

2017 STATUS UPDATE ON RIVERSIDE PUBLIC UTILITIES RENEWABLE PORTFOLIO STANDARD PROCUREMENT ACHIEVEMENTS

Riverside Public Utilities Power Resources Division

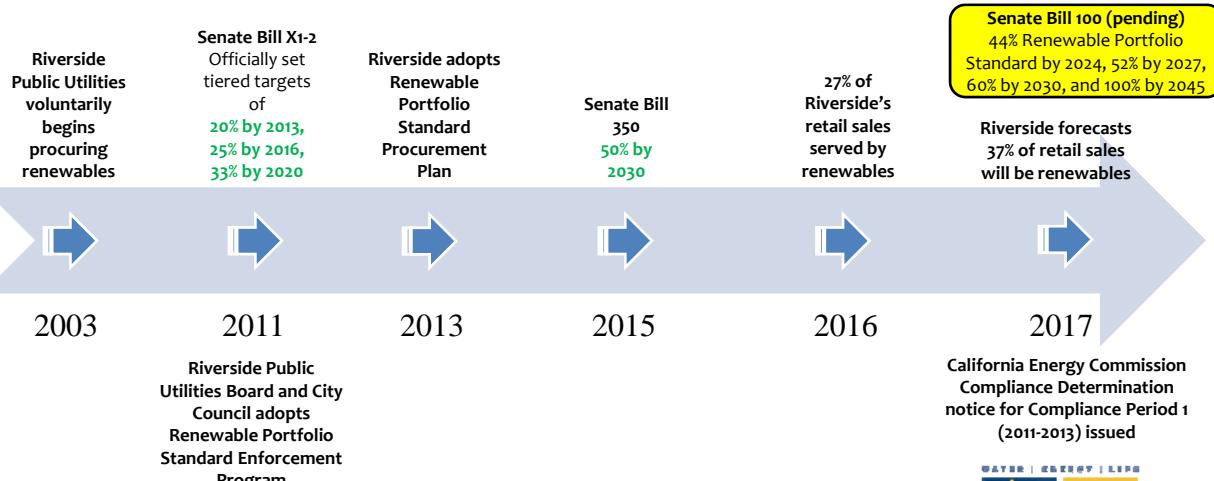
Board of Public Utilities
October 23, 2017

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RENEWABLE PORTFOLIO STANDARD MANDATE TIMELINE AND RIVERSIDE PUBLIC UTILITIES PROGRESS



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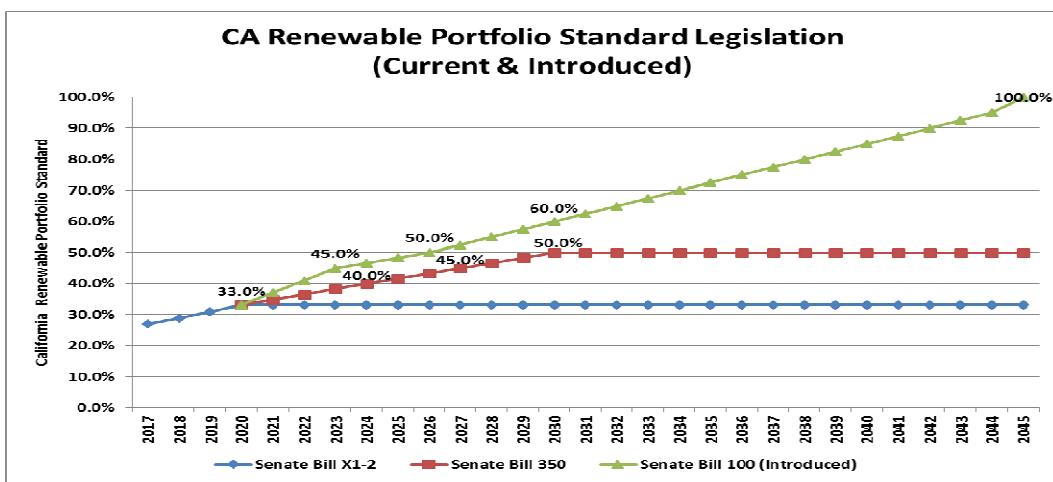
LEGISLATION SUMMARY TABLE

