



# Office of Electricity Delivery & Energy Reliability



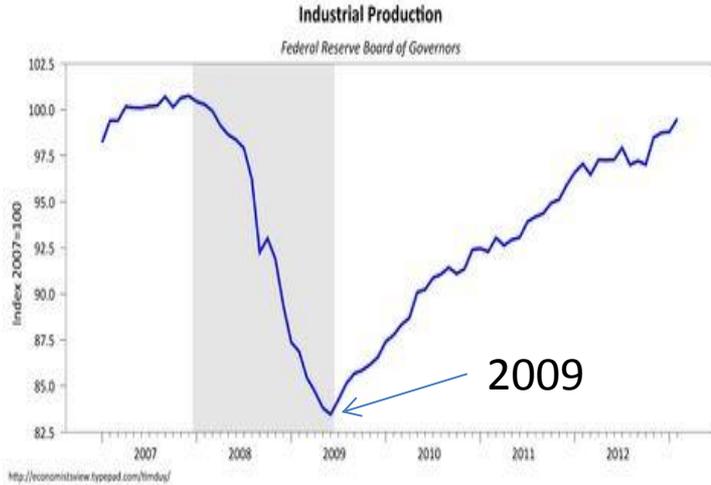
## Electricity Advisory Committee

**Hank Kenchington - Deputy Assistant Secretary**

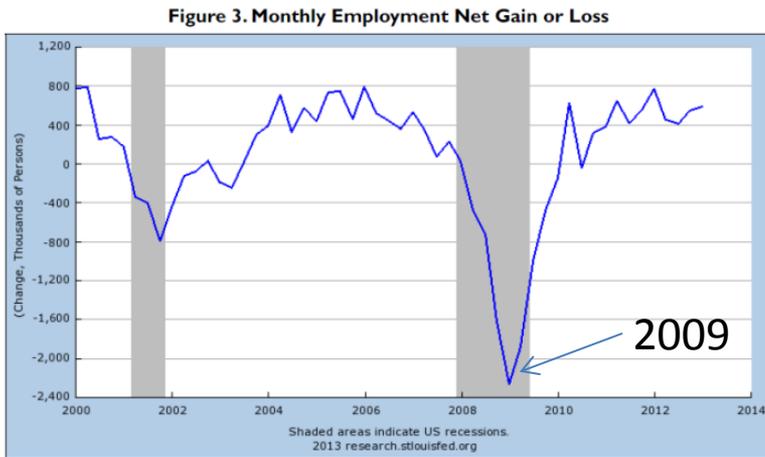
