



SB100 California's Renewable Portfolio Standard

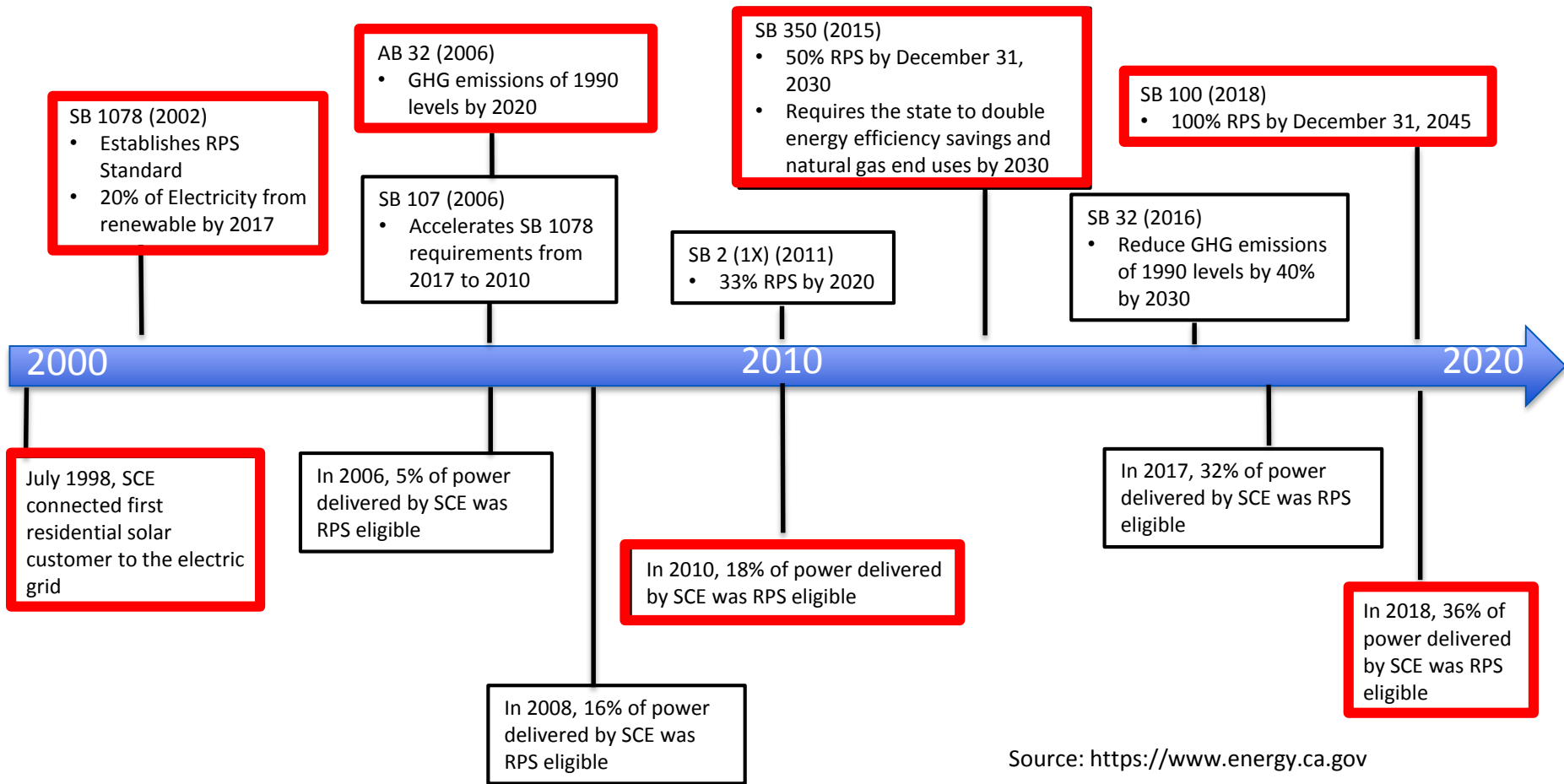
Samuel Robinson

August 14, 2019

Senate Bill 100 Background

- Signed by the Governor on September 10, 2018
- Requires 100 percent of electricity sold to meet Renewable Portfolio Standard (RPS) requirements by December 31, 2045
- Phased implementation:
 - 44% by 2024
 - 52% by 2027
 - 60% by 2030
 - 100% by 2045

