



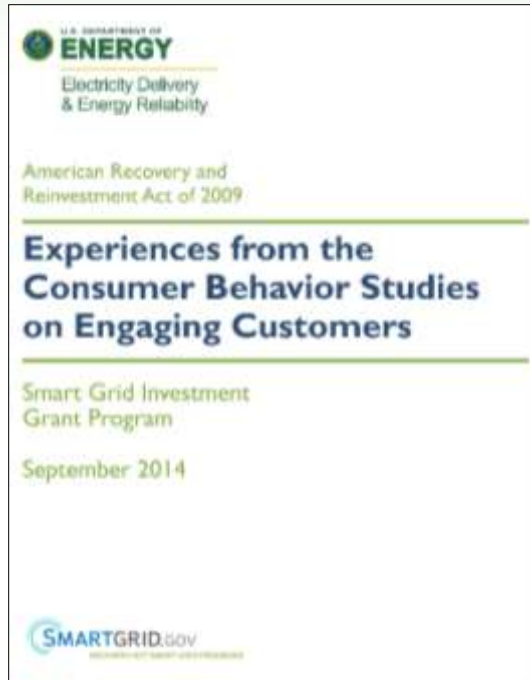
Office of Electricity Delivery & Energy Reliability UPDATE

Caitlin Callaghan

National Electricity Delivery Division

caitlin.callaghan@hq.doe.gov

Experiences from the Consumer Behavior Studies on Engaging Customers



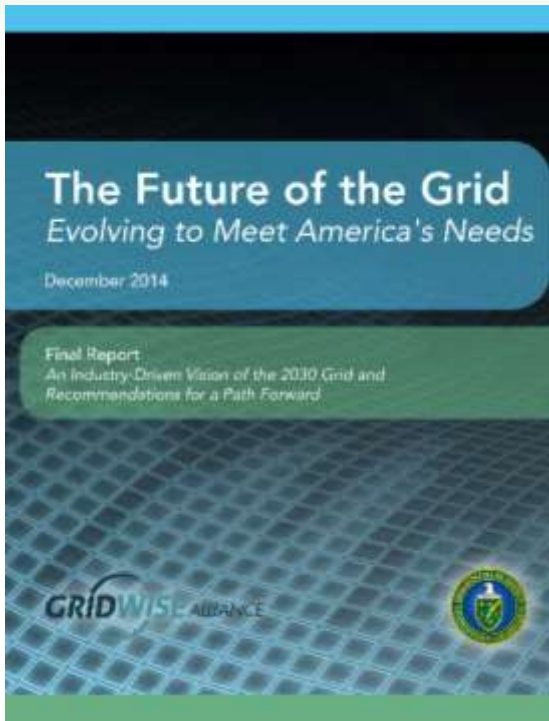
One of the most important aspects for the successful implementation of customer-facing programs is to better understand how to engage and communicate with consumers. Customer-facing programs include time-based rates, information and feedback, load management, and energy efficiency. This report presents lessons learned by utilities through consumer behavior studies (CBS) conducted as part of the Department of Energy's (DOE) Smart Grid Investment Grant (SGIG) program.