March 27, 2015



# Challenging times – looking back at 2009



Dow Jones Average 2005 - March 2015

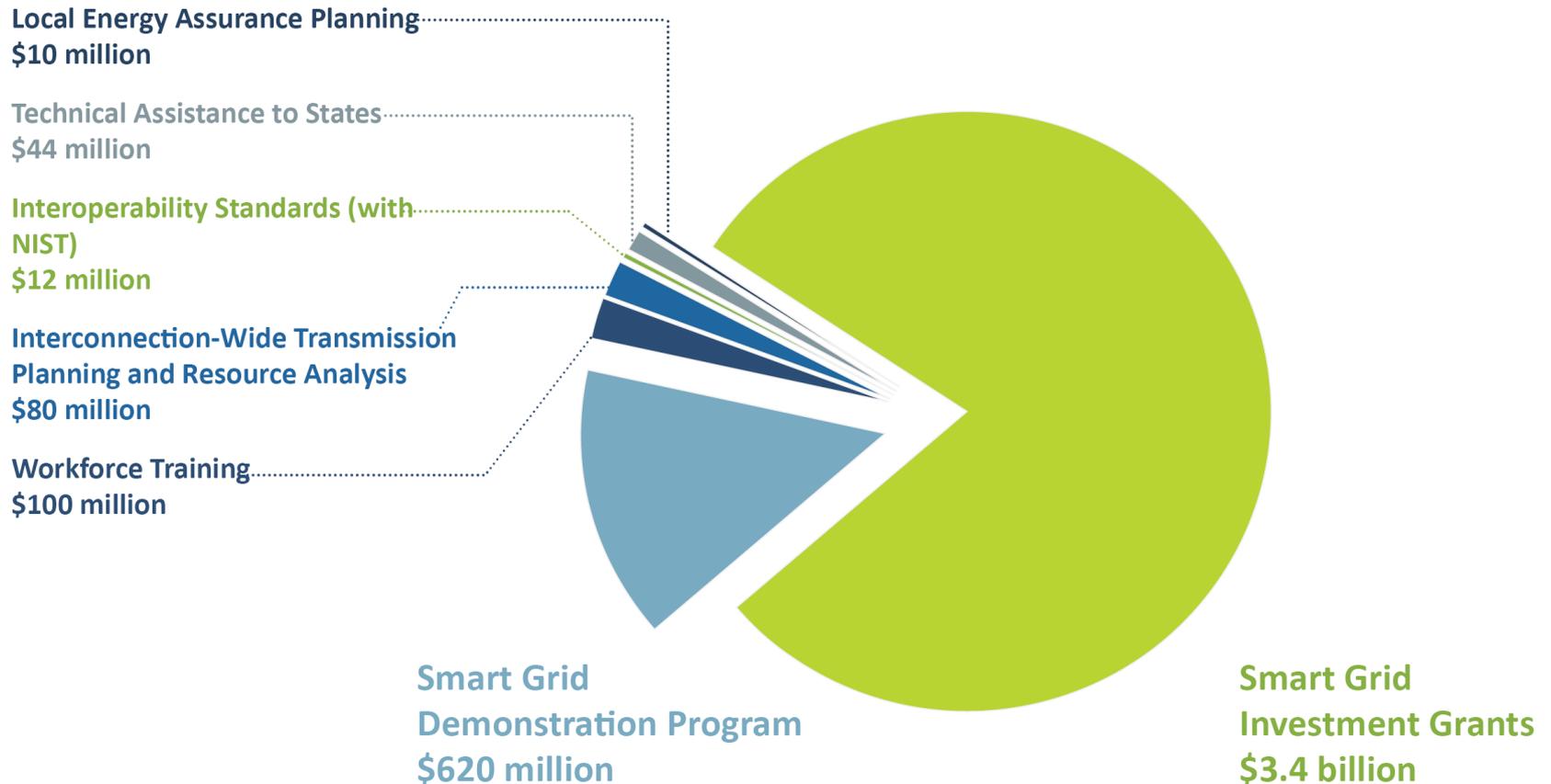


Source: U.S. Department of Labor: Bureau of Labor Statistics.



