



**EPRI**

ELECTRIC POWER  
RESEARCH INSTITUTE

# **Project Set 161A IntelliGrid Technology Transfer and Coordination**

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# Project Set 161A: IntelliGrid Technology Transfer and Industry Coordination

- Industry Coordination and Collaboration
- Information Collection and Dissemination
- Smart Grid Roadmap Results
- Thought Leadership White Papers



# 2009 Deliverables

- Smart Grid Roadmap Synthesis Report – *Technical Report and White Paper*
- Repository of utility business cases related to smart grid applications – *web content*
- Repository of smart grid pilots & deployments - *database*
- Case study on smart grid deployments – *white paper*
- Workshop on impact of Smart Grid on Utility Organization Structure – *conference call / workshop*
- Public Advisory Group Meeting – *meeting*

# 2010 Activities

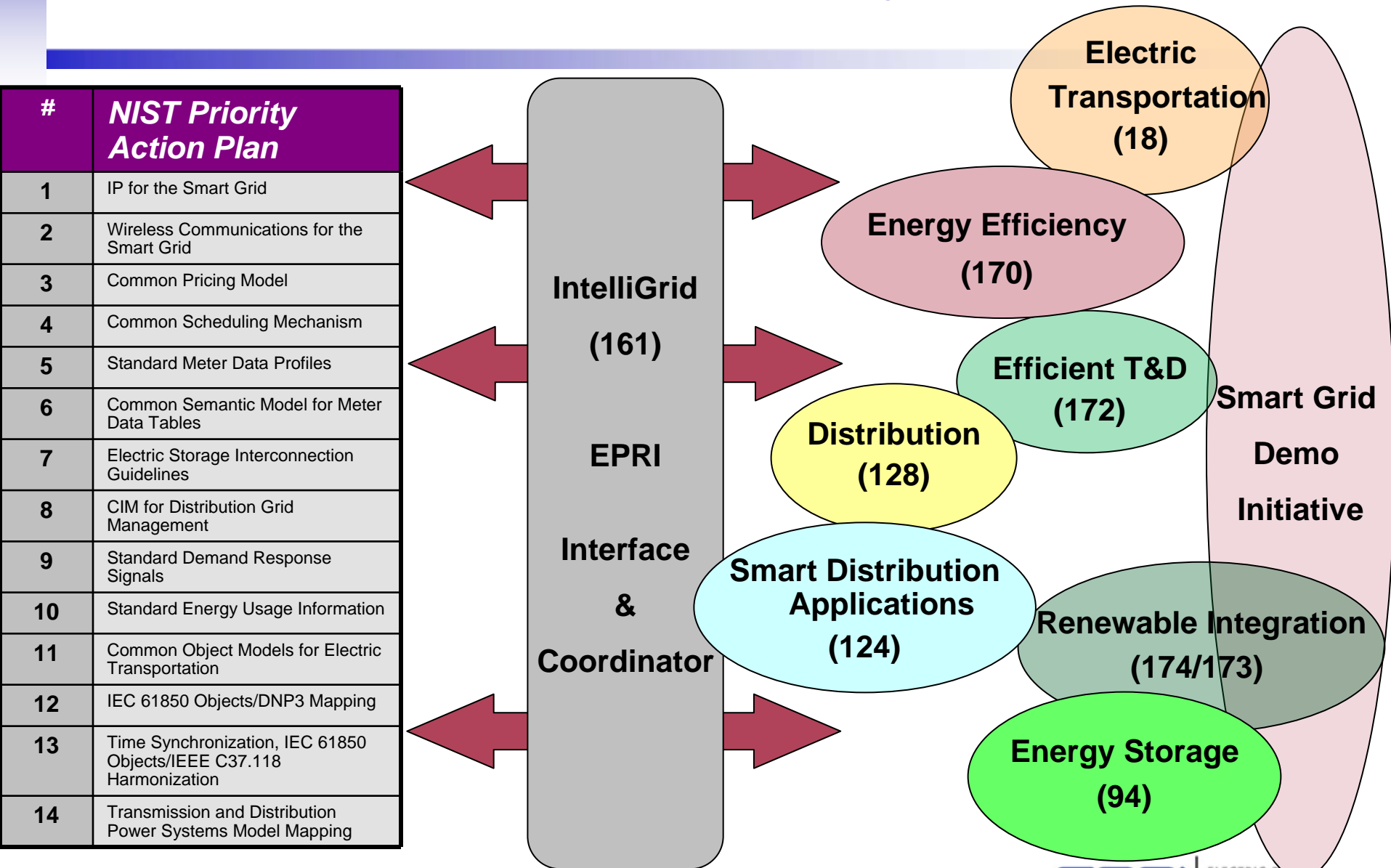
- **Industry Coordination and Collaboration**
  - NIST Priority Action Plan Coordination / Collaboration
  - DOE R&D Coordination (along with others)
  - Utility Smart Grid Executive Committee
  - Public Advisory Group
- **Information Collection and Dissemination**
  - Second Smart Grid Roadmap Workshop
  - Regular Smart Grid Information Sharing Webcasts
- **Thought Leadership White Papers**
  - Smart Grid Deployment Lessons Learned

