



PRESENTED TO: STATE OF CALIFORNIA ENERGY COMMISSION

Research, Development, and Demonstration Projects: Defining the Pathway to the California Smart Grid of 2020 for Publicly Owned Utilities

PROJECT APPROACH AND OBJECTIVES

Steve Rupp, Project Manager | December 17, 2010

R·W·BECK

An SAIC Company

Goals and Objectives

1. A broadly shared and supported Smart Grid Vision of 2020

- based on future requirements driven by California energy policies
- shared strategic and operational objectives among the state's public utilities

2. A Smart Grid Technology and Program Assessment Framework

- Utilizing industry accepted models, processes, and tools that assesses the current-state of Smart Grid programs at utilities in California and other relevant jurisdictions;
- A detailed gap analysis between current state and envisioned future state; key technologies, vendor positioning, and applicable standards, communication protocols, common information models, and cyber security programs;
- Cost benefit analysis of applicable Smart Grid technologies and applications, including a risk assessment; and
- Technology use cases based on shared objectives and business drivers among the state's public utilities

3. A comprehensive Smart Grid Technology Roadmap and Implementation Plan for California's Public Utilities

- cohesive, holistic, and flexible approach
- begins in 2010 and ends 2020
- aimed at achieving state energy policies outcomes

Changing the Energy Landscape

The following major initiatives and policies that are changing the energy landscape in the State of California will be carefully considered in the development of California's Smart Grid future.

1. The ongoing implementation of new AMI systems by many of the California utilities.
2. The state's Renewable Portfolio Standard (RPS), including operating the Smart Grid of the future with a substantial increased percentage of renewable resources on the grid
3. Greenhouse gas reduction goals, as define in Assembly Bill 32 (Nunez, Chapter 488, Statutes of 2006) and other state directives.
4. Aggressive energy efficiency, demand response and peak load reduction goals, as defined by state directives.
5. Modernizing the aging utility grid infrastructure consistent with SB-17.
6. Meet the future energy growth needs of California with new and innovative technologies, including: utilizing existing assets more efficiently; less environment impact on the state; meeting stringent costs/benefit assessments; and provides ratepayers and customers of California new options in meeting their individual energy needs.