# Recovery Act – Smart Grid Programs

## One-Time Appropriation: \$4.5 Billion Recovery Act Funds

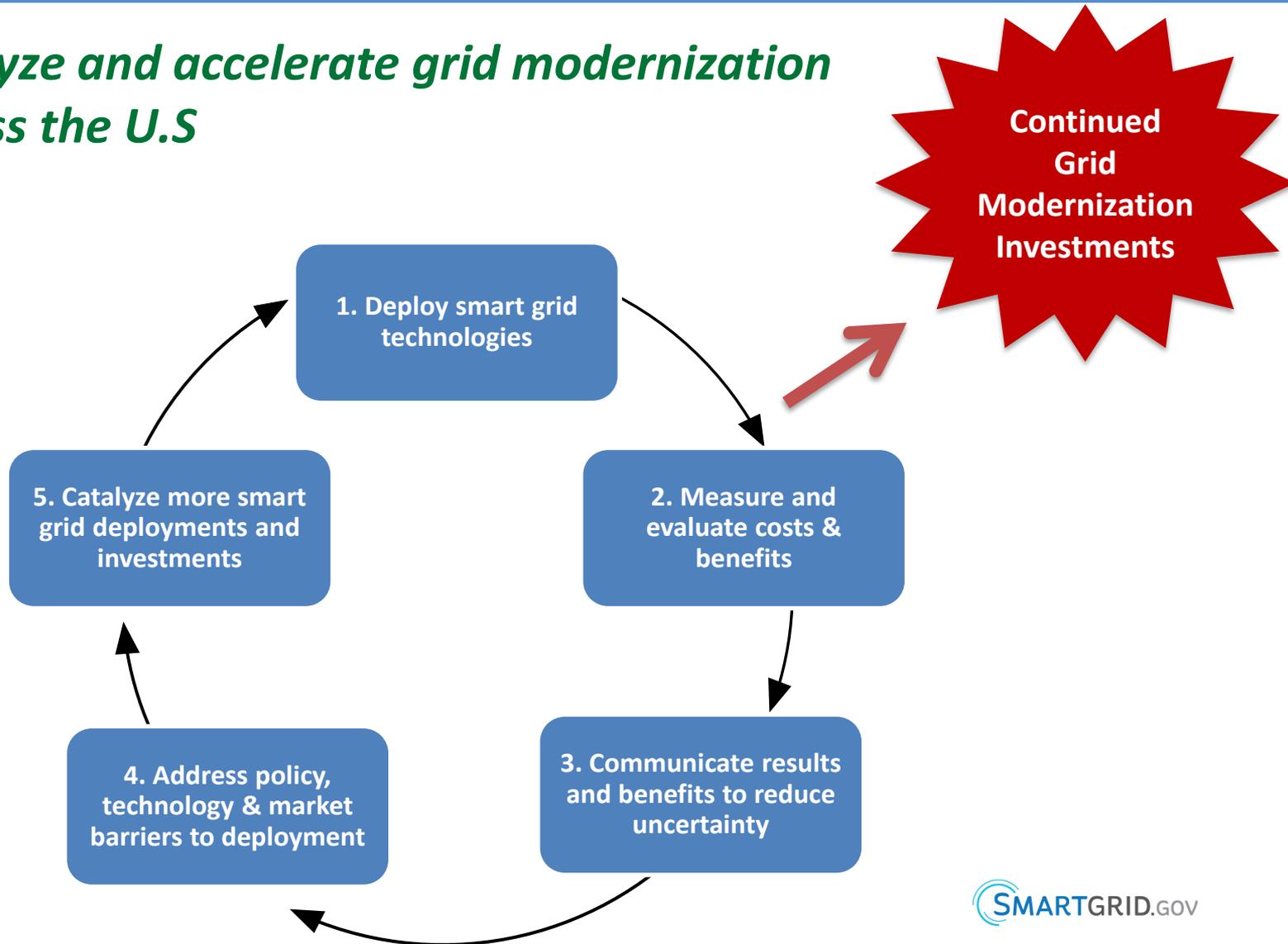


*Originally authorized by the Energy Infrastructure Security Act 2007, EISA 1306 and EISA 1304*