September 2014

Report available at
www.smartgrid.gov

Google: smartgrid.gov consumer
behavior studies experience

The Future Of The Grid: Evolving To Meet America's Needs



December 2014

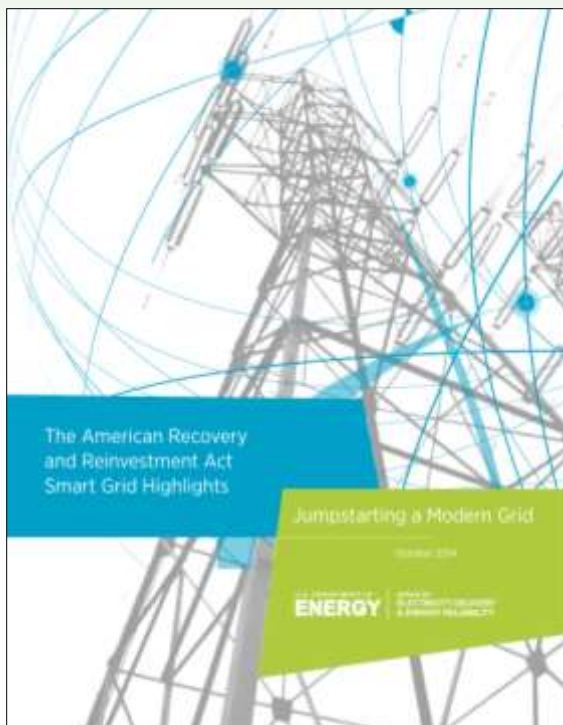
Report available at:

<http://energy.gov/oe/downloads/future-grid-evolving-meet-america-s-needs-december-2014>

Google: future grid evolving oe energy.gov

The Office of Electricity Delivery and Energy Reliability (OE) and the GridWise Alliance (GWA) partnered to facilitate a series of four regional workshops and a National Summit entitled “Future of the Grid: Evolving to Meet America’s Needs” to create an industry-driven vision of the electric grid in 2030 and to begin forging a path to realizing that vision. To determine the vision of the future electric grid, the initiative examined the nation’s grid in the context of the entire value chain of the electric system, which includes the grid infrastructure as well as generation, transmission, distribution, storage, and end use. The resulting report captures the vision of the future electric grid and the associated potential changes in the utility business and regulatory models, as articulated by regional workshop and National Summit participants. Participant input is expected to help to facilitate a smooth transition to achieving the vision while recognizing and supporting the diversity of specific approaches and implementation pathways needed by individual states, regions, and utilities.

SGIG and SGDP Highlights: Jumpstarting A Modern Grid



October 2014

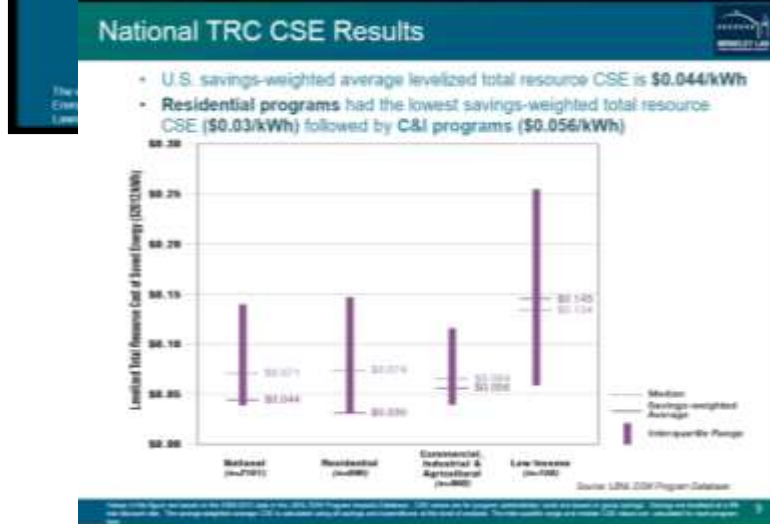
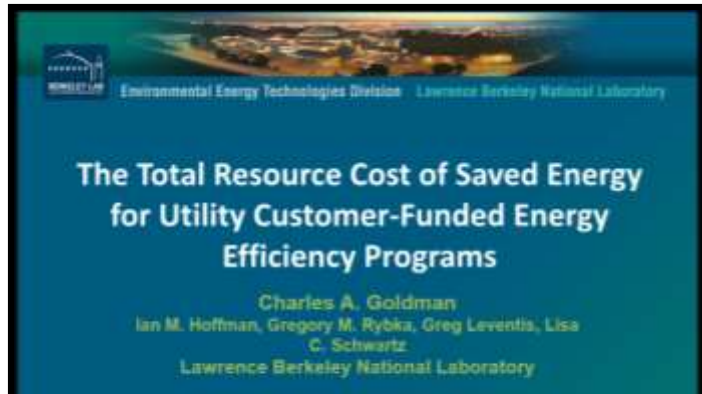
Report available at:

<http://energy.gov/oe/downloads/sgig-and-sgdp-highlights-jumpstarting-modern-grid-october-2014>

Google: sgig sgdp jumpstart

The American Recovery and Reinvestment Act of 2009 (Recovery Act) provided DOE with \$4.5 billion to modernize the electric power grid. Under the largest program, the Smart Grid Investment Grant (SGIG), DOE and the electricity industry have jointly invested \$8 billion in 99 cost-shared projects involving more than 200 participating electric utilities and other organizations to modernize the electric grid, strengthen cybersecurity, improve interoperability, and collect an unprecedented level of data on smart grid operations and benefits. The Recovery Act also enabled DOE to invest \$600 million along with \$900 million industry cost share in 32 Regional Smart Grid Demonstrations and Energy Storage Demonstration projects under the Smart Grid Demonstration Program (SGDP). The goal of SGDP is to demonstrate new and more cost-effective smart grid technologies, tools, techniques, and system configurations that significantly improve on the ones commonly used today. This report provides highlights and summaries of the projects that received funding through the Smart Grid Investment Grant program and Smart Grid Demonstration program.

Cost of Saved Energy: Total Cost of Utility Customer-Funded Energy Efficiency Programs



- LBNL Cost of Saved Energy Project to assemble data on the cost of utility customer-funded energy efficiency programs
 - Database comprises more than 4,000 program-years' worth of efficiency program cost and energy savings data for 34 states
- Total cost of saved energy = program administrator cost + participant cost =
 - Part 1: Prog Admin Cost = \$0.021/kWh saved
 - Part 2: Total Cost = ~\$0.044/kWh saved
- Impact:
 - Program Administrators: Benchmark/compare alternative types/design of efficiency programs
 - DSM Resource Planners: Project impacts of efficiency programs on future load forecasts
 - State Regulators: Compare efficiency program options with other demand- and supply-side resources at screening level

<http://emp.lbl.gov/cost-saved-energy>

Grid Modernization Vision

*The future grid provides a critical platform for U.S. prosperity, competitiveness, and innovation in a global clean energy economy. It must deliver **reliable, affordable, and clean electricity** to consumers where they want it, when they want it, how they want it.*

Achieve Public Policy Objectives

- 80% clean electricity by 2035
- State RPS and EEPS mandates
- Access to reliable, affordable electricity
- Climate adaptation and resilience