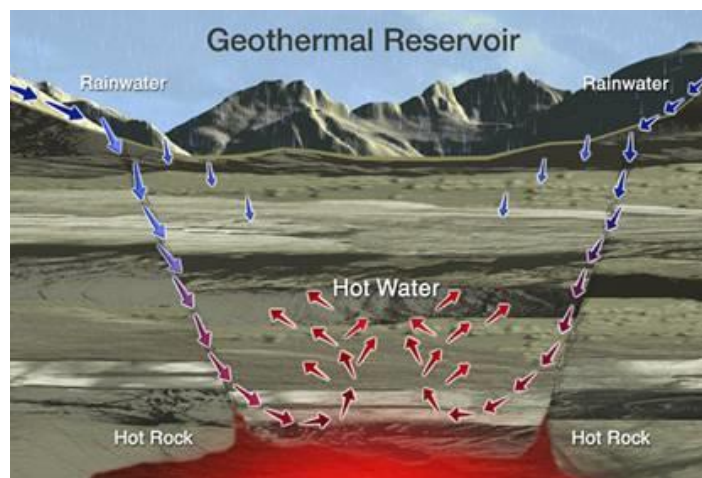
Timeline of RPS and Related Events



Source: <https://www.energy.ca.gov>

RPS Eligible Resources Include:

- Biogas
- Biomass
- Conduit Hydro
- Digester Gas
- Geothermal
- Hybrid
- Landfill gas
- Solar PV
- Solar Thermal
- Wind



SCE Plans for Meeting SB100 Requirements

- Power Procurement - Annual solicitations for utility scale power
 - Solar
 - Solar Thermal
 - Geothermal
 - Bio Power
 - Small/Conduit Hydro
 - Wind