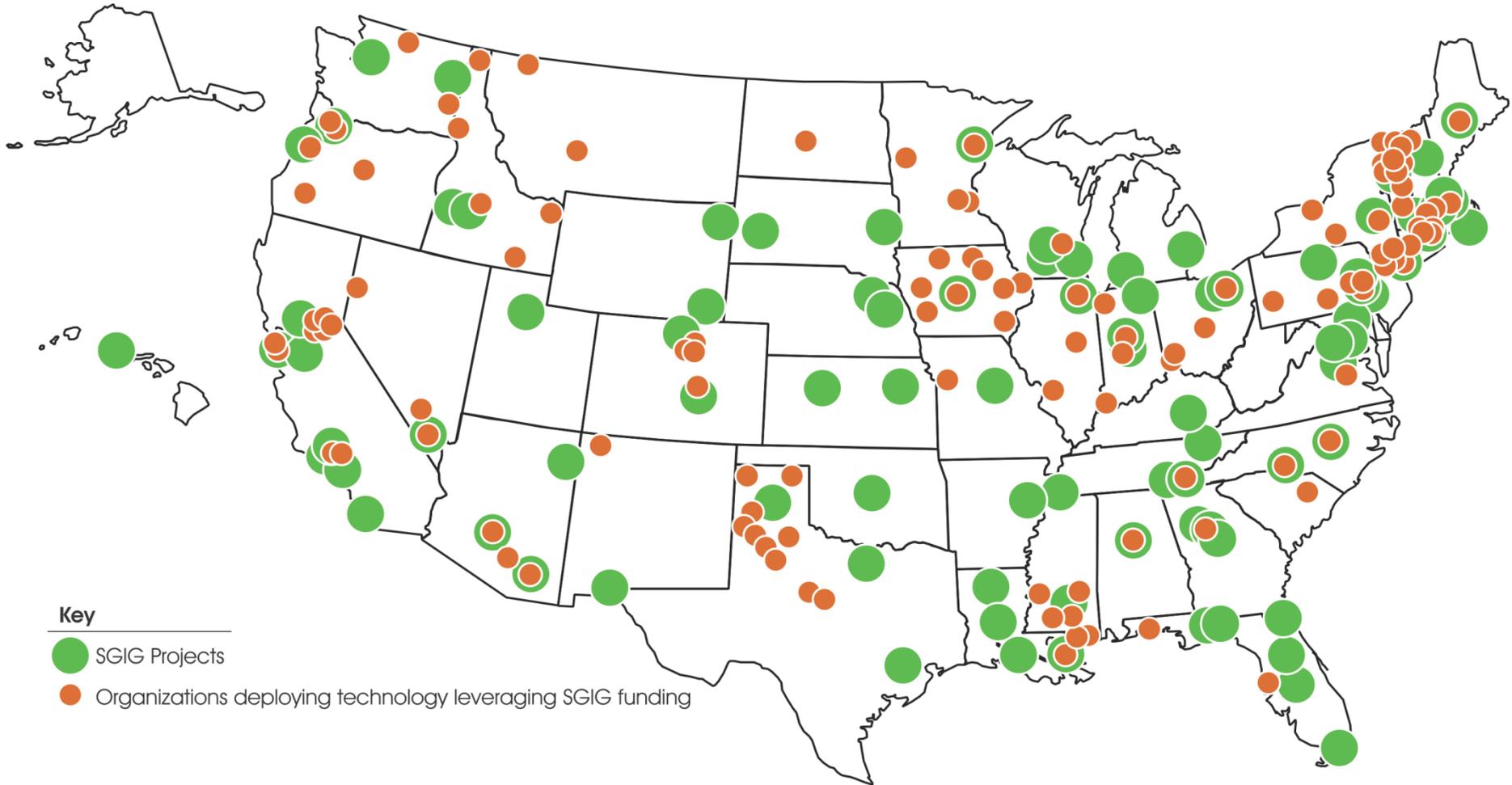
# ARRA Smart Grid Strategy

**Goal: Catalyze and accelerate grid modernization across the U.S**





# SGIG projects span the nation

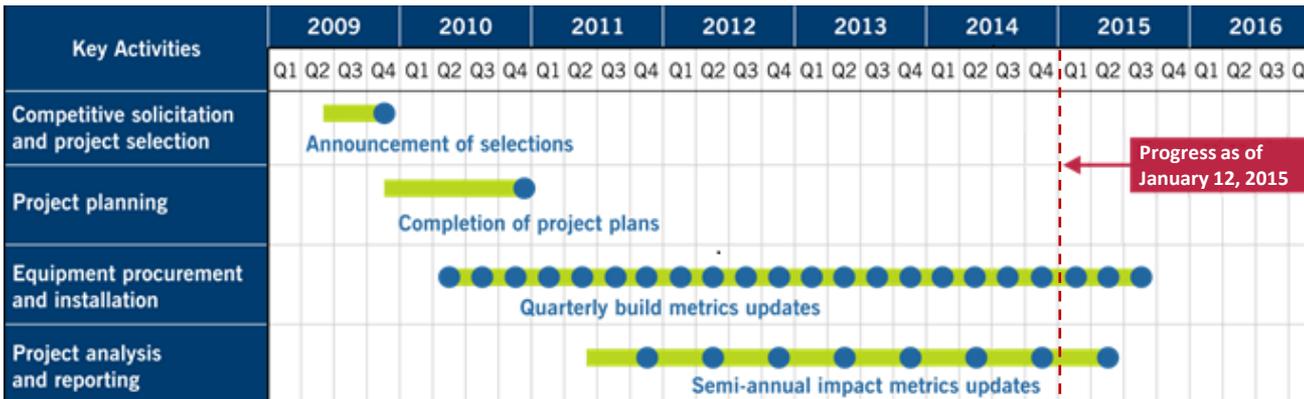


