

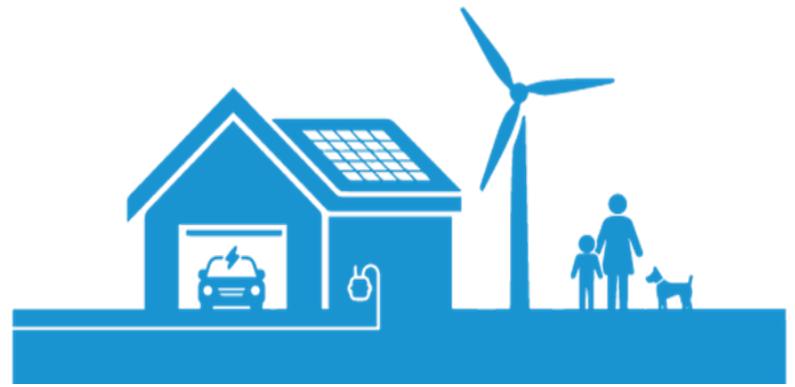
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SDG&E Procurement In Response to SONGS Retirement



Background

The early retirement of San Onofre Nuclear Generating Station (SONGS) left SDG&E's service territory with a need for local resource capacity.

SONGS

- SONGS provided SDG&E's service territory with energy, capacity and ancillary services.

CPUC Direction

- The CPUC's 2012 long term procurement plan track IV decision authorized SDG&E to procure between 500-800 MW of capacity by the end of 2021 to meet this in basin need.

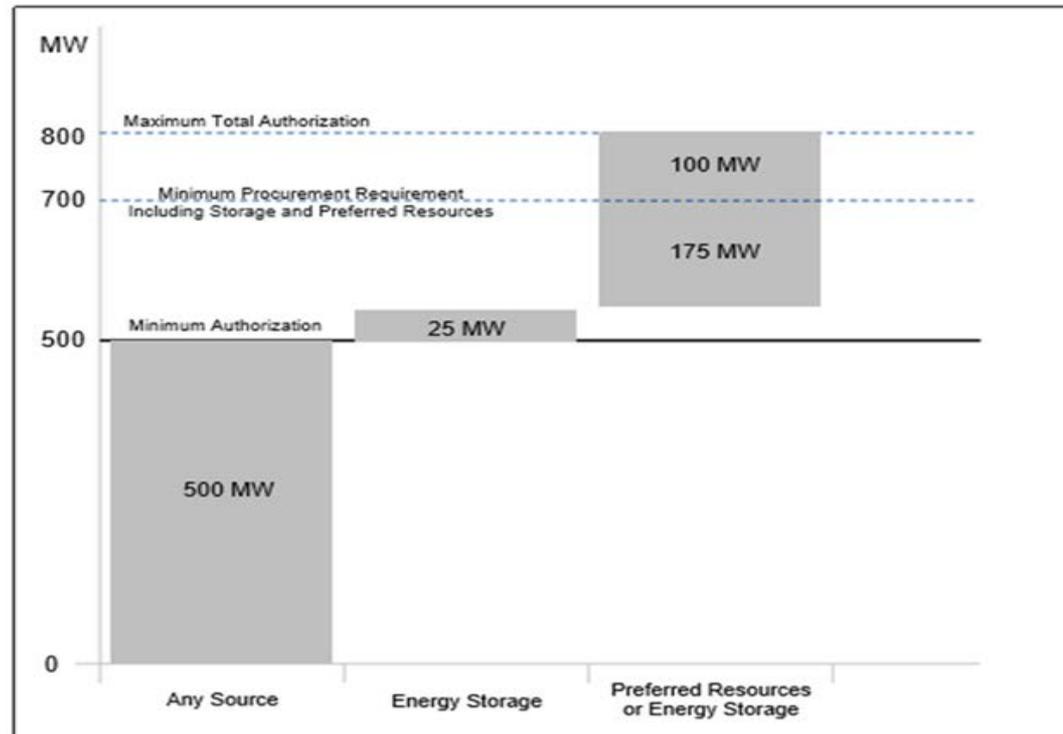
LCR Procurement

- To ensure regional safety and reliability SDG&E sought to replace capacity from SONGS with cost-effective resources to meet its Local Capacity Requirement (LCR) and to further California's energy goals of reducing greenhouse gas emissions.

Background

Carlsbad Energy Center

- 500 MW (5 GE LMS 100's) was approved by the CPUC in May 2015 (the Carlsbad Decision)
 - First unit expected to be on-line in May 2018 with completion in October 2018
- For the remaining authorization, SDG&E focused procurement on Preferred Resources and Energy Storage.
- The diagram below summarizes SDG&E's Track IV procurement authorization after the Carlsbad Decision.



LCR Procurement Activities

- SDG&E issued the 2014 All Source LCR RFO in September 2014
 - CPUC approved 18.5 MW Energy Efficiency (EE) and 20 MW Energy Storage (ES). This ES storage was later terminated.

- Energy Storage procurement in response to Aliso Canyon Resolution
 - CPUC approved two ES resources, including the world’s largest lithium ion battery-based energy storage installation
 - This provides 37.5 MW of power and 75 MW of flexible resources to the grid



LCR Procurement Activities

- 2016 Preferred Resources LCR RFO
 - On April 19 SDG&E filed an application seeking approval of 83.5 MW of Energy Storage and 4.5 MW of Demand Response resources.
 - In addition to enhancing reliability, these resources will enable SDG&E to effectively integrate greater levels of renewable power on the grid.
 - With approval of these resources SDG&E will have substantially met its Track IV target.

The chart below summarizes procurement efforts in response to SONGS retirement.

Resource	Expected Online Date	Capacity (MW)	Resource Type
Carlsbad Energy Center	Q2 2018*	500	Conventional
Wildan EE	Q4 2021	18.5	Energy Efficiency
Escondido/El Cajon ESS	Q1 2017	37.5	Energy Storage
Miramar/Fallbrook ESS	Q1 2021/Q4 2019**	70	Energy Storage
Powin/Enel/AMS	Q2 2021/Q4 2021/Q4 2019**	13.5	Energy Storage
OhmConnect	Q1 2018**	4.5	Demand Response
Total		644	

*First unit online Q2 2018, all units by Q4 2018

**CPUC approval is pending

LCR Procurement Objectives



SDG&E procures resources that represent the most cost-effective resources to meet customer needs, and where possible, have been leveraged for multiple mandates to maximize ratepayer value.



These resources enhance reliability and will enable SDG&E to effectively integrate greater levels of renewable power on the grid. As SDG&E customers are already receiving over 40 percent of their energy from renewable sources, this integration ability is essential.



If local capacity requirements remain, SDG&E will evaluate optimal timing and considerations for further Track IV RFOs or utilize existing procurement mandates (Combined Heat Power RFO, Demand Response Auction Mechanism and energy storage procurement).



SDG&E is committed to ensuring our customers and the wider community have access to clean, safe, and reliable energy.



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Questions?

Thank you!

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