

California's Renewable Portfolio Standard: How will Arizona and the Southwest be affected? (Part II)

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The Essentials

- For our analysis of California's 2011 Renewable Portfolio Standard (RPS), please see [California's Renewable Portfolio Standard: How will Arizona and the Southwest be affected?](#)
- Under SB 350, named the "Clean Energy and Pollution Reduction Act of 2015," California recently increased its RPS to 50 percent renewables by 2030 (up from 33 percent by 2020).
- California's goal is more than double what will be needed to comply with the [Clean Power Plan](#) (21 percent by 2030).
- The RPS includes interim targets of 40 percent renewables by the end of 2024, 45 percent by the end of 2027, and 50 percent by the end of the 2030.
- SB 350 also requires demand-side energy efficiency savings for retail consumers of electricity and natural gas to double by 2030. The benchmark for this goal has yet to be determined.

Policy and Purpose

On October 7, 2015, California's governor signed [SB 350 into law](#), requiring California's RPS to increase to 50 percent renewables by the end of 2030.¹ Renewables include biomass, solar thermal, photovoltaic, wind, geothermal, small hydroelectric generation, and ocean wave.² Prior to the enactment of SB 350, California's RPS program required 33 percent of energy from regulated utilities to come from renewable sources by 2020. Utilities were already projected to exceed that goal.³ SB 350 requires a diverse and balanced portfolio of "least-cost and best-fit" renewable energy resources.⁴ SB 350 does not change the "bucket" system already in place to categorize sources of renewable energy.

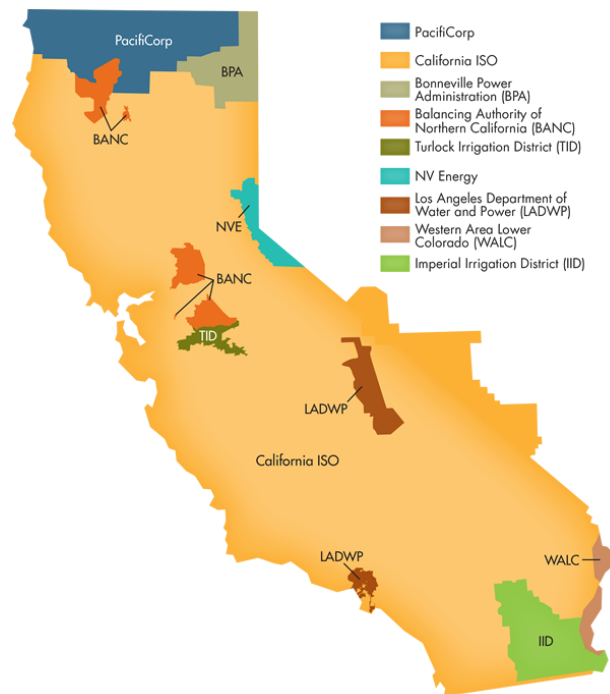
¹ See S.B. 350(Sec. 2), 2015 Reg. Sess. (Cal. 2015); see also Todd O. Maiden, Jennifer A. Smokelin, Phillip H. Babich & Reed Smith, *United States: California Takes the Bronze: Implications and Impacts of California's SB 350*, MONDAQ, http://www.mondaq.com/article.asp?article_id=433568&signup=true (last updated Oct. 12 2015).

² CAL. PUB. RES. CODE § 25741(a)(1)(Deering 2016).

³ *Id.*

⁴ Anne Beaumont, Christopher Chou, James McTarnaghan & Laura Zagar, *Brave New World: SB 350 Increases CA's Renewable Energy and Efficiency Goals*, JD SUPRA, (Oct. 29,

- **Bucket 1 - In-state or in-state equivalent products:** By December 31, 2016, at least 75 percent of renewable energy sources must qualify as Bucket 1 resources.⁵ To qualify as a bucket 1 resource, energy resources must have a first point of interconnection with a California balancing authority, or be dynamically transferred into a California balancing authority.⁶ Most bucket 1 resources will be generated in California. However, some California balancing authorities extend into Arizona and Nevada, which allows some renewable generation occurring outside of California to fall under this category. Below is a map showing the extension of California balancing authorities into Western Arizona.⁷



- **Bucket 2 - Firmed and shaped products that provide incremental power:** Firming and shaping involves combining energy from a renewable energy resource with a traditional energy resource. The purpose is to even

2015), <http://www.jdsupra.com/legalnews/brave-new-world-sb-350-increases-ca-s-50078/>.

⁵ See S.B. 350(Sec. 21), 2015 Reg. Sess. (Cal. 2015) (amending § 399.16 of the Public Utilities Code).

