

## Los Angeles Department of Water and Power Smart Grid Regional Demonstration

### Project Description

Los Angeles Department of Water and Power (LADWP) is collaborating with a consortium of research institutions to develop new Smart Grid technologies, quantify costs and benefits, validate new models, and create prototypes to be adapted nationally. The project consists of four broad initiatives including:

- Demand Response (DR): perform an integrated demonstration of Smart Grid operations and technology as applied to DR. Test bed sites will investigate a full range of user environments: residential, commercial, light industrial, and institutional
- Electric Vehicle (EV) Integration into the LADWP Grid: demonstrate aspects such as smart charging and battery aggregation; renewables and EV battery integration; an operational microgrid; and EV test bed sites at USC and UCLA
- Customer Behavior: demonstrate a comprehensive portfolio of studies and focused surveys related to the impact of Smart Grid communications systems and processes on customer usage; energy savings from using Smart Grid enabled interfaces; pricing options and programs; and effective messaging and incentives regarding electric vehicles
- Next-Generation Cyber Security: demonstrate technologies to show grid resilience against physical and cyber-attack, an operational testing approach for components & installed systems, and redefine the security perimeter to address Smart Grid technologies

### Goals/Objectives

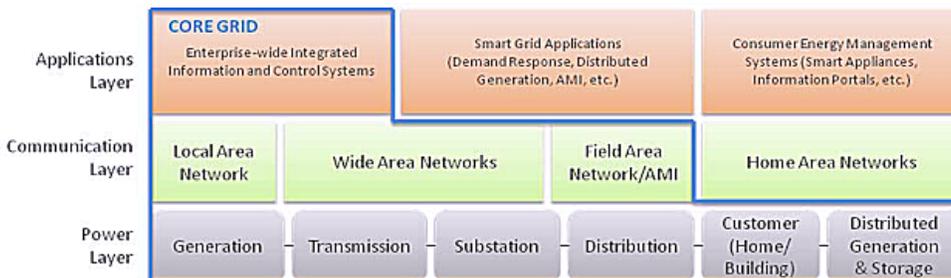
- Decrease in consumer electric costs
- Decrease in power interruption costs
- Reduction in peak power loads
- Improve grid resilience against cyber-attack and system integrity

### Key Milestones

- Final Design phase complete (March 2012)
- Construction phase complete (April 2013)
- Testing & Commissioning complete (April 2013)
- Operations start (May 2013)

### Benefits

- Electricity costs reduced
- Lower peak demand
- Greenhouse gas emissions decreased
- Energy security strengthened



### CONTACTS

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### PARTNERS

Jet Propulsion Laboratory (operated as a unit of the California Institute of Technology for NASA)  
University of Southern California  
University of California, Los Angeles

### PROJECT DURATION

01/01/10 – 06/30/2015

### BUDGET

#### Total Project Value

\$120,560,000

#### DOE/Non-DOE Share

\$60,280,000/\$60,280,000

### EQUIPMENT

Smart Meters  
Electric Vehicle Charging Stations  
Electric Vehicles  
Smart Appliances

### DEMONSTRATION STATES

California  
CID: OE0000192

Managed by the National Energy Technology Laboratory for the Office of Electricity Delivery and Energy Reliability





U.S. DEPARTMENT OF  
**ENERGY**

Office of Electricity Delivery and Energy Reliability



American Recovery and Reinvestment Act  
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Smart Grid Demonstration Program