The Challenges of a Common POU Vision

California's DIVERSIFIED Electric System: Participants

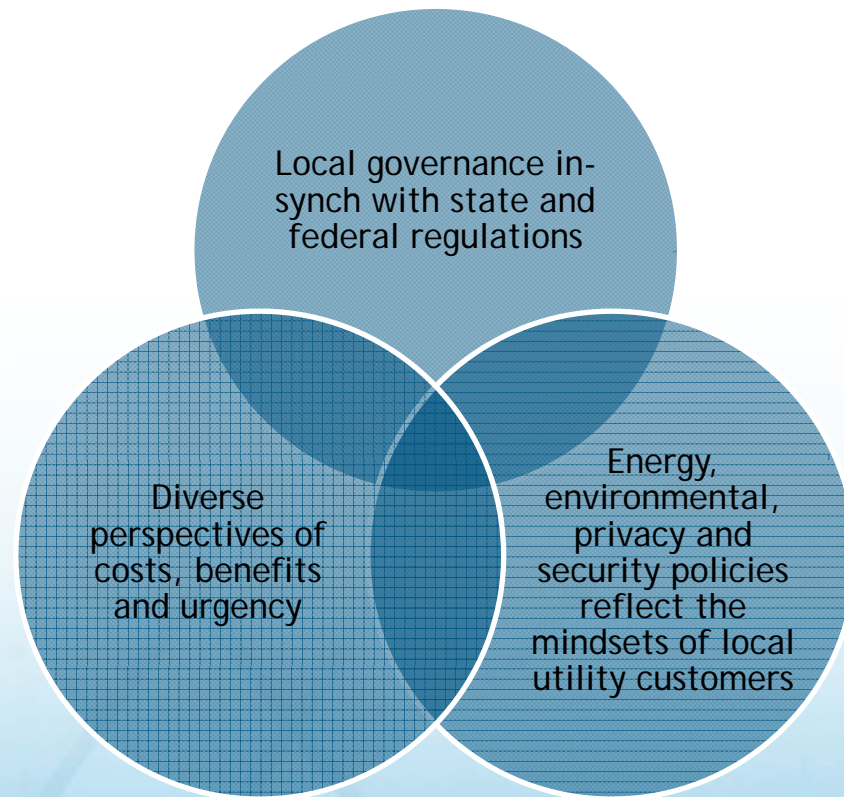
UTILITIES

Publicly Owned Utilities

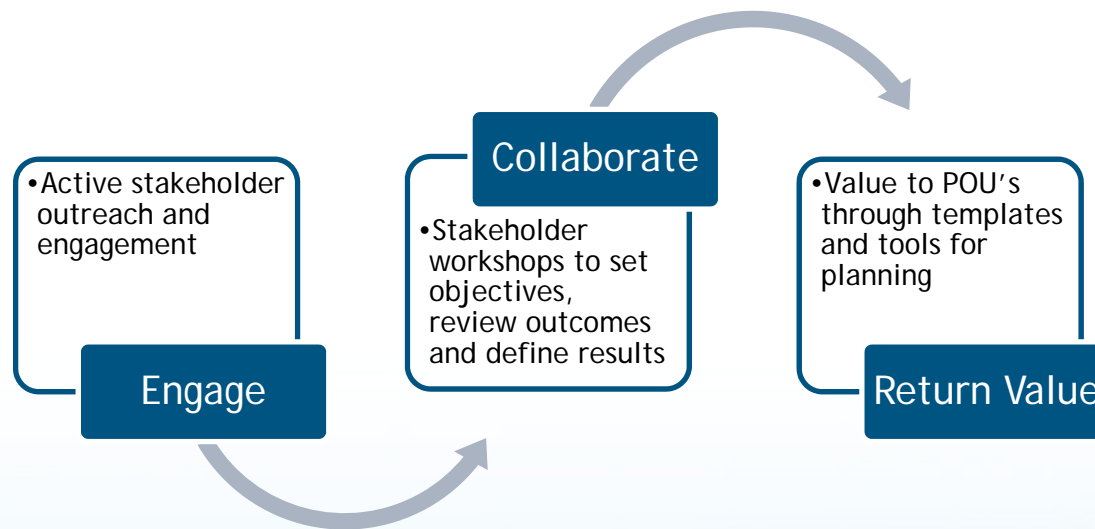
- Provide approximately 25% of California's electricity
- 39 full service utilities, mostly small and mid-sized
- Los Angeles Department of Water and Power (LADWP), the largest public utility, serves 3.9 million customer owners; the City of Biggs, the smallest, serves 1,800

Investor Owned Utilities

- Provide approximately 75% of California's electricity
- California has three Investor Owned Utilities: PG&E, Edison, Sempra