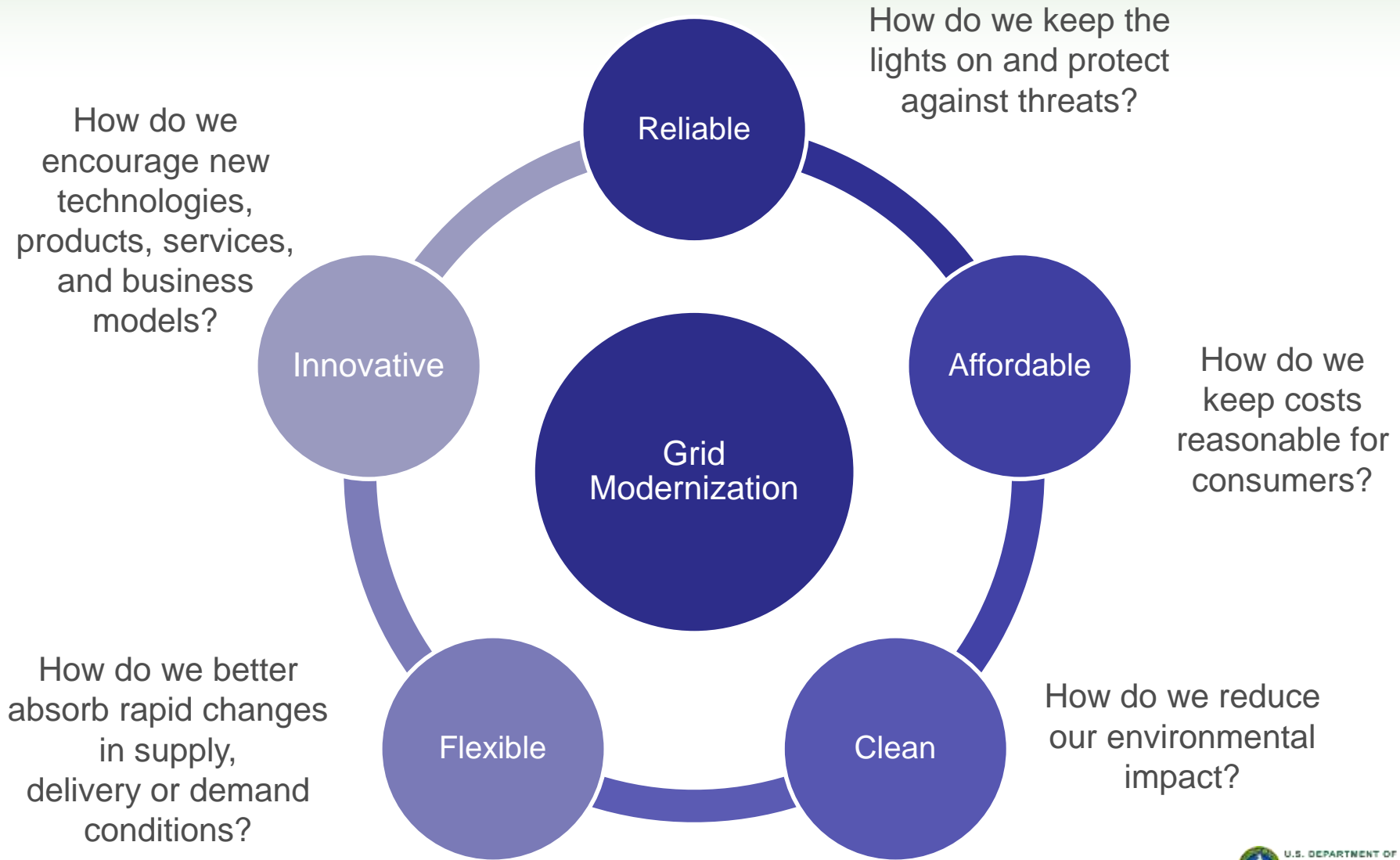
Sustain Economic Growth and Innovation

- New energy products and services
- Efficient markets
- Reduce barriers for new technologies
- Clean energy jobs

Mitigate Risks and Secure the Nation

- Extreme weather
- Cyber threats
- Physical attacks
- Natural disasters
- Fuel and supply diversity
- Aging infrastructure

