportive services—to state-certified apprenticeships in a variety of skilled construction crafts. They have a strong record of very high placement into registered apprenticeship for workers with significant barriers to employment, including veterans, women, and formerly incarcerated workers.

There are a few strategies for deploying distributed solar generation in ways that would generate substantially better jobs and training pathways. One is to include mandatory skill and/or wage standards in incentive programs. Another is to shift the focus of government assistance away from rooftop solar for individual homeowners and onto programs that support community-scale solar and projects in the municipal, university, schools and hospital (MUSH) sector, where labor standards are easier to implement. In addition, public investments in solar training should avoid stand-alone trainings that do not lead to middle-class skilled trades careers, but instead should be part of registered apprenticeships in the construction trades.

Case study: Job quality and job access in utility-scale renewables

California's Renewables Portfolio Standard is a powerful example of a state mandate that has been exceptionally successful in both reducing emissions and creating high-quality career pathways for a diverse pool of workers. Due to the almost universal use of project labor agreements on utility-scale renewable energy development, construction of renewable energy power plants is performed by highly-trained construction workers, ensuring quality and efficiency in project delivery. Each project built under a project labor agreement contributes funds to apprenticeship programs; these funds are used to develop the next generation of skilled construction workers who earn while they learn on their way to a middle-class career.

A case study of 27 solar projects built between 2013 and 2017 in Kern County under project labor agreements showed a strong record of local hiring of workers from disadvantaged communities. Among electrical workers, who made up the majority of those employed on these projects, 43% of new entry-level workers were residents of disadvantaged communities. Overall, more than 2,700 union electrical workers were employed on these projects during these years. More broadly, the study found considerable ethnic and racial diversity in the apprenticeship programs of the 16 labor unions that have built most of California's renewable energy plants from 2002 to 2017. The share of people of color entering an apprenticeship program in these trades reached 60% in 2017, higher than the share of people of color in the state's workforce. (For more details, see Nikki Luke et al., 2017, “Diversity in California's Clean Energy Workforce: Access to Jobs for Disadvantaged Workers in Renewable Energy Construction,” http://laborcenter.berkeley.edu/diversity-in-californias-clean-energy-workforce/)
### Key recommendations for low-carbon energy generation

#### Job Quality Policies: to ensure family-supporting jobs

| Utility-Scale Renewables | Require bidders on new procurement or power purchase agreements for renewable energy facilities to disclose information about their labor practices or give preference to those who use project labor agreements.  
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<td>Structure bidding to mandate or encourage project labor agreements that include targeted hire of workers from disadvantaged communities.</td>
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<td>Distributed Generation</td>
<td>Include fair and responsible employer standards (including skill standards, verification of compliance with labor law, and wage standards such as prevailing or living wages) in incentive programs and net metering policies to ensure safe and proper performance and good jobs.</td>
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<td>Focus resources on program models that increase the scale of projects, such as community solar and projects in the municipal, university, schools, and hospital (MUSH) sector, in order to facilitate the incorporation of skilled and trained workforce requirements.</td>
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<td>All Low-Carbon Energy Sectors</td>
<td>Include worker representatives and incorporate in-state jobs, job quality, and job access as explicit goals in key proceedings and industrial planning venues that address the transformation of the electricity sector.</td>
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<td>Use job impact metrics to measure the impact of clean energy investment programs on quantity of jobs, job quality, and job access.</td>
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#### Workforce Training Strategies: to prepare current and future workers and provide needed skills to employers

| All Low-Carbon Energy Sectors | Fund and participate in statewide pre-apprenticeship training strategies.  
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<td>Use solar rooftop as on-the-job training for registered apprenticeship preparation.</td>
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<td>Track training program outcomes for graduation rates, attainment of industry-recognized credentials, job placement, retention, wages and wage progression.</td>
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The report “Putting California on the High Road: A Jobs and Climate Action Plan for 2030” offers a vision and plan for integrating economic and workforce development into major climate policies and programs to help achieve California’s major climate goals: achieving 2030 greenhouse gas emission reduction targets and transitioning to a carbon neutral economy by 2045. It was prepared by the UC Berkeley Labor Center and lead author Carol Zabin, and was submitted by the California Workforce Development Board to the state legislature in September 2020.

View the full report along with briefs in this series at: https://laborcenter.berkeley.edu/putting-california-on-the-high-road-a-jobs-and-climate-action-plan-for-2030/.