

California's Renewables Portfolio Standard

Standard: Slashing Pollution, Creating Jobs



California's ambitious Renewables Portfolio Standard (RPS) requires that by 2020 at least 33 percent of all electricity flowing into our homes and offices be sourced from renewable energy. The standard is propelling clean renewable energy development, slashing pollution, and spurring economic growth throughout the state. As California's primary tool in driving utility-scale renewable energy development, the RPS has played a significant role in decarbonizing California's electric grid and reducing harmful carbon emissions. In January 2015, Governor Jerry Brown proposed increasing the state's renewable energy goal from 33 percent to 50 percent by 2030. Achieving the governor's goal is a critical piece of the state's long-term strategy to reduce climate-changing pollution and will help ensure California's clean energy success story continues.

COSTS AND POLLUTION DOWN, JOBS AND INVESTMENT UP

The RPS requires a minimum percentage of the state's electricity be provided by renewable technologies like wind, solar, geothermal, small hydro, and biomass. As these technologies have matured, the cost of renewable energy has plunged. Solar photovoltaic (PV) contract costs for California's largest utilities declined by 62 percent on average since 2007. By 2016, they are predicted to match the cost of electricity purchased from the grid.¹ According to a 2014 report by the California Energy Commission, those trends will continue across renewable technologies. When assessed over the lifetime of the facility generating it, electricity from most renewable sources is now cheaper than natural gas and is expected to become even more price-competitive over the next 10 years.² The decline in costs has accompanied a boom in renewable energy jobs. In 2013 alone, employment in California's solar industry grew by nearly 16 percent—10 times faster than the statewide average.³

CLEAN ENERGY FUELS CALIFORNIA GROWTH

In addition to reducing greenhouse gases and other pollutants from power plants, the RPS is powering California's burgeoning clean energy economy. Since 2008, investment in utility-scale renewable energy generation alone has topped \$20 billion in California.⁴ As the RPS drives more renewable energy onto the grid, it creates demand for a skilled green workforce. In addition, renewable energy generation creates more jobs per unit of electricity than fossil fuel generation.¹⁰

California's Renewable Energy Milestones

- More than 100,000 jobs created across California and billions of dollars in investments⁵
- Utilities on track to meet 33 percent target by 2020, ahead of schedule and below cost⁶
- By 2020, renewable energy will power 6.4 million⁷ California homes and reduce harmful carbon emissions by over 21 million metric tons annually⁸
- 4 out of 5 Californians support increasing the state's renewable energy target to 50 percent by 2030⁹

A 2014 report calculated that nearly 95,000 Californians are employed by renewable energy firms, on top of the more than 8,500 Californians working on advanced electric grid technologies like energy storage.¹¹

EXTENDING CALIFORNIA'S LEADERSHIP

In 2014, an estimated 25 percent of California's power came from RPS-eligible renewable generation, placing the state two full years ahead of its phased-in compliance schedule.¹² That momentum is poised to continue: a National Renewable Energy Laboratory study shows that reaching (and surpassing) 50 percent renewables by 2030 is not only achievable, it will create "minimal rate impacts, uncompromised reliability, and widespread economic development."¹³



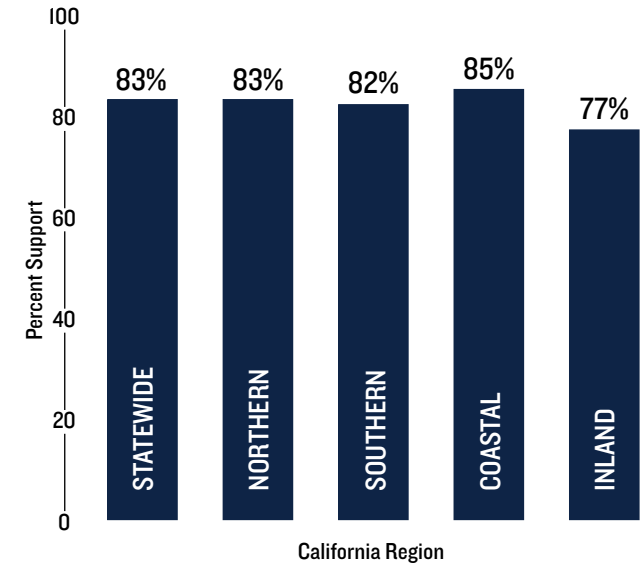
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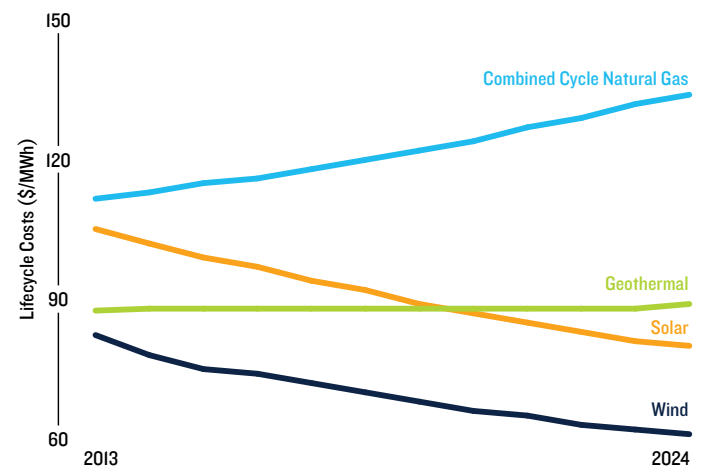
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A 2015 survey shows that an overwhelming 83 percent of Californians support setting a target for the state to generate 50 percent of its electricity from renewable resources, with strong majorities in every region and across party lines.¹⁴ Thanks to policies like the RPS, it's a target California is well on its way toward achieving.