- Energy storage
 - 10,000 MW of additional energy storage by 2030

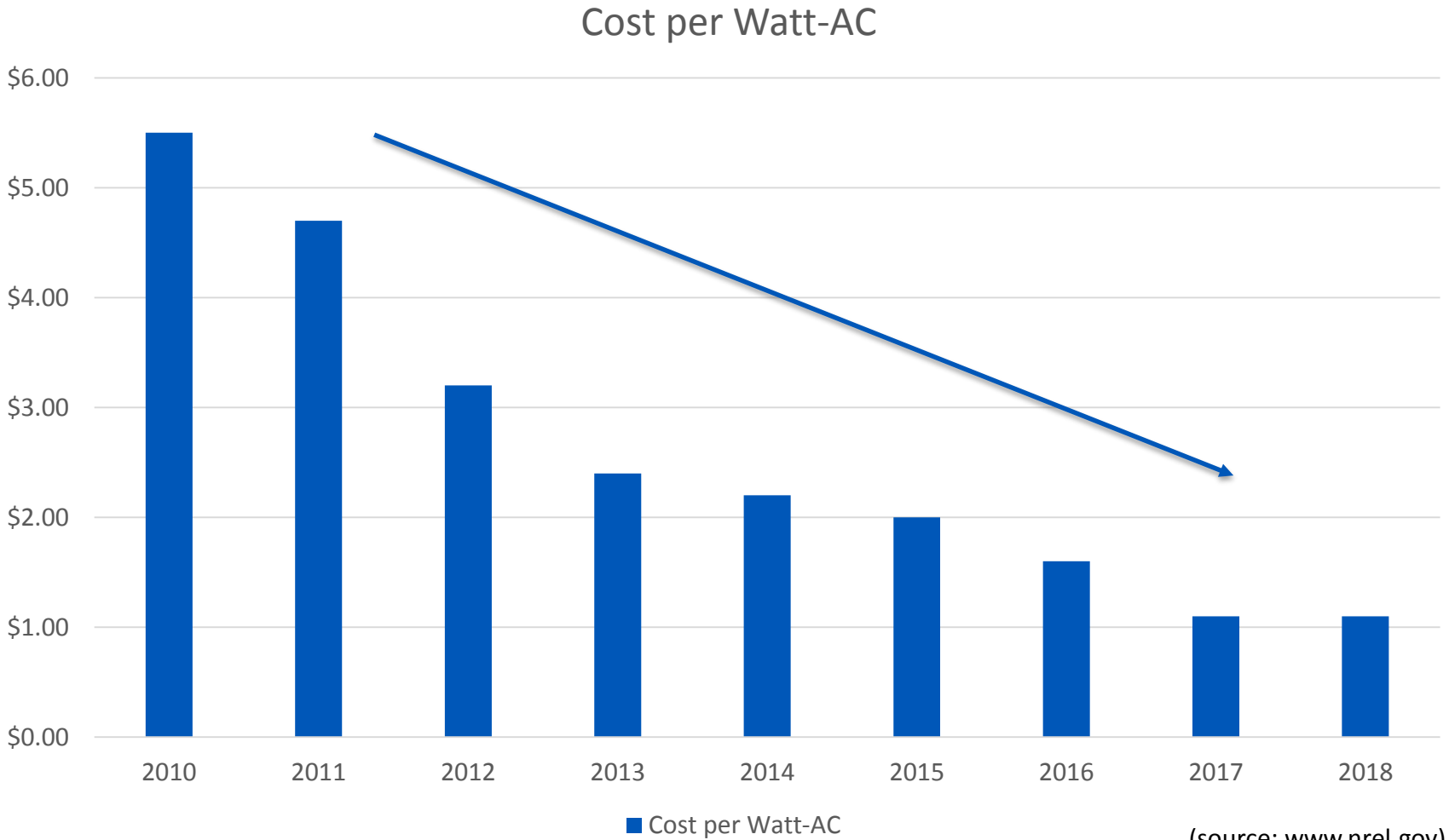
- Further incentivize demand response programs