# NIST Interoperability Standards Tracking and Contribution Project

## Background

- NIST given responsibility for creating the Interoperability Framework for the Smart Grid in EISA 2007
  - Acceleration and harmonization of Smart Grid standards development
- Released their Framework and Roadmap for Smart Grid Interoperability Standards in August, 2009
- Identified existing and emerging standards
- Identified 15 Priority Action Plans
- Formed Smart Grid Interoperability Panel and Governing Board earlier this month

# EPRI Follow-Up on NIST Priority Actions



# Assessment

- The NIST activities are critically important to the utility industry
- The NIST Interoperability Framework development process is moving very quickly and many activities are moving forward in parallel
- Most utilities do not have the staff or specialized expertise to participate in all of the NIST activities
- However, utilities want to track the NIST activities, understand the impact and consequences of these activities, and know when they should participate to best meet their needs.

# Objectives of NIST Interoperability Standards Tracking and Contribution Project

- Support NIST activities at all levels with active EPRI participation and contributions:
  - Interoperability Standards Panel
  - Governance Board
  - Architecture Committee
  - Compliance and Testing Committee
  - Priority Action Plan Working Groups
  - Domain Expert Working Groups (DEWGs)
- Contribute the results of EPRI R&D to the NIST activities
- Provide EPRI members with information and analyses on the NIST activities :
  - information on the activities of the various groups
  - analyses of the significance and consequences of the various activities
  - information on how and when to participate
- Identify opportunities to fund work that is necessary for the NIST process through the base R&D programs or through supplemental projects

# Possible Communications Channels with Members

- Develop a Member's-Only Website
  - Have separate pages for each priority action plan
  - Establish calendar of NIST activities
- Develop a monthly email that summarizes NIST activities
- Establish Monthly Webcasts
  - Summarize activities and status
  - Present analysis
  - Bring in guest presenters as appropriate

# DOE's Smart Grid Development Efforts: Outcome-driven

## Investments

- Recovery Act: commercial applications and demonstrations of near-term technology
- Base Programs: R&D on longer-term technology

## Transformation

Dynamic  
Optimization of  
Grid Operations  
& Resources

Demand  
Response and  
Consumer  
Participation

## Outcomes

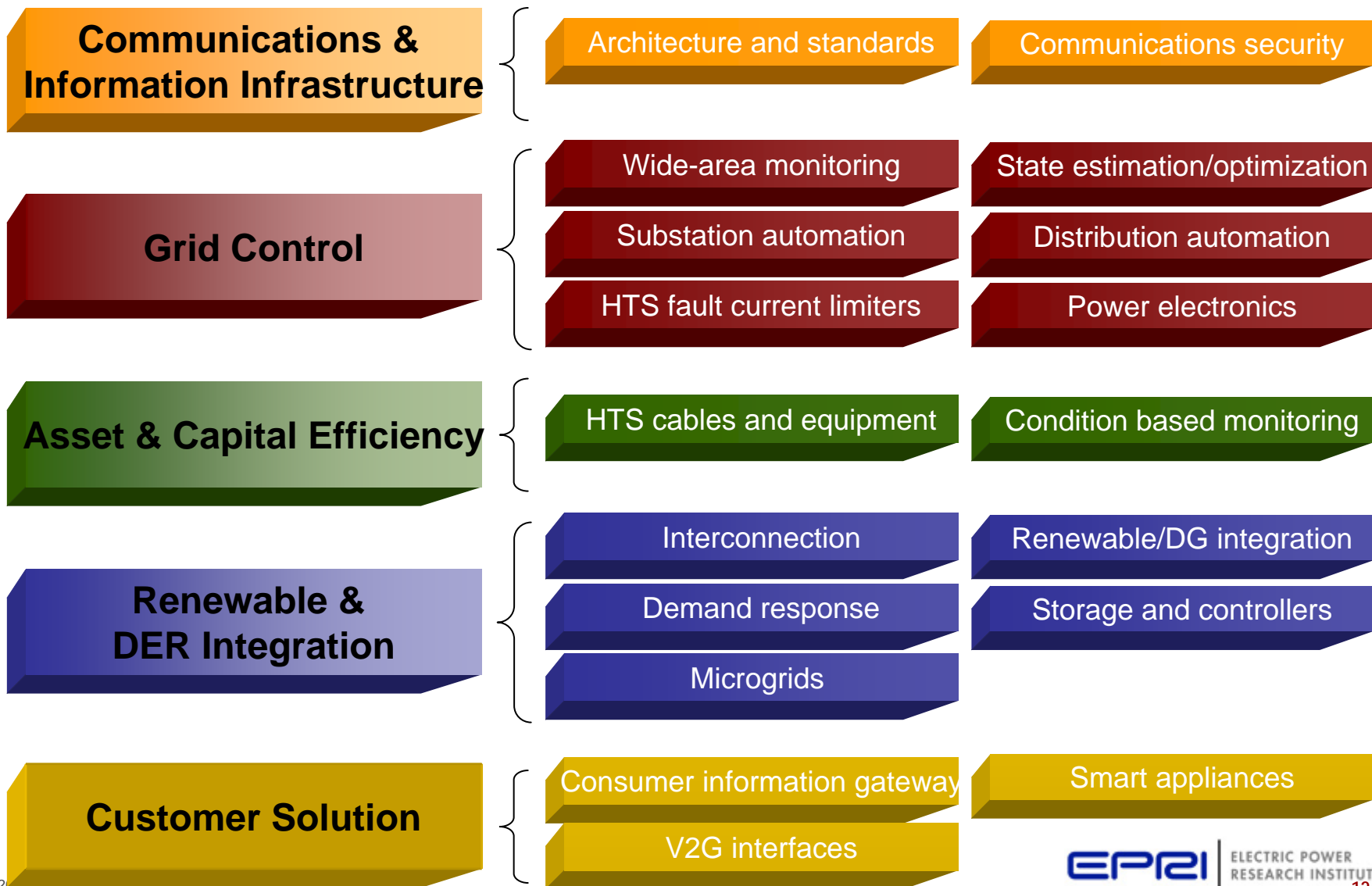
- Reduced Peak Load and Consumption
- Operational Efficiency
- Grid Reliability and Resilience
- More Distributed and Renewable Energy
- Lower Carbon Dioxide Emissions
- Enhanced Economic Productivity

