

California's Renewables Portfolio Standard (RPS) Program

California's Renewables Portfolio Standard (RPS) has positioned the state as a global leader in renewable energy and helped attract billions of investment dollars to industries that have directly or indirectly supported the development of new generation sources. This clean, safe, and homegrown electricity has helped California reduce harmful air pollution and global warming emissions. And unlike fossil fuels, which are finite sources of energy with historically volatile prices, renewable fuels such as wind and solar energy provide free and inexhaustible sources of electricity. In short, California's investment in renewable energy is creating a more diverse and resilient electricity supply that will keep the lights on in the Golden State for decades to come.

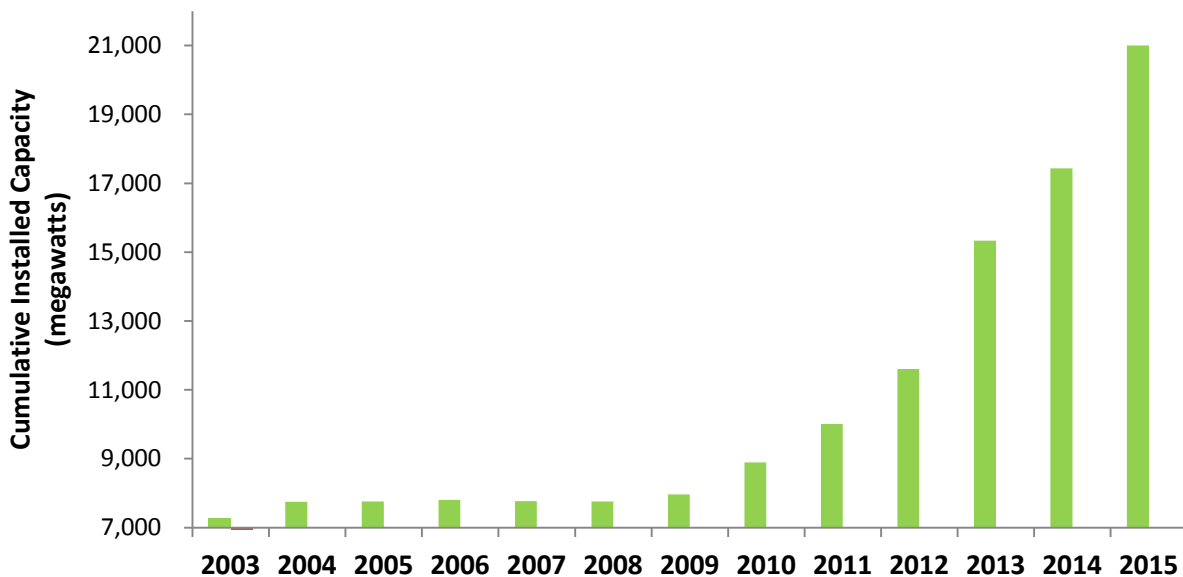
The RPS has pushed California to capitalize on its vast renewable energy potential.

California's RPS, which requires utilities to produce 50 percent of their retail electricity from clean, renewable sources by 2030,

California's RPS is a market-based policy requiring utilities to deliver 50 percent of their retail electricity from clean, renewable sources by 2030.