Moderate Cost Impact from RPS To-Date

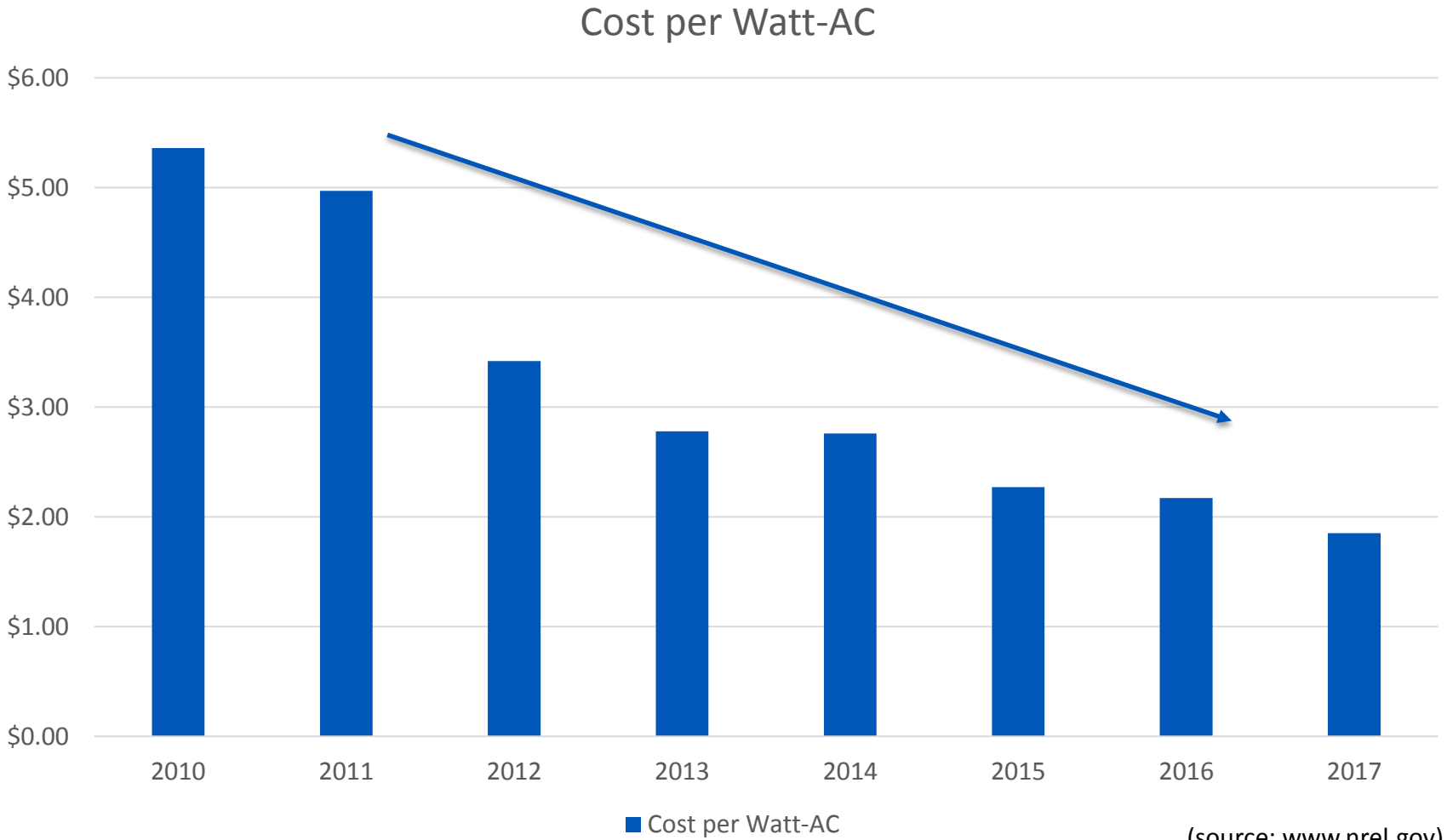
- SCE began sourcing RPS eligible power prior to 2006
 - Over 36 percent of electricity sold is already RPS compliant (2018)
- The CPUC reports historical 10-year cost increases averaged 3.16 percent per year
- The cost of renewable generation continues to decline
- 12 percent less costly than traditional power (such as gas, coal, and nuclear) in 2017 according to the EIA

Cost of Utility Scale Solar (100MW)



(source: www.nrel.gov)