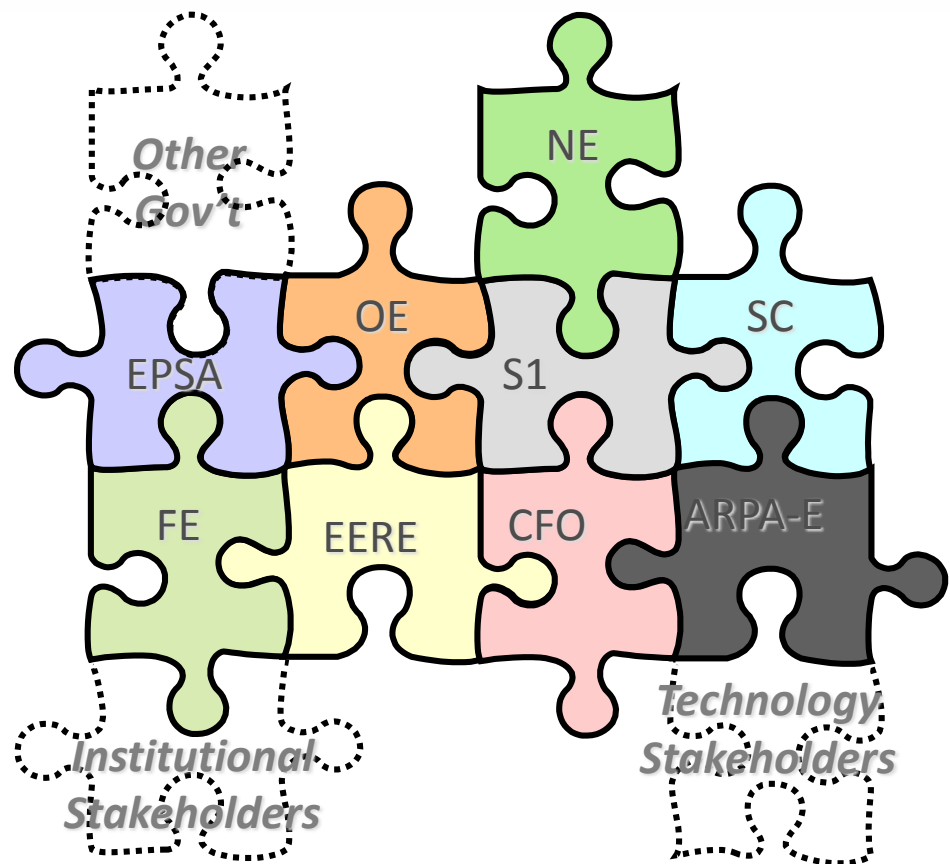
Key Attributes of a Modernized Grid



DOE Grid Modernization Initiative

An aggressive grid modernization strategy for the Department of Energy that includes

- Alignment of the existing base activities among the Offices
- An integrated Multi-Year Program Plan (MYPP)
- New activities to fill major gaps in existing base
- Development of a laboratory consortium with core scientific abilities and regional outreach



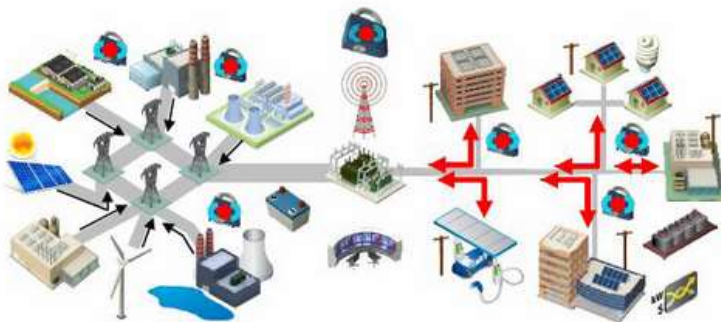
Grid Modernization Laboratory Consortium



Home » Launch of the Grid Modernization Laboratory Consortium

Launch of the Grid Modernization Laboratory Consortium

November 17, 2014 - 9:51am



A modern electric grid must deliver reliable, affordable and clean electricity to consumers where and when they want it. Achieving this will require connecting clean energy sources to the grid in a distributed network that enables consumer choice, increased efficiency, and resilience against disruptions due to natural disaster or attack.



Dr. Michael Knotek
Deputy Under Secretary for Science and Energy

For almost one hundred years, electricity has powered our nation's economic growth and prosperity. Think about it - electricity factors in almost every aspect of our daily lives - including our homes, businesses, schools, electronic devices, and even our cars. It's delivered to us through our nation's electricity grid, which the National Academy of Engineering named the greatest engineering achievement of the 20th century.

But dramatic changes are occurring in our nation's energy mix, many of which demand a more technologically advanced electric grid. Increasing use of renewable energy sources, risks of cyber and physical attacks, and aging infrastructure create uncertainty of the current grid's long-term ability to provide the services demanded of

RELATED ARTICLES



Welcome to #GridWeek on Energy.gov



Smart Grid Week: Working to Modernize the Nation's Electric Grid



Smart Grid Week: R&D Projects Paving the Way to the 21st Century Grid

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System Operations and Power Flow

Design and Planning Tools

Security and Resilience

Institutional Support

<http://energy.gov/articles/launch-grid-modernization-laboratory-consortium>

Technical Assistance

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STATE, LOCAL AND TRIBAL TECHNICAL ASSISTANCE GATEWAY

Frequently Asked Questions
Featured Topic: Greenhouse Gas Reduction Strategies in the Electric Power Sector

CONTACT US
For more information about technical assistance at the Department of Energy, contact us via e-mail.