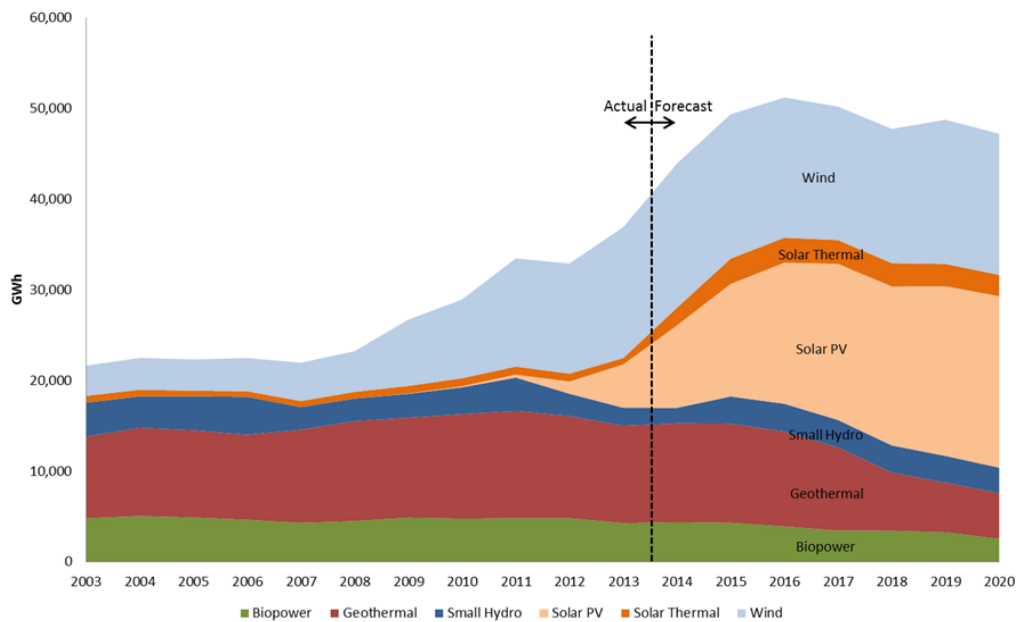
⁶ See *id.*

⁷ CALIFORNIA ISO, *The ISO Grid*, <https://www.caiso.com/about/Pages/OurBusiness/UnderstandingtheISO/The-ISO-grid.aspx> (last visited Mar. 14, 2015).

out the characteristic intermittency of solar and wind energy. The California Public Utilities Commission dictates how out-of-state wind or solar energy must be firmed and shaped to make it marketable to a California retail energy provider.

- **Bucket 3 - Unbundled renewable energy credits (RECs):** This bucket represents renewable energy that is sold separately (or unbundled) from the RECs that are produced along with renewable energy generation. Because RECs can be sold separately, without also requiring power delivery, this category provides the most flexibility to out-of-state generators that do not meet the requirements for Buckets 1 or 2. These distant providers can sell RECs to California utilities for compliance. However, this category comprises the smallest permissible share of total RPS compliance, approximately 10 percent.⁸

In 2014, wind and geothermal sources contributed 36 percent and 25 percent respectively to California’s total renewable generation.⁹ As shown in the figure¹⁰ below, by 2020, solar photovoltaics are forecasted to contribute around 40 percent of California’s total renewable generation:



⁸ See S.B. 350(Sec. 21), 2015 Reg. Sess. (Cal. 2015) (amending § 399.16 of the Public Utilities Code).

⁹ CALIFORNIA PUBLIC UTILITIES COMMISSION, RENEWABLES PORTFOLIO STANDARD: QUARTERLY REPORT, 2ND QUARTER 2015, 7 (2015).

¹⁰ *Id.*

Energy Efficiency Requirements

SB 350 requires energy efficiency in existing buildings to double by 2030.¹¹ It is not clear what the benchmark measurement will be for this mandate. The California Energy Commission must establish annual targets for statewide energy efficiency savings. SB 350 mandates "programs that link incentives directly to *measured* energy savings."¹² Utilities will be able to implement smart meters to track changes in consumption in real time.¹³ This should allow utilities to provide more effective incentives to energy consumers, or price electricity to reduce demand during peak hours.

Studies on Low-Income Customer Access to RE, EE, and Electric Vehicles

SB 350 requires three studies to be conducted regarding barriers to, and opportunities for, access to renewable energy by low-income customers. The legislature found there was "insufficient understanding of the barriers to access for low-income customers to all forms of renewable energy being generated in the state."¹⁴ On or before January 1, 2017, the California Energy Commission must complete two studies. The first is about barriers and opportunities for access to solar and other forms of renewable energy for both low-income customers and small business in disadvantaged communities.¹⁵ The second study must examine barriers for low-income customers to energy efficiency and weatherization investments.¹⁶ On or before January 1, 2017, the State Air Resources Board study must "publish a study on barriers for low-income customers to zero and near-zero-emission transportation options."¹⁷

The legislature also found that improving access to electric vehicles for both low and moderate-income communities would substantially reduce greenhouse

¹¹ Maiden et al., *supra* note 1.

