

# California's Climate Goals Will Create One Million New Jobs

Summary of "A Program For Economic Recovery And Clean Energy Transition In California" by Robert Pollin, Jeannette Wicks-Lim, Shouvik Chakraborty, Caitlin Kline and Gregor Semieniuk

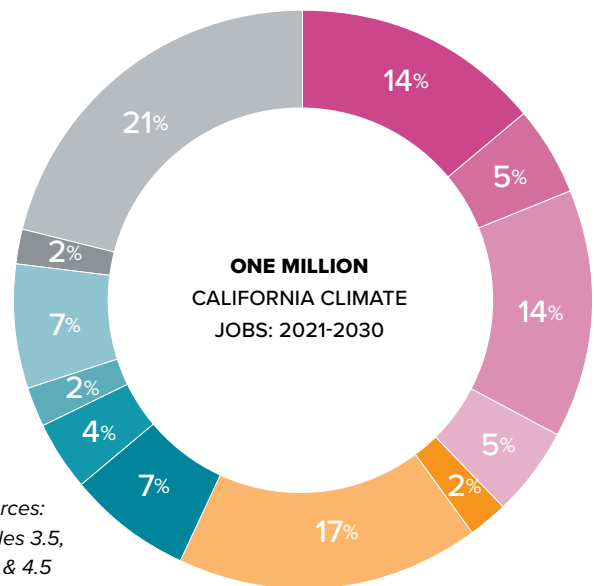
Investments to meet California's existing climate goals and to strengthen the state's infrastructure and agricultural economy will create 1 million new jobs through 2030 as soon as these investments are at full scale. Major new opportunities will open up for electricians, carpenters, ironworkers, bus drivers, teachers, engineers, planners and maintenance workers, to name a few careers.

These jobs in climate transition, infrastructure and agriculture are a cornerstone of California's COVID recovery. Other crucial elements of a just recovery from COVID include permanently expanding the provision of high-quality universal health care and ending racial disparities in employment opportunities.

California is already committed to cut greenhouse gas emissions by 50% by 2030 and to reach net zero emissions by 2045. Achieving the 2030 goal, along with upgrading the state's infrastructure and agricultural economy, will require \$138 billion per year in combined investments in clean energy, manufacturing, infrastructure, and displaced worker relief programs. Half of total spending, or about **\$70 billion per year**, could be provided by private investors, and half through public spending.

## Creating Union Climate Jobs

These job opportunities will expand California's workforce by more than 5% of total employment from 2019. It will be critical to ensure that these are good-quality jobs, in terms of compensation, benefits (health care, paid sick leave, retirement etc), access to union representation (including card check agreements), and training opportunities as needed. Local and targeted hire provisions are necessary to ensure equitable access by race and gender to these expanding job opportunities.



- **Solar:** 146,080 jobs (14%)
  - **Onshore Wind:** 51,480 jobs (5%)
  - **Other Renewable Energy:** 150,000 jobs (14%)
  - **Energy Efficiency:** 47,390 jobs (5%)
  - **Public Transportation:** 22,960 jobs (2%)
  - **Roads and Bridges:** 178,220 jobs (17%)
  - **Schools:** 70,380 jobs (7%)
  - **Water/Wastewater:** 36,660 jobs (4%)
  - **Broadband:** 21,840 jobs (2%)
  - **Other Manufacturing & Infrastructure:** 77,576 jobs (7%)
  - **Land Restoration:** 24,301 jobs (2%)
  - **Agriculture:** 217,099 jobs (21%)
- TOTAL: 1,043,986 (100%)**



## Build California Back Better

### Job Creation in California's Clean Energy Transition

- Investments will dramatically expand the supply of **clean renewable energy**—including solar, wind, and geothermal—and improve **energy efficiency** in California's buildings, automobiles, public transportation systems, and industrial production processes.
- Investing \$76 billion per year in renewable energy and energy efficiency projects in California over 2021 – 2030 will generate 40% of new jobs, an average of 418,000 jobs per year in the state.**
- Private sector would account for 90% of clean energy investments, public sector 10%.
- New job opportunities will be created in a wide range of areas, including construction (electricians, carpenters, plumbers, laborers, welders), public transportation, engineering, sales, management, production, and office support.
- Current average total compensation in these occupations mostly range between \$70,000 - \$95,000 per year.

### Job Creation in Manufacturing, Public Infrastructure & Agriculture to help meet emission reduction targets

- In 2018, the American Society of Civil Engineers (ASCE) gave an overall grade of C- to California's public infrastructure.
- Public investments of \$62 billion per year in manufacturing, critical infrastructure upgrades, land restoration and agriculture will generate 60% of new jobs, an average of 626,000 jobs per year in California.**
- Investments include universal broadband access; expansion and upgrading of public buildings, including schools and

university campuses; water management; repairing leaky gas pipelines; closing orphaned oil and gas wells; regenerative agriculture; farmland conservation and resources for marginalized farmers.

- Major areas of job expansion will be in freight moving (30%), construction (24%), and public sector employment (14%). Jobs will expand for electricians, pipelayers, drivers, water treatment plant operators, educators, recreation workers, administrative assistants and bookkeeping clerks, and for farm, forestry, and conservation workers.
- Compensation in these occupations span a wide range, from \$150,000 - \$190,000 per year on the high end for work remediating oil wells and repairing gas pipelines, to the mid-range of \$85,000 per year for water systems work, to the lower end of \$26,000-30,000 per year for farmworkers and recreation workers.

### Public Sector Job Creation: Almost 100,000 new jobs

- A robust public sector is critical to ensure safe and effective build out of clean energy, manufacturing and infrastructure upgrades across the state. These jobs tend to be good jobs with higher-than-average unionization rates.
- In total, **about 96,000 of the 1 million new jobs created will be in the public sector, or about 9.6 percent of total job creation.**

### Clean Energy Investments Will Lower Energy Costs for California Families

- Renewable energy costs** (wind, solar, geothermal, and hydro power) are all presently roughly **equal to or lower than** the costs of fossil fuels (oil and gas) and nuclear energy.
- Raising energy efficiency standards means consumers spend less for a given amount of energy. The average California household should be able to **save nearly 40%** on their overall annual energy bill.

#### ONE MILLION JOBS CREATED & INVESTMENTS NEEDED | 2021-2030 (ANNUAL AVERAGES)

	Investment Needed	Total Jobs Created*
Energy Efficiency Jobs	\$9.3 billion (\$930 M in public spending)	70,350
Renewable Energy Jobs	\$66.4 billion (\$6.7 B in public spending)	347,560
<b>Total energy</b>	<b>\$75.5 billion (\$7.6 B in public spending)</b>	<b>417,910 (40% of jobs created)</b>
Manufacturing & Public Infrastructure	\$39.2 billion	384,676
Land Restoration & Agriculture	\$22.6 billion	241,400
<b>Total Manufacturing, Infrastructure &amp; Agriculture</b>	<b>\$61.8 billion</b>	<b>626,076 (60% of jobs created)</b>
<b>Total</b>	<b>\$137.5 billion (\$69.4 B in public spending)</b>	<b>1,043,986</b>

#### THIS REPORT IS ENDORSED BY:

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- California Federation of Teachers
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- United Steelworkers 675
- United Steelworkers 5
- Communication Workers of America District 9
- IFPTE Local 21
- California Faculty Association – San Francisco State University Chapter
- UAW 5810
- UAW 2865
- Unite Here Local 30
- UPTE-CWA 9119
- Alameda Labor Council

\*Including those created through supply chain and by the impact of people spending their incomes

Source: Table 5.1