**99 Projects involving 228 Utilities and other Organizations**

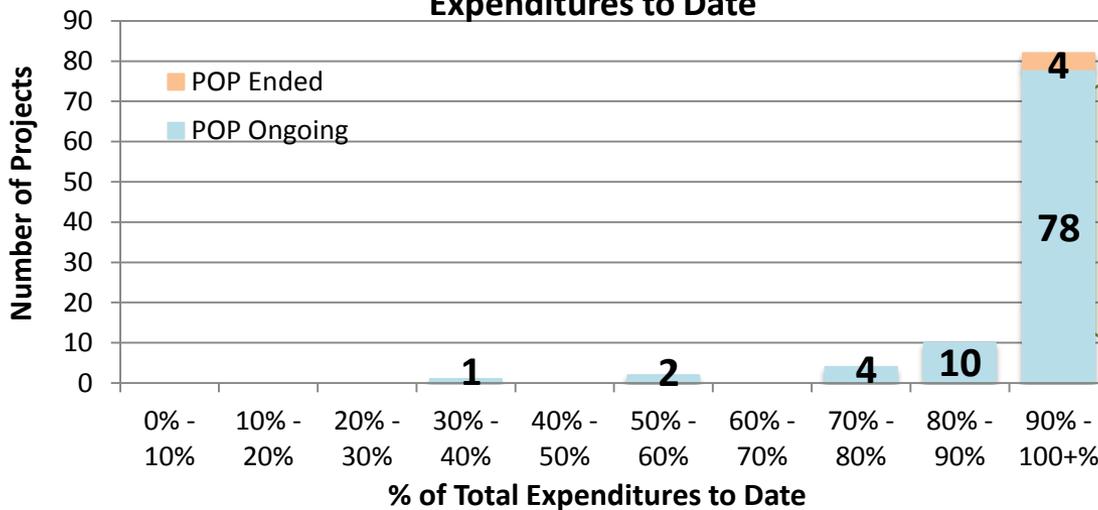


# SGIG Progress - Jan 12, 2015

*\$7.536 billion spent of the \$7.900 ( 94%) billion of total funding estimated at completion*