| Legislation | | 2020 | 2026 | 2030 | 2035 | 2040 | 2045 | 2050 |
|------------------------------|---|---|------|--------------------------|------|------|------|--------------------------|
| Renewable Portfolio Standard | Senate Bill X1-2 (2011) Renewable Portfolio Standard | 33% | | | | | | |
| | Senate Bill 350 (2015) Clean Energy & Pollution Reduction Act | | | 50% | | | | |
| | Senate Bill 100 (Introduced) 100% Renewable Portfolio Standard Mandate | | 50% | 60% | | | 100% | |
| Greenhouse Gas | Assembly Bill 32 (2006) California Greenhouse Gas Reduction Mandate | 1990 levels | | | | | | |
| | Senate Bill 32 (2016) California Global Warming Solutions Act | | | 40% below 1990 levels | | | | |
| | Executive Order S-3-05 (2005) | | | | | | | 80% below 1990 levels |
| Energy Efficiency | Senate Bill 1037 (2005) Energy Efficiency | <u>Annually report investments in energy efficiency and demand reduction programs to customers and California Energy Commission</u> | | | | | | |
| | Assembly Bill 2021 (2006) Energy Efficiency | Identify potential energy efficiency savings and <u>establish 10-year energy efficiency targets</u> | | | | | | |
| | Assembly Bill 802 (2015) Building Energy Use & Benchmarking | <u>Provide energy consumption data for buildings</u> covered under the legislation to the building owners upon request | | | | | | |
| | Senate Bill 350 (2015) Clean Energy & Pollution Reduction Act | <u>Double statewide energy efficiency savings by 2030</u> | | | | | | |
| Energy Storage | Assembly Bill 2514 (2010) as amended by Assembly Bill 2227 (2012) Energy Storage | <u>Establish energy storage procurement targets to be achieved by 2016 and 2020</u> | | | | | | |

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CALIFORNIA RENEWABLE PORTFOLIO STANDARD LEGISLATION PROJECTIONS



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RIVERSIDE PUBLIC UTILITIES RENEWABLE RESOURCES

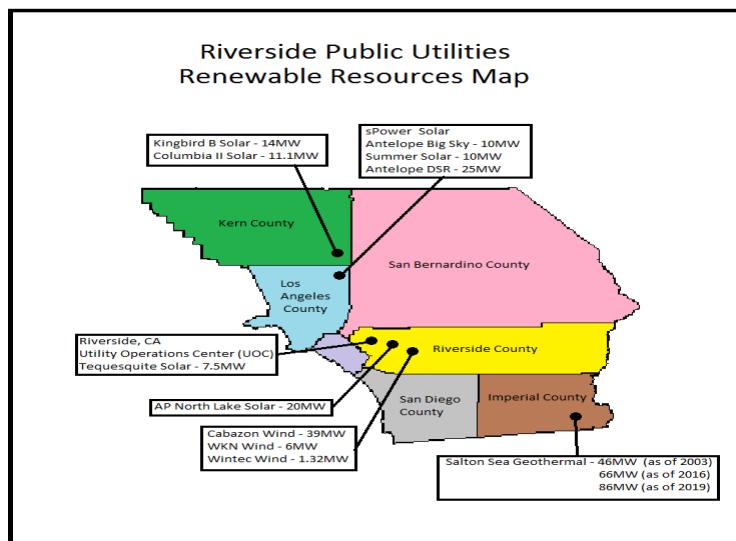
| Project Name | Resource Type | Capacity (MW) | Generation (MWh) | % of Retail Sales | Start Date | End Date |
|---------------------------------|---------------|---------------|------------------|-------------------|------------|------------|
| CalEnergy (Salton Sea Unit 5) | Geothermal | 46.0 | 321,500 | 14.6% | 6/1/2003 | 5/31/2020 |
| CE Portfolio - 2016 incremental | Geothermal | 20.0 | 146,200 | 6.6% | 2/11/2016 | 12/31/2039 |
| CE Portfolio - 2019 incremental | Geothermal | 20.0 | 309,900 | 14.1% | 1/1/2019 | 12/31/2039 |
| CE Portfolio - 2020 incremental | Geothermal | 46.0 | 632,850 | 28.8% | 6/1/2020 | 12/31/2039 |
| Cabazon | Wind | 39.0 | 60,000 | 2.7% | 12/22/2014 | 12/31/2024 |
| Wintec | Wind | 1.5 | 4,600 | 0.2% | 12/28/2003 | 12/30/2018 |
| WKN (Wagner Wind) | Wind | 6.0 | 21,500 | 1.0% | 12/22/2012 | 12/22/2032 |
| Columbia Two | Solar | 11.0 | 32,800 | 1.5% | 11/27/2014 | 12/22/2034 |
| AP North Lake | Solar | 20.0 | 47,500 | 2.2% | 7/28/2015 | 8/11/2040 |
| Kingbird B | Solar | 14.0 | 41,000 | 1.9% | 4/5/2016 | 12/31/2036 |
| Summer Solar | Solar | 10.0 | 22,000 | 1.0% | 7/15/2016 | 12/31/2041 |
| Antelope Big Sky Ranch | Solar | 10.0 | 22,000 | 1.0% | 8/13/2016 | 12/31/2041 |
| Antelope DSR 1 | Solar | 25.0 | 70,300 | 3.2% | 11/18/2016 | 12/19/2036 |
| Tequesquite | Solar | 7.3 | 15,700 | 0.7% | 8/12/2015 | 12/31/2040 |
| UOC | Solar | 0.2 | 150 | 0.0% | early 2001 | N/A |