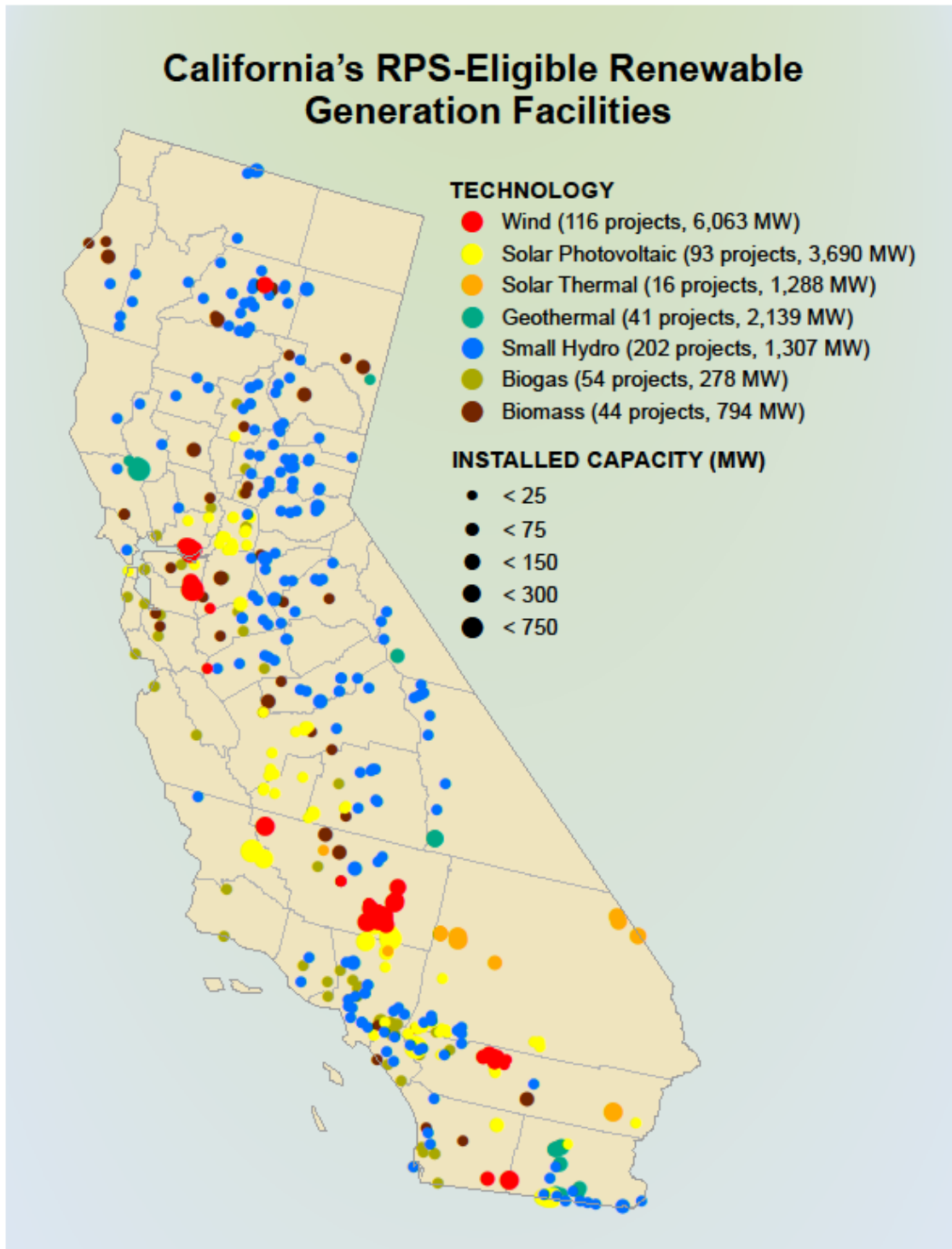
will result in more clean energy generation than anywhere else in the country. The RPS is technology-neutral, which gives utilities the ability to purchase whatever mix of qualified renewables works best for their portfolio. This market-based approach has spurred investments in a variety of renewable resources including solar photovoltaics (PV), solar thermal, wind, geothermal, biomass, and biogas—fulfilling the promise of California's materially and geographically diverse natural resources. In addition, this diversity supports a reliable electricity grid because different types of technologies generate power at different times, creating a smoother and more consistent flow of electricity over the course of a day, week, or month.

FIGURE 1. In-State Renewable Generation Capacity, 2003–2015



SOURCE: CALIFORNIA ENERGY COMMISSION, DATA THROUGH JUNE 30, 2015.