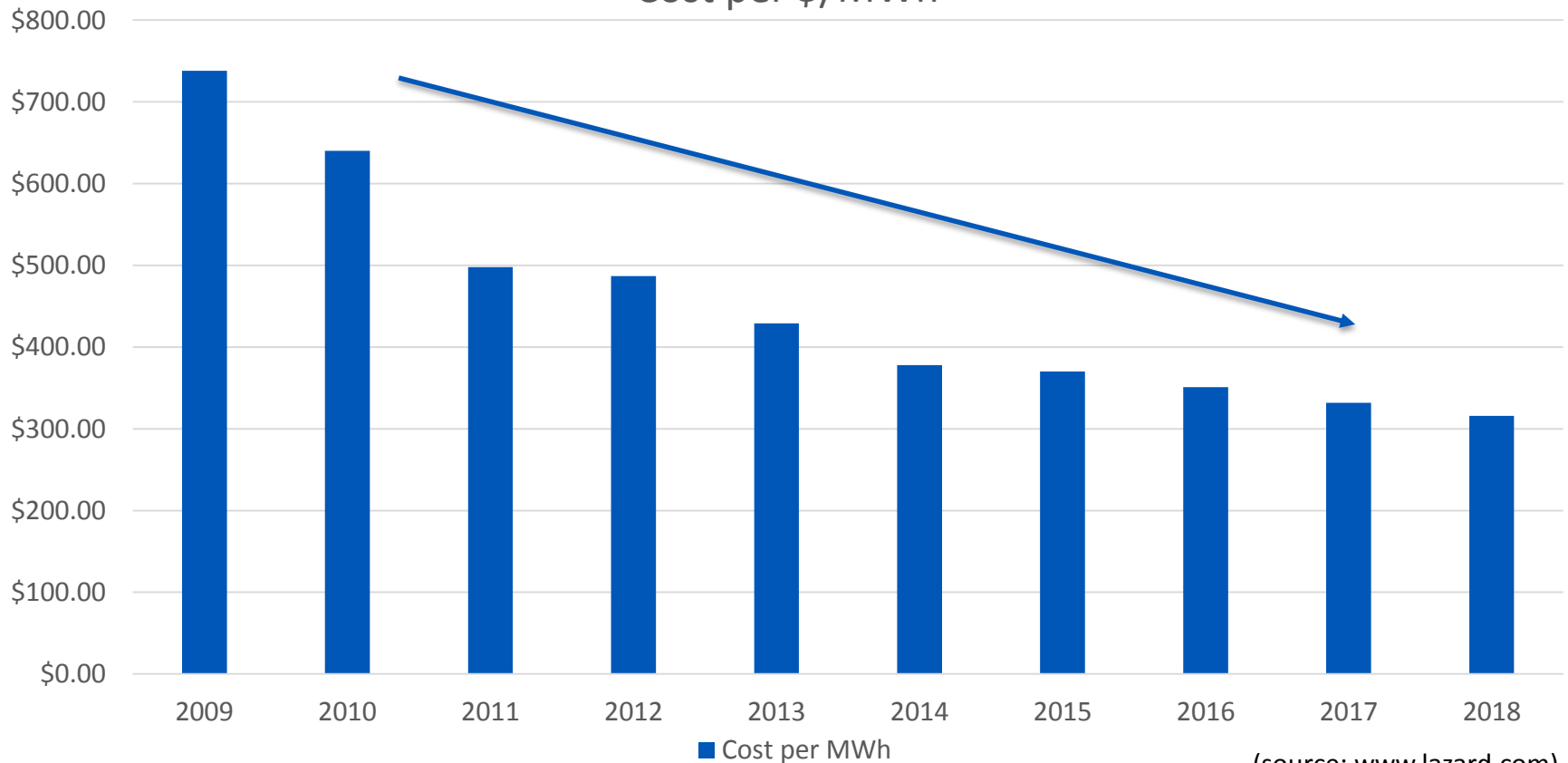
Cost of Commercial Solar (200kW)