¹² S.B. 350(Sec. 16), 2015 Reg. Sess. (Cal. 2015) (amending § 399.4 of the Public Utilities Code).

¹³ Stephen Lacey, *California's New Energy Bills Could Help Transform How Efficiency Is Measured*, GREENTECH MEDIA (Sept. 24, 2015), <http://www.greentechmedia.com/articles/read/californias-new-energy-bills-could-help-transform-energy-efficiency>

¹⁴ S.B. 350(Sec. 7), 2015 Reg. Sess. (Cal. 2015) (adding § 25327 to the Public Resources Code).

¹⁵ *See id.*

¹⁶ *See id.*

¹⁷ *Id.*

emissions.¹⁸ SB 350 declares: “It is the policy of the state and the intent of the Legislature to encourage transportation electrification as a means to achieve ambient air quality standards and the state’s climate goals.”¹⁹

More specifically, SB 350 mandates that the California Energy Commission, along with the State Air Resources Board and the Energy Commission:

“shall direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, achieve the goals set forth in the Charge Ahead California Initiative . . . and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050.”²⁰

Regionalization of the California Independent System Operator (“CAISO”).

CAISO manages the operation of California's bulk electric power system, operates a wholesale electricity market, and maintains the reliability of its transmission grid.²¹ The legislature included plans to regionalize CAISO in SB 350:

“It is the intent of the Legislature to provide for the evolution of the Independent System Operator into a regional organization to promote the development of regional electricity transmission markets in the western states and to improve the access of consumers served by the Independent System Operator to those markets.”²²

As part of the regionalization of CAISO, SB 350 requires CAISO to conduct one or more studies of the impacts of a regional market, including “overall benefits to ratepayers, including the creation or retention of jobs and other benefits to the California economy, environmental impacts in California and elsewhere, impacts in disadvantaged communities, emissions of greenhouse gases and other air pollutants, and reliability and integration of renewable energy resources.”²³

¹⁸ See S.B. 350(Sec. 32), 2015 Reg. Sess. (Cal. 2015) (adding § 740.12 to the Public Utilities Code).

¹⁹ *Id.*

²⁰ *Id.*

²¹ FED. ENERGY REG. COMMISSION, *Electric Power Markets: California (CAISO)*, <http://www.ferc.gov/market-oversight/mkt-electric/california.asp> (last visited Mar. 14, 2016).

²² See S.B. 350(Sec. 32), 2015 Reg. Sess. (Cal. 2015) (amending § 359 of the Public Utilities Code).

²³ *Id.*

For a more comprehensive review of this expansion, please read the University of San Diego Energy Policy Initiatives Center's blog post by Joe Kaatz titled "Unpacking SB 350: CAISO Regional Expansion" at <http://epicenergyblog.com/2015/11/16/unpacking-sb-350-caiso-regional-expansion/>.

Integrated Resource Plan

SB 350 requires local publicly owned electric utilities to create an integrated resource plan ("IRP"). IRPs must address energy efficiency and demand response resources, energy storage, electric vehicles, a diversified procurement portfolio (with both short-term and long-term electricity and demand response products), and resource adequacy and reliability.²⁴ The IRPs must also show compliance with greenhouse gas emission reduction targets and the new RPS procurement standards.²⁵

Potential Impacts for Arizona

Currently, about three-tenths of California's electricity comes from out-of-state sources.²⁶ California imports wind-generated power from the northwest, but imports mainly coal-fired and nuclear power from the southwest.²⁷ As California places tighter restrictions on electricity generated by fossil fuels, the demand for out-of-state renewable energy will increase. Even though California requires a large portion of its RPS to come from sources directly tied to the grid (bucket 1 sources), there are still opportunities for Arizona generators to sell renewable energy to California.

Learn more

SB 350 Text:

https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB350

Article:

<http://www.latimes.com/politics/la-pol-sac-jerry-brown-climate-change-renewable-energy-20151007-story.html>

²⁴ See S.B. 350(Sec. 35), 2015 Reg. Sess. (Cal. 2015) (adding § 9621 to the Public Utilities Code).

²⁵ *Id.*

²⁶ See U.S. ENERGY INFORMATION ADMIN. *California: Profile State Profile and Energy Estimates*, <https://www.eia.gov/state/analysis.cfm?sid=CA#75> (last updated Sept. 17, 2015).

²⁷ See *id.*

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