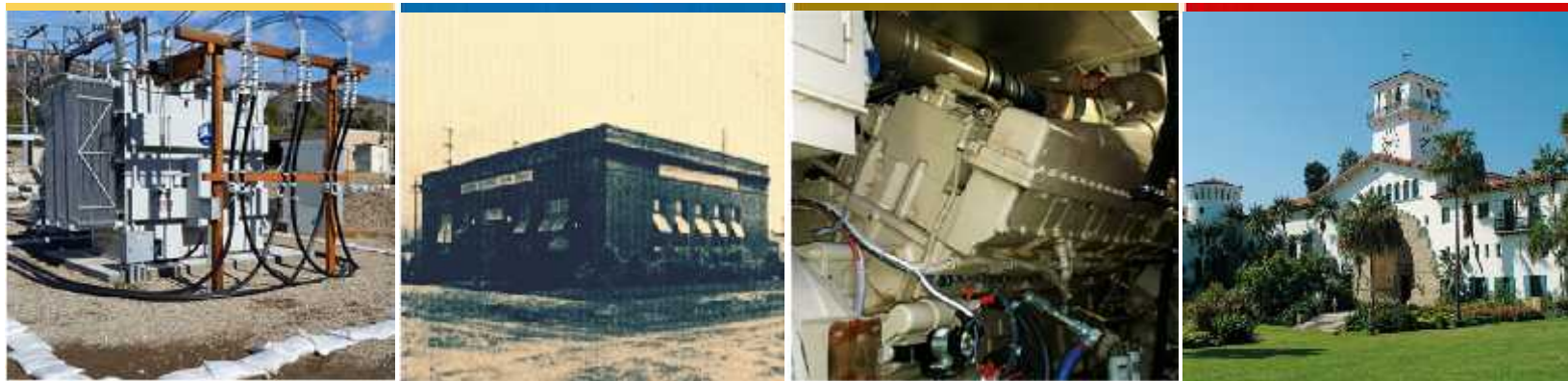




Electric Program Investment Charge (EPIC) 2018-2020 Investment Plan Application Workshop



September 8th, 2017

Background

SCE will continue to administer its EPIC Portfolio, as part of its broader Advanced Technology efforts.

- SCE will conduct EPIC demonstrations at its Advanced Technology Fenwick Laboratory Facility, Equipment Demonstration Evaluation Facility and in the field.

Portfolio Implementation & Accomplishments:

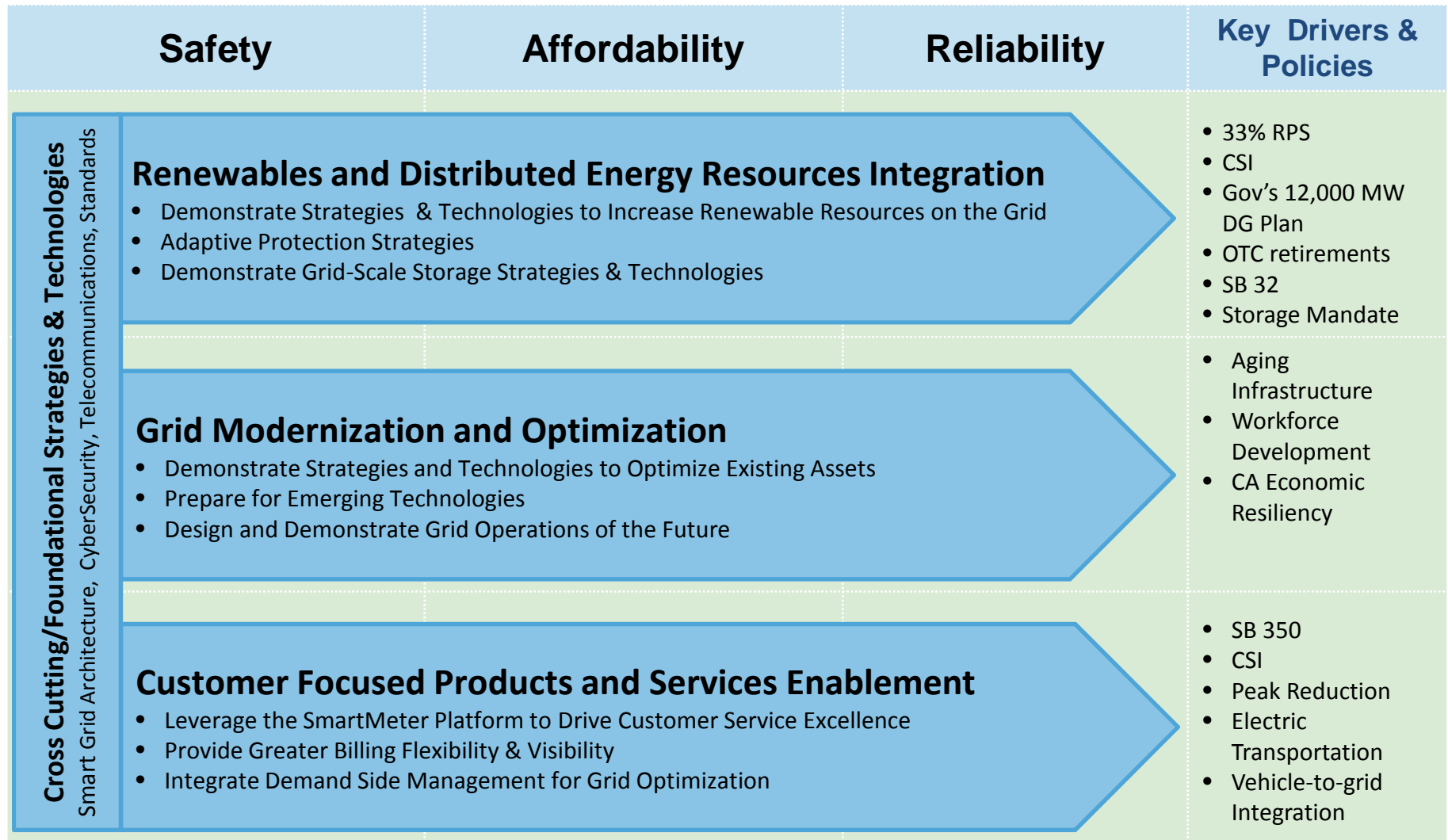
2012-2014 Portfolio

- 15 Projects
- 7 Projects have been completed

2015-2017 Portfolio

- 12 Projects
- 1 Project has completed

Investor Owned Utility EPIC Framework



High Profile Potential Projects

- 1. Cybersecurity for Industrial Control Systems:** Potential joint project by PG&E, SCE and potentially the CEC and would build on the successes of the CES-21 Program. The CES-21 Program is a joint research collaborative project between PG&E, SCE, SDG&E and Lawrence Livermore National Lab (LLNL), improving machine-to-machine automated threat response. This project would further improve machine-to-machine automated threat response by demonstrating adaptive controls and dynamic zoning for ICS and enhancing visual interfaces of the simulation engine. The project would leverage the CES-21 Program's machine-level threat intelligence, physical test bed environment, as well as the simulation engine to expand the IOUs cyber threat response capabilities in order to take the concept of machine-language threat intelligence and advances it to enable dynamic response in the face of an attack.

High Profile Potential Projects

2. SA-3 Phase III Field Demonstration: The objective of this potential project is to successfully demonstrate a modern substation automation system for a transmission substation by adopting scalable technology that enables advanced functionality which meets NERC Critical Infrastructure Protection (CIP) compliance and IT cybersecurity requirements. This potential demonstration project will build on the prior accomplishments of the SA-3 Phase II MacArthur Pilot (occurred under the DOE-funded Irvine Smart Grid Demonstration), the SA-3 Phase 3 Lab Demonstration under EPIC 1 and the System Intelligence and Situational Awareness project under EPIC 2. This potential project is complementary to SCE's Grid Modernization SA-3 deployment efforts, which are focused on distribution substations.

High Profile Potential Projects

3. Smart City: This project would build on the learnings of ISGD and the IGP. This potential demonstration would leverage ongoing distributed control architecture and improved planning processes that includes increased understanding of customer technology adoption and increased integration with City planning and DER permitting processes. The goal is to provide more efficient buildout of infrastructure, streamline joint processes, such as permitting and interconnections for Solar PV and energy storage systems.