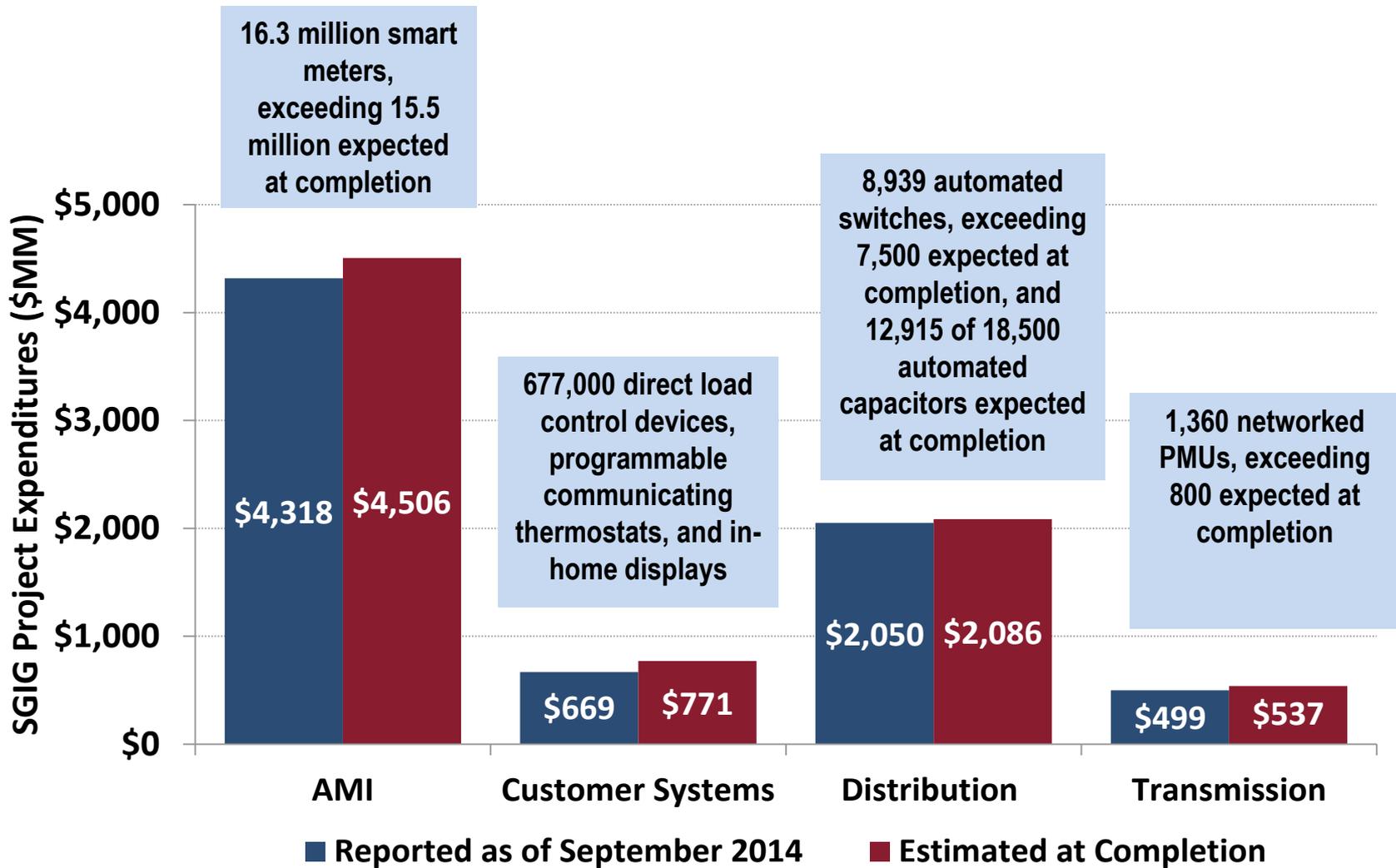
**SGIG Completion of Projects by Percentage of Total Expenditures to Date**



**96 of 99 projects are 70% or more complete**  
 4 of which have an expired period of performance (POP) as of Jan. 12, 2015



# SGIG Deployment Status - Sept 30, 2014





# SGIG Technology Performance

## SGIG Goals

1. Reliability improvements
2. Reductions in peak and overall electricity demand
3. Reductions in operation costs
4. Improvements in asset management
5. Improvements in outage management and reliability
6. Improvements in system efficiency
7. Reductions in environmental emissions

## Results - Examples

1. **Reliability**- up to 50% improvements in distribution system reliability on select feeder groups
2. **Peak Demand** - reductions of more than 30% for customers participating in time-based rate programs
3. **Operating Costs** - reductions up to 50% in projects that have completed full deployment of AMI and smart meters
4. **Asset Management** - health monitoring systems provide “early warning” systems to identify impending failures for transformers and cut costs by 25%
5. **Outage Management** - reductions in the frequency and duration of power outages from distribution automation and AMI
6. **Systems Efficiency** - improvements in distribution system efficiency by approximately 3% for targeted feeder groups employing conservation voltage reduction techniques during summer reporting periods
7. **Environmental** – AMI and smart meters provide significant reductions in emissions due to reduced truck rolls



# For More Information

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**Website:** [www.smartgrid.gov](http://www.smartgrid.gov)

**Reports:**

- SGIG Progress Report (July 2012)**
- Peak Demand Reductions – Initial Results (December 2012)**
- AMI O&M Savings – Initial Results (December 2012)**
- Reliability Improvements – Initial Results (December 2012)**
- Voltage Optimization – Initial Results (December 2012)**
- Economic Impact (April 2013)**
- Customer Enrollment Patterns in Time-Based Rate Programs (June 2013)**
- Synchrophasor Technologies and Their Deployment in Recovery Act Smart Grid Programs (August 2013)**
- Voices of Experience – Insights on Smart Grid Customer Engagement**

**Plus,**

- Case studies**
- Reports by recipients (CBS evaluation studies, technology performance reports)**