# DOE Office of Electricity R&D Division

- Base Programs to Support Longer-term Technology Development for Grid Modernization
  - Clean Energy Transmission and Reliability
  - Smart Grid Research and Development
  - Energy Storage
  - Cyber Security for Energy Delivery Systems

**FY10 R&D Budget: \$124.9 M**

# OE's Smart Grid Technology Areas



# Smart Grid R&D FY2010 Solicitation

- To solicit projects to fill in the R&D gap areas identified in the MYPP
- Planned issuance of solicitation in March, with awards in September 2010
- Estimated budget:  
\$15M in FY10 (*outyear funding TBD*)

# Ad Hoc Smart Grid Executive Committee

## Background

- PDU currently has 3 Executive Committees – Transmission, Distribution and End-Use
- Executive Committees provide strategic advice and guidance to the relevant EPRI R&D programs.
- As Smart Grids continue to grow in prominence, many utilities now have Executives with Smart Grid responsibilities
- Many of the cross cutting issues that are important for Smart Grid deployments (communications infrastructure, security, interoperability standards, data integration and system management) fall between the existing Committees.

# Ad Hoc Smart Grid Executive Committee

- The Ad-Hoc Smart Grid Executive Committee will be comprised of electric utility executives who have the responsibility for creating their companies' Smart Grid strategy and leading its deployment.
- The Committee will hold regular conference calls and will report to the PDU sector council twice a year.
- Committee Chairman is Paul De Martini, Vice President of Advanced Technology, Southern California Edison

# Ad Hoc Smart Grid Executive Committee

**The Smart Grid Executive Committee will provide advice and guidance to EPRI on:**

- Technical and non-technical challenges facing utilities that are rolling out Smart Grids
- Limitations of current Smart Grid technologies
- Technology developments that would accelerate the deployment or increase the value of Smart Grids
- Regulatory or legislative issues that could impact the deployment of Smart Grids
- Industry activities that EPRI should be involved in and/or contribute to
- Opportunities to coordinate with other organizations to leverage investments and increase value
- Approaches for delivering the results of EPRI's work
- Opportunities to apply the results of EPRI's work

# Public Advisory Group

## October 28-30 in Knoxville, Tn

- State Regulators
  - New Hampshire
  - Texas
  - New Jersey
  - New York
  - California
  - New Mexico
  - Michigan
  - Wyoming
  - Iowa
- National Conference of State Legislators
- American Council for an Energy-Efficient Economy
- California Energy Commission
- U.S. Environmental Protection Agency
- Natural Resources Defense Council
- Massachusetts Technology Collaborative
- National Governors Association
- Edison Electric Institute
- U.S. Department of Energy
- American Council for an Energy Efficient Economy
- National Association of State Energy Offices
- Alliance to Save Energy
- National Association of Regulatory Utility Commissioners

# 2010 Activities

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