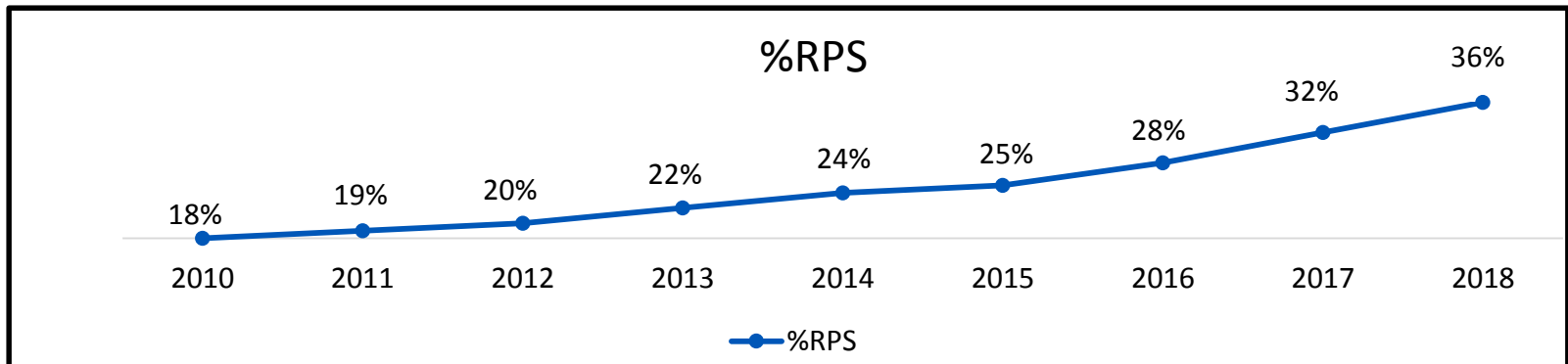
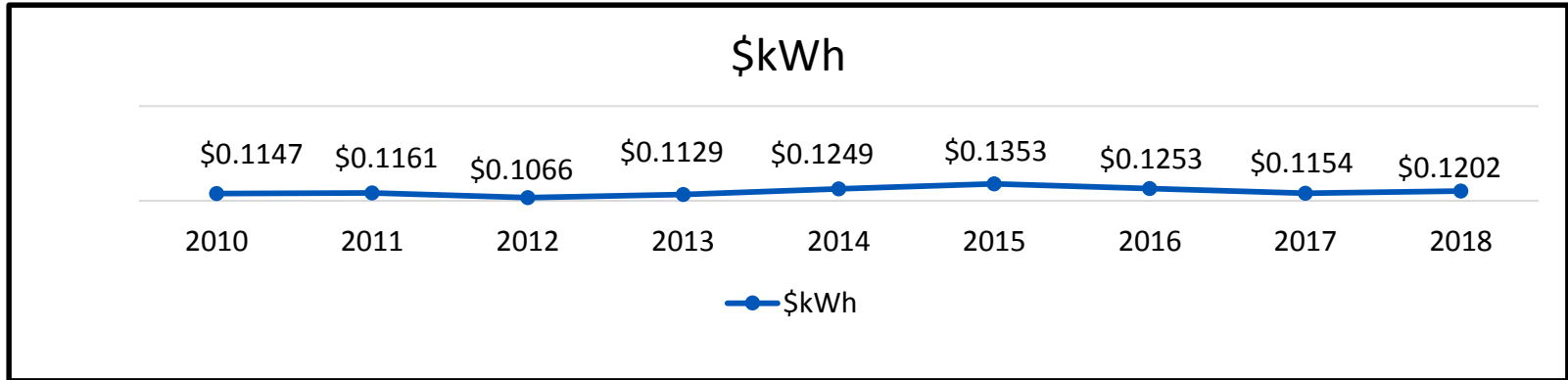
Overall Cost of Renewable Energy

