



# SCE's 2016 Energy Storage Procurement Plan

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April 5, 2016

# Agenda

- SCE 2016 Energy Storage Procurement Plan Highlights
- Walk Through SCE's 2016 Energy Storage Procurement Plan
- Q&A

# Highlights: SCE Procurement Plan

**SCE has met its 2016 Energy Storage procurement target when accounting for existing resources and flexibility in counting rules.**

- ***Difference from 2014*** – Unlike 2014, SCE has already met its 2016 target, and does not have a need to procure additional storage at this time.

**SCE still plans to conduct a 2016 Energy Storage solicitation to maintain momentum in transforming the energy storage market:**

- ***Difference from 2014*** – SCE will target up to 20 MW of projects that provide Resource Adequacy (RA) value and improve system performance in specific locations.
- ***Difference from 2014*** – SCE intends to also solicit and encourage innovative use cases (e.g., distribution deferral, community storage, microgrid facilitation).

**SCE will use storage to fulfill system needs where such needs can be identified.**

- Similarly to 2014, SCE's procurement will be informed by the Long Term Procurement Plan (LTPP), Distribution Resources Plan (DRP), and Transmission Planning Process (TPP).

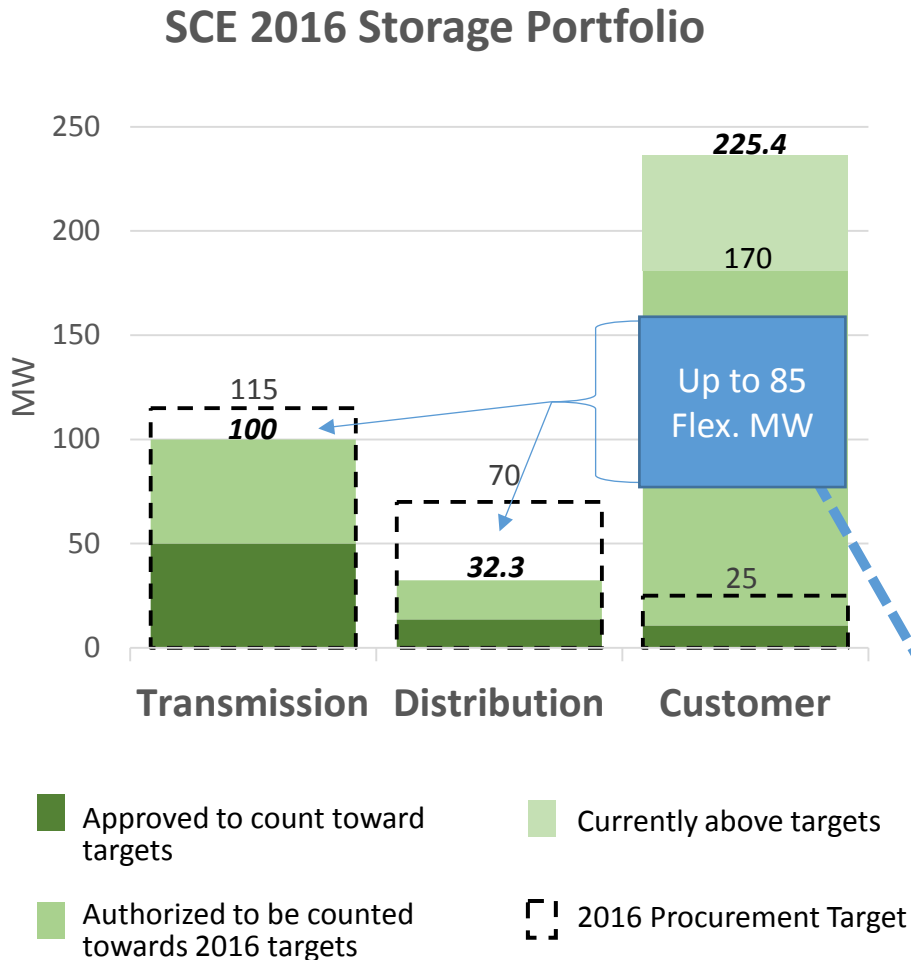
# SCE's 2016 Storage Application & Testimony

- Pursuant to D.13-10-040, SCE filed its “Application for Approval of its 2016 Energy Storage Procurement Plan” and associated testimony on March 1, 2016.
- SCE's Storage Application Testimony is divided into the following sections:

Chapter 1	Overview / Background
Chapter 2	Energy Storage Procurement Framework
Chapter 3	Existing and Planned Eligible Energy Storage
Chapter 4	Procurement in Addition to Existing Storage
Chapter 5	Energy Storage for Future Storage Procurement
Chapter 6	Energy Storage Safety Considerations
Chapter 7	Cost Recovery

# 2016 Energy Storage Outlook

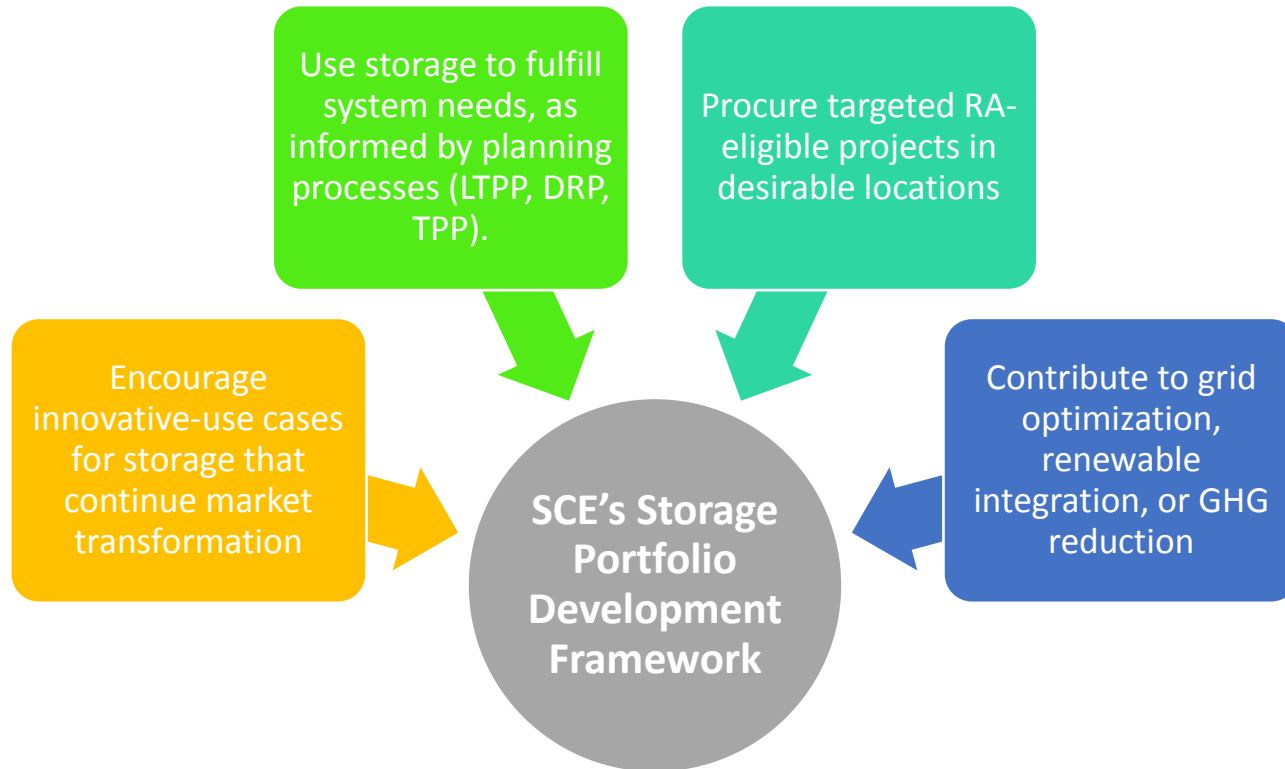
## SCE Nominal Targets:



Grid Domain	2014	2016	2018	2020	Total
Transmission	50	65	85	110	310
Distribution	30	40	50	65	185
Customer	10	15	25	35	85
<b>Total</b>	<b>90</b>	<b>120</b>	<b>160</b>	<b>210</b>	<b>580</b>

New flexibility rules adopted in D.16-01-032 allow utilities to satisfy some of their transmission and distribution domain targets through customer-connected projects, up to a “ceiling” of 200% of the existing customer-domain targets (additional **85 MW** for SCE). Once flexibility is applied, **SCE has already satisfied its procurement target for 2016.**

# Storage Portfolio Development Framework



**SCE's storage portfolio development framework sets forth a strategy to procure storage projects that meet system needs, while also encouraging innovative uses for storage, so as to continue market transformation and meet California policy goals.**