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RENEWABLE RESOURCES MAP



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DISCUSSION

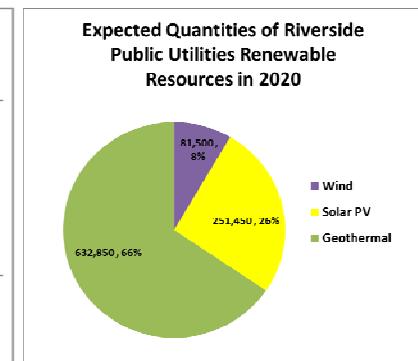
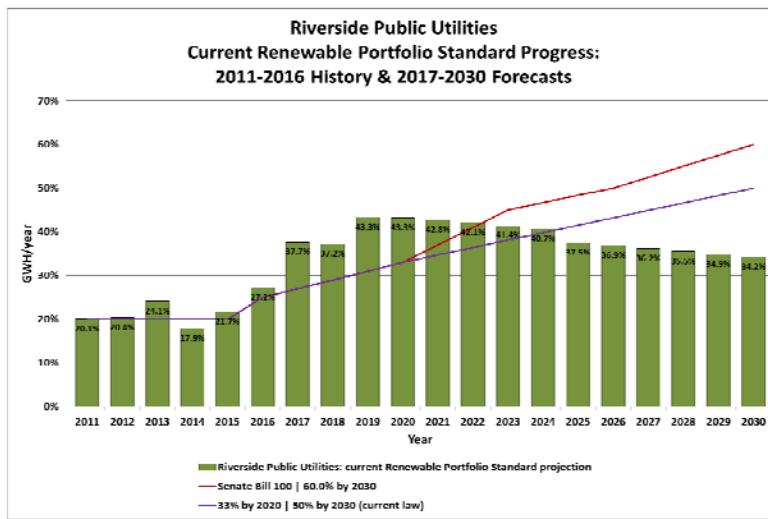
1. Based on current forecasts of retail loads and expected renewable energy generation levels, Riverside anticipates reaching a 43% Renewable Portfolio Standard by 2020, and remaining above a 40% Renewable Portfolio Standard through 2024.
2. Riverside Public Utilities anticipates reaching a 43% Renewable Portfolio Standard by 2020 using a combination of geothermal, wind and solar photovoltaic resources.

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CURRENT RENEWABLE PORTFOLIO STANDARD PROGRESS AND FORECASTS



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RENEWABLE PORTFOLIO STANDARD PROCUREMENT OUTLOOK

1. The utility is expected to remain above the minimum compliance levels through either 2022 (if Senate Bill 100 becomes law) or 2024 (under the current Senate Bill 350 rules).
2. Under either scenario, it will be necessary to procure additional renewable energy resources in the early part of the next decade or use excess renewable energy credits to meet the increasing Renewable Portfolio Standard mandates from 2024-2030.

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RECOMMENDATION

That the Riverside Public Utilities Board receive and file information on the Riverside Public Utilities Renewable Portfolio Standard procurement achievements to date, current Renewable Portfolio Standard projections through 2030, and future anticipated renewable energy mandates and procurement needs.

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