Combined Cost of Energy: Solar Thermal, Geothermal, Solar PV, and Wind

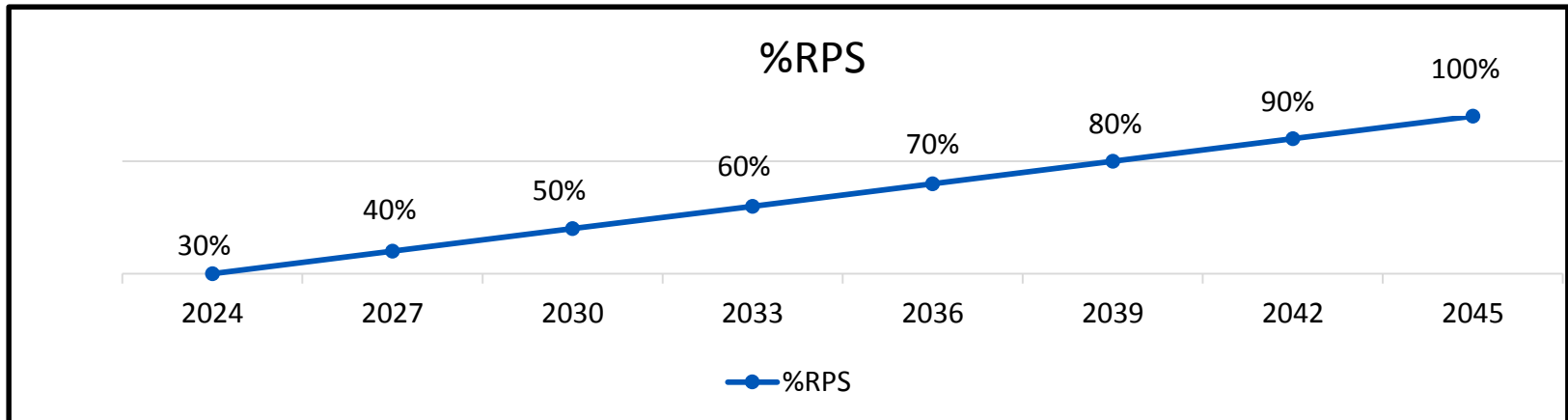
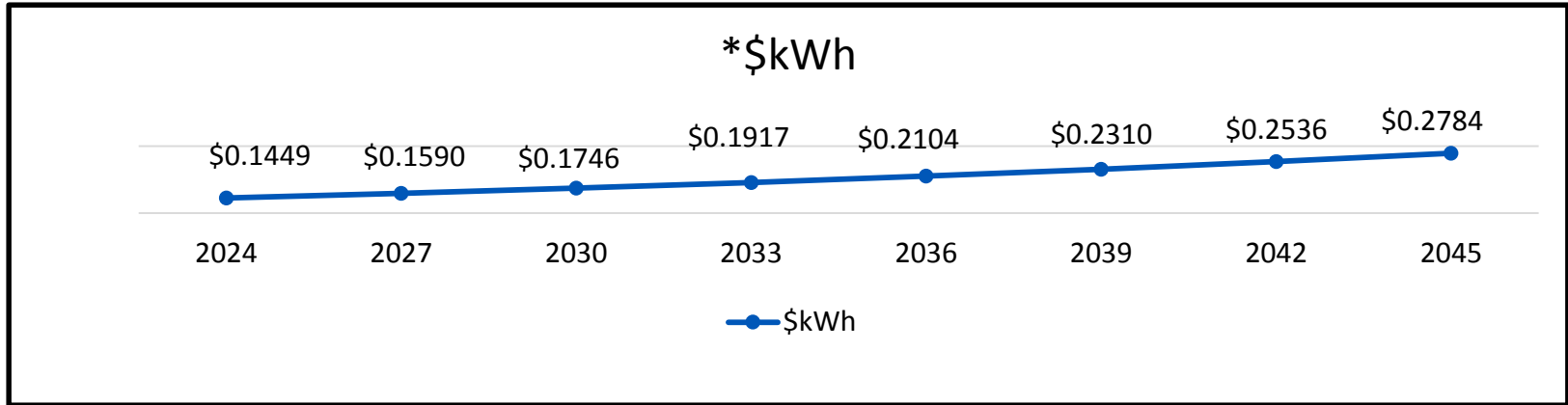
Cost per \$/MWh



District Cost vs. SCE's Actual RPS% (2010-2018)



Projected District Cost vs. RPS % Requirements



*Projected 3.16% per year increase.

Controlling EMWD's Costs With Flexibility

- Phase III Solar - 15.9 MW of additional solar
 - 55 to 60 percent of total District consumption
- Optimize existing generation and dual-fuel resource capabilities
- Leverage recent time-of-use changes and reduce on-peak consumption
- Procurement strategies
 - Utility power
 - Community Choice Aggregation (CCA)
 - Direct access
- Pursue new technologies
 - Battery storage
 - Behind the meter
 - In-front of the meter





Contact Information

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