Public Support for 50% Renewables, by Region: February 2015 Survey



Comparing Electricity Costs in California: Renewables vs. Natural Gas Generation

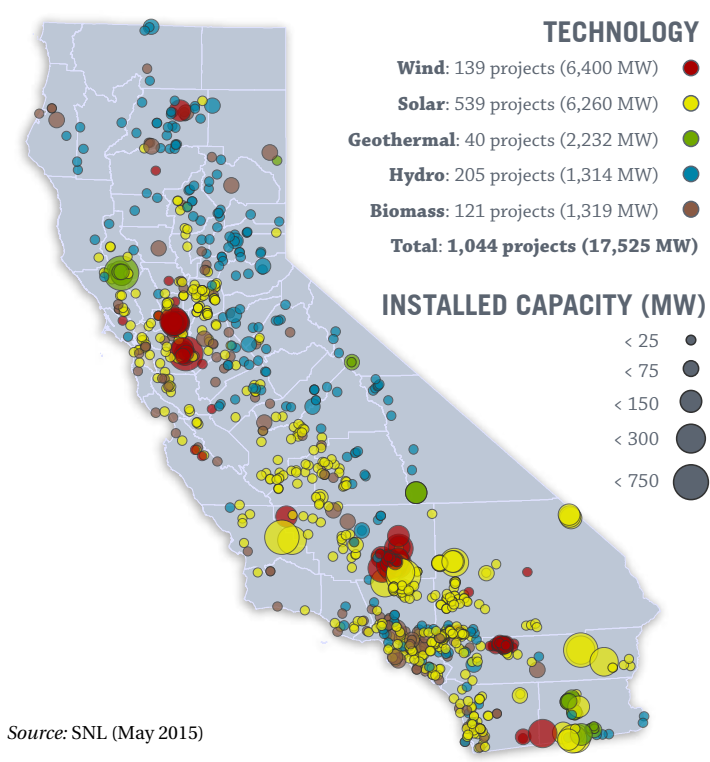


Source: CEC (2014)

RPS Legislative History and Targets

- 2002 (SB 1078): 20 percent renewables by 2017
- 2006 (SB 107): 20 percent renewables by 2010
- 2011 (SB 2 1X): 33 percent renewables by 2020

California's RPS-Eligible Renewable Generation Facilities



Source: SNL (May 2015)

Endnotes

- 1 Pfund, N. and Chhabra, A., *Renewables Are Driving Up Electricity Prices: Wait, What?*, DBL Investors, March 2015, www.dblinvestors.com/wp-content/uploads/2015/03/Pfund-Chhabra-Renewables-Are-Driving-Up-Electricity-Prices-Wait-What.pdf.
- 2 Rhyne, I. and Klein, J., *Estimated Cost of New Renewable and Fossil Generation in California*, California Energy Commission, CEC-200-2014-003-SD, 2014, www.energy.ca.gov/2014publications/CEC-200-2014-003/CEC-200-2014-003-SD.pdf; Bryan Neff, California Energy Commission, personal communication with the author via email on April 3, 2015.
- 3 The Solar Foundation, *California Solar Jobs Census 2014*, 2015, The Solar Foundation, www.thesolarfoundation.org/wp-content/uploads/2015/02/California-Solar-Jobs-Census-2014.pdf.
- 4 Olsen, D. and Hochschild, D., "Renewable energy is a California success story," Los Angeles Times, March 11, 2015, www.latimes.com/opinion/op-ed/la-oe-olsen-hochschild-california-solar-energy-20150312-story.html.
- 5 Advanced Energy Economy Institute, *California Advanced Energy Employment Survey*, Advanced Energy Economy Institute, December 2014, <http://info.aee.net/hs-fs/hub/211732/file-2173902479-pdf/PDF/aeei-california-advanced-energy-employment-survey-fnl.pdf>.
- 6 California Energy Commission, *Summary of Renewable Energy Installations*, California Energy Commission, December 31, 2014, www.energy.ca.gov/renewables/tracking_progress/documents/renewable.pdf.
- 7 Calculated from US EPA Greenhouse Gas Equivalency Calculator, <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>, April 23, 2015, data from Anne Gillette, Jaclyn Marks, California Public Utilities Commission, *33% Renewables Portfolio Standard Implementation Analysis Preliminary Results*, 2009, <http://www.cpuc.ca.gov/NR/rdonlyres/1865C207-FEB5-43CF-99EB-A212B78467F6/0/33PercentRPSImplementationAnalysisInterimReport.pdf>.
- 8 California Air Resource Board, *Climate Change Scoping Plan*, 2008, http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf.
- 9 Survey conducted by Fairbank, Maslin, Maullin, Metz, and Associates for NRDC, *2015 California Environmental Issues Survey*, 2015.
- 10 Union of Concerned Scientists, *Benefits of Renewable Energy Use*, www.ucsusa.org/clean_energy/our-energy-choices/renewable-energy/public-benefits-of-renewable.html#.VTk0U9zF9Fc, (last accessed April 23, 2015).
- 11 See note 5, supra.
- 12 See note 6, supra.
- 13 Center for Energy Efficiency and Renewable Energy Technologies, *Low Carbon Grid Study (LCGS): Phase I Results*, Center for Energy Efficiency and Renewable Energy Technologies, 2015, www.lowcarbongrid2030.org/wp-content/uploads/2014/08/LCGS-Factsheet.pdf.
- 14 See note 9, supra.