Technology Roadmapping Process

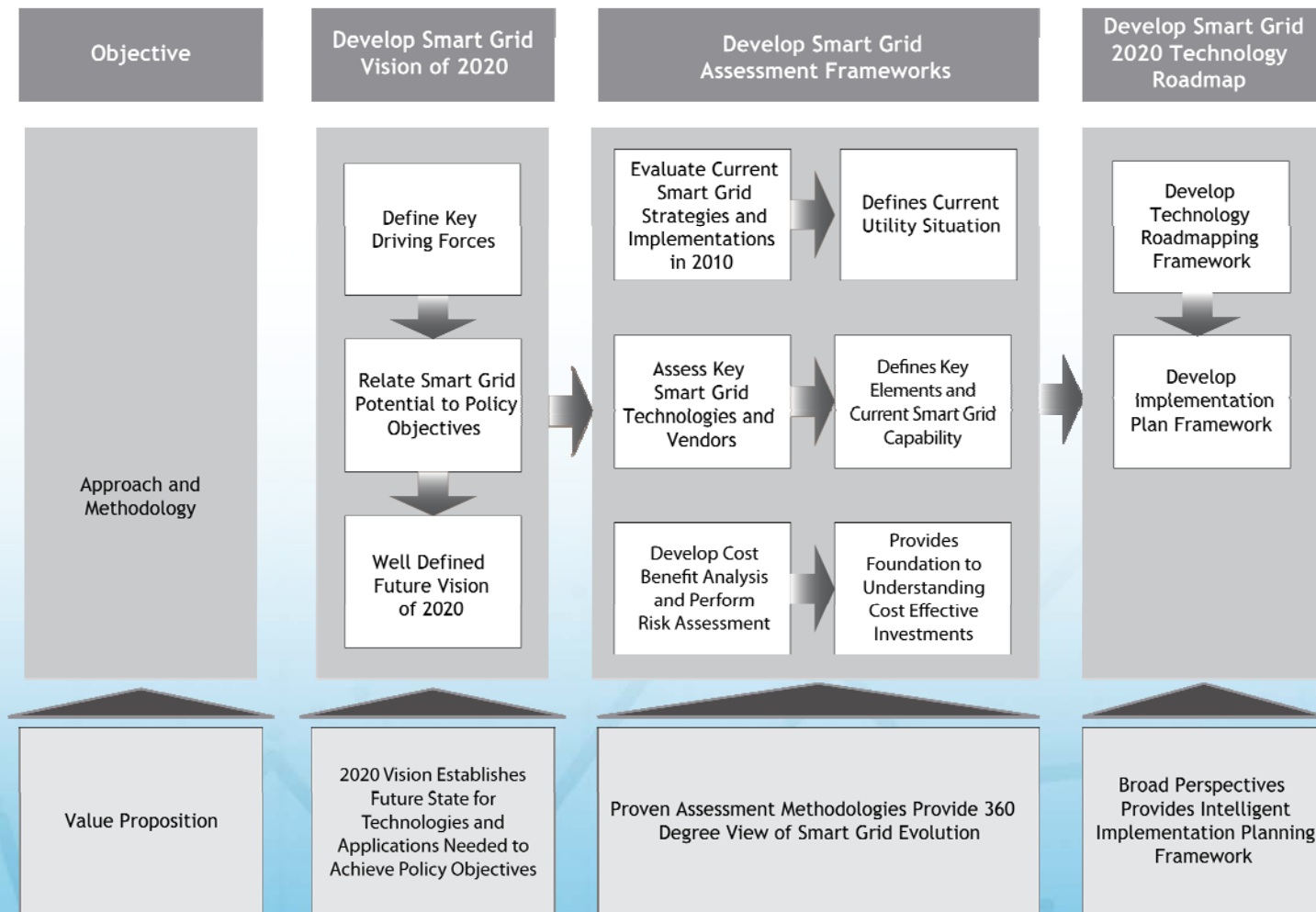


SMART GRID TECHNOLOGY ROADMAP PROCESS



Project Approach

Project Approach Develop California's 2020 Smart Grid Roadmap for Publicly Owned Utilities



Schedule

TASK	'10	2011							
	D	J	F	M	A	M	J	J	A
Notice to Proceed	◆								
1.1 Attend Kick Off Meeting	◆								
1.2 CPR Meetings (Set by CEC @ Project Milestones)			◆		◆			◆	
1.3 Final Meeting									◆
1.4 Monthly Progress Reports		◆	◆	◆	◆	◆	◆	◆	◆
1.5 Test Plans, Tech Report, Interim Deliverables									
1.6 Final Report									■
1.7 ID / Obtain Match Funds	■								
1.8 ID / Obtain Required Permits (not required)									
1.9 Electronic File Format	◆								
2.0 Smart Grid Vision / Future State									
2.1 Initial Analysis	■	■							
2.2 Northern California Facilitated Workshop		■							
2.3 Southern California Facilitated Workshop		■							
2.4 Analyze Results			■						
2.5 Submit Draft Review				■					
2.6 Finalize Vision				■					
3.0 Current State Assess / CA SG Initiative Framework / Wkshp					■	■	■	■	
4.0 SG Tech and Vendor Assessment					■	■	■	■	
5.0 SG Cost / Benefit / Risk Assessment and Meeting						■	■	■	
6.0 Technology Roadmap / Workshop							■	■	■
7.0 Implement / Deployment Plan							■	■	■

◆ Milestone

Questions?

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