# SCE Procurement Activities to Date

	Previously Approved	Additional Procurement during 2014 Cycle			Planned or Under Construction		TOTAL	TOTAL ELIGIBLE*	2016 Cumulative Procurement Target
		DESI 1 Project	LCR RFO	ES RFO	SGIP	PLS			
Trans.	0	0	100	0	0	0	100	100	115
Dist.	13.6	2.4	0	16.3	0	0	32.3	32.3	70
Cust.	10.8	0	160.6	0	~50	4	225.4	170	25
<b>Total</b>	<b>24.4</b>	<b>2.4</b>	<b>260.6</b>	<b>16.3</b>	<b>~50**</b>	<b>4</b>	<b>357.7</b>	<b>302.3</b>	<b>210</b>

**Note:** Refers to - **Table III-9 from Testimony of SCE in Support of its Energy Storage Procurement Plan (pg. 28)**

DESI=Distributed Energy Storage Initiative Pilot; LCR RFO= Local Capacity Resources Request for Offers; SGIP = Self-Generation Interconnection Program; PLS= Permanent Load Shift Program

\*Total Eligible considers the ceiling on customer procurement as per D. 16-01-032

\*\* Accounts for new rule established in D.16-01-032 that credit for SGIP-funded energy storage projects installed by DA and CCA customers should be split evenly between an unbundled customer's IOU and the DA/CCA service provider. Assumes 20% CCA/DA

# 2016 Energy Storage RFO

- SCE will conduct an ES RFO to maintain momentum in transforming the energy storage market, despite already meeting its 2016 ES target.
- **December 2016** ES RFO will solicit energy storage RA-eligible resources at specific locations (tentatively Goleta, Laguna Bell, Johanna, and Santiago substations), as well as innovative use-cases for energy storage resources.\*
- Approval of contracts through 2016 Energy Storage RFO Application

## 2016 Energy Storage RFO

- Soliciting storage that is:
  - Third-party owned; and,
  - Eligible for RA-only at specific locations; and / or,
  - Offers “Innovative Use Cases” such as distribution deferral, facilitation of microgrids, or community storage

\*Innovative Use-Cases may include storage used to facilitate micro-grids, distribution deferrals, or community storage. Product details and attributes for these use cases are in development and SCE currently plans to include them in RFO documents by the time of the December solicitation launch.



# ES Procurement in Addition to ES RFO

## Other Solicitations

- Preferred Resources Pilot 2 RFO
- Renewable Portfolio Standard (RPS) RFP
- *Approval through Application or Advice Letter, as appropriate*

## Utility-Owned Storage

- Distribution reliability storage
- Exploring pilot programs
- *Approval through next General Rate Case (GRC)*

## Bilateral Contracts

- Bilateral Contracts may be needed in unusual circumstances, such as insufficient market response in RFOs
- *Approval through Tier 3 Advice Letter*

# Safety Considerations

This year, SCE is including a new section on Safety Considerations in its 2016 Energy Storage Procurement Plan.

**Thermal Runaway** – the rapid increase in temperature due to overcharging / over-discharging – can be prevented by implementing voltage safety monitoring and controls. SCE implements these controls as part of its utility energy storage deployments.

**Contract Provisions** – SCE includes provisions in its contracts to require third-party sellers to engage in safe practices and comply with all applicable laws, permit requirements, and standards. SCE’s responsibility for safety of third party energy storage systems is at the **point of interconnection** to its distribution grid.

**Interconnection** – All energy storage systems must adhere to **Rule 21 or Wholesale Distribution Access Tariff (WDAT)** in order to interconnect.

**Safety Working Group** – SCE will be participating in a **working group on energy storage safety inspections** to help develop and refine Commission energy storage safety inspection protocol.

# Cost Recovery for Storage

<i>Regulatory Function:</i>	Market/Generation function	Local reliability (LCR)	Distribution reliability	Transmission reliability	Customer programs
<i>Rate Component</i>	Generation	Cost Allocation Mechanism (CAM)	Distribution	Transmission Access Charge (TAC)	Distribution or Public Purpose
<i>Customers Responsible</i>	SCE bundled (energy) customers with PCIA for departing load	All SCE customers	All SCE customers	CAISO system customers	Participating SCE customers (as designated by the CPUC)

- Existing ratemaking mechanisms are adequate to support cost recovery of energy storage costs
- Proposal is unchanged from 2014 and consistent with D.14-10-045

# Questions?

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