FIGURE 2. California's RPS-Eligible Renewable Generation Facilities



Today there are more than 500 projects in California generating nearly 50,000 gigawatt-hours of clean and reliable electricity each year, accounting for roughly 25 percent of all electricity generated in the state (CEC 2015). This is enough electricity to power more than 5 million homes, and that number is expected to more than double by 2030.



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Since the RPS was enacted in 2002 with bipartisan support, California’s electricity rates have remained stable while construction and generation costs for renewable facilities have fallen dramatically. Installed renewable generation capacity in the state has tripled (Figure 1). Nearly every county in the state hosts renewable energy projects (Figure 2), with new projects concentrated in the counties most in need of economic stimulation. Indeed, the majority of projects built in the last decade—almost three-quarters of the state total—are located in counties with unemployment levels of 6 percent or higher (BLS 2016). These new projects have supported jobs for local residents and helped jump-start the revitalization of local economies.

In 2012, California became the first state to install more than one gigawatt of new solar PV in one year, and has now surpassed three gigawatts of PV (including rooftop installations that serve on-site energy needs). California also led all states but one in new wind energy deployment in 2012, with 1.65 gigawatts. Wind power now meets more than 5 percent of California’s electricity needs.

The RPS is helping California reduce air pollution and mitigate climate change.

Without the RPS, the state would rely a lot more on polluting fossil fuels than it does today. California’s renewable generation in 2014 was equivalent to generation from the 14 biggest generating natural gas plants in the state, which emitted roughly 24 million metric tons of carbon dioxide during the same timeframe. This means renewable energy is already

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helping Golden State residents avoid an amount of global warming pollution equal to that produced by 5 million typical cars (EPA 2016; CEC 2014; EPA 2014).

Electricity generation was once one of California’s top sources of heat-trapping emissions that contribute to climate change. But thanks to a combination of energy conservation, clean energy investment policies (including the RPS), and changes in California’s economy, emissions from the electricity sector declined 14 percent—more than any sector—between 2003 and 2013 (CARB 2015).

Electrifying vehicles will reduce pollution from cars and trucks.

The transportation sector is responsible for the largest source of heat-trapping emissions in California, and is the primary source of toxic air pollution. Several studies that analyzed how California could make deep cuts in global warming pollution all concluded that it will be necessary to electrify a large portion of the light-duty car and truck, rail, and bus fleets in the coming decades (Wei et al. 2013; Greenblatt et



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al. 2011; Williams et al. 2011). With more electric vehicles on the road, strong clean energy policies will be critical to reducing emissions in both the electricity and transportation sectors of California's economy.

Clean energy development is an economic catalyst.

The state's leadership on clean energy has put people to work: the American Wind Energy Association and the Solar Foundation estimate that California's wind and solar industries currently employ more than 79,000 people (AWEA 2015; Solar Foundation 2015).

In addition, California led the nation in the amount of clean energy venture capital—more than \$2 billion—it attracted in 2015. That amount is greater than the total invested in the next nine states combined (Clean Edge 2016).

California should begin planning now for the next phase of clean energy investments.

Although the current RPS does not expire until 2030, the state should not wait that long to decide how it plans to move forward on clean energy. Markets and investors need long-term policy signals like the RPS to continue driving growth in the clean energy sector, which remains one of the brightest spots in California's economy. Since investments in a cleaner electricity grid take years to pay off, the state should be thinking now about how to maximize its clean energy generation potential in the decades to come.

The state still relies on fossil fuels—coal and natural gas—to supply nearly 50 percent of its electricity needs (CEC 2014). In the coming decade, California will face significant decisions regarding how to modernize its aging generation fleet and electricity grid, while reducing its air pollution and global warming emissions. To ensure that clean energy will be ready to meet our long-term electricity needs, California needs a strong and lasting policy that will encourage additional renewable energy investments in the years after 2030.

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