The State, Local and Tribal Technical Assistance Gateway provides an access point to DOE's technical assistance and cooperative activities with state, local and tribal officials. Through its [program and staff offices](#), DOE has engaged extensively with various levels of state, local and tribal governments, providing technical assistance on a range of energy issues. Our existing technical assistance and other activities, as well as relevant information offered by other federal agencies, are provided below by program or topic.

If you're a state, local or tribal official, or a representative from an organization of such officials, with a specific question or need for assistance, [email us](#) and we'll work collaboratively across the DOE to address your inquiry. Responses could include access to DOE and national laboratory experts; ongoing cooperative activities with national state, local, regional and tribal associations and external subject matter experts; and existing and new materials including guidebooks, toolkits, webinars and data. Any technical assistance provided will depend on the inquiry and the availability of DOE resources.

EXISTING TECHNICAL ASSISTANCE AND COOPERATIVE ACTIVITIES BY PROGRAM AND TOPIC	DATA, TOOLS, AND BEST PRACTICES
Assistance with Greenhouse Gas Reduction	WINExchange
	Better Buildings Residential Network Solution Center

- Website provides links to information and details on specific technical assistance opportunities currently available by DOE office.
- DOE TA workgroup helps facilitate coordinated responses to TA inquiries.
- DOE offices will provide assistance as they are able depending on each office's resources. Assistance will vary between offices and requests.

OE Electricity Policy Technical Assistance Program

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Home » Services » Electricity Policy Coordination and Implementation » Electricity Policy Technical Assistance Program

ELECTRICITY POLICY TECHNICAL ASSISTANCE PROGRAM

OVERVIEW

Since 2003, the U.S. Department of Energy's Office of Electricity Delivery and Energy Reliability (OE) has been providing independent and unbiased technical support to states, regions, and Tribes on their electricity-related policies through its Electricity Policy Technical Assistance Program. The scope of OE's assistance is determined by the requests received.

Types of assistance offered and activities supported include:

- **Analysis** assistance consisting of data collection and assessment activities to determine impacts and evaluate policy options and technology and market strategies
- **Stakeholder-Convended Discussions** by organizing task forces, working groups, and collaborative processes to tackle key issues and build consensus for preferred courses of action
- **Education and Training** through workshops and webinars to raise knowledge levels and better equip policy makers to address local and regional needs
- **Consultations** for quick-turnaround assignments involving technical experts advising policy makers on specific matters of interest

There is a continuing need for information and education about electricity opportunities and options, especially due to the ever-changing dynamics of the electricity system. For example, evaluation of new technologies for electric generation, transmission, distribution, and end-uses requires independent and unbiased information on cost and performance to augment the information that policy makers already receive.

In addition, collaborative discussions offer a forum for creativity in identifying solutions to policy and regulatory challenges posed by these new opportunities and options. Unbiased technical assistance informs these discussions, providing resources and expertise that enable policy makers to explore innovative solutions and find common ground.

EPTA PROGRAM

Overview

Get Assistance

Technical Assistance Topics

RELATED LINKS

[DOE State and Local Government Resources](#)

[DOE Tribal Technical Assistance](#)

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CONTACTS

Mr. Larry Mansueti
U.S. Department of Energy
Office of Electricity Delivery and Energy Reliability
1000 Independence Avenue, SW
Washington, DC 20585
202-586-2588
larry.mansueti@hq.doe.gov

Ms. Caitlin Callaghan
U.S. Department of Energy
Office of Electricity Delivery and Energy Reliability
1000 Independence Avenue, SW
Washington, DC 20585
202-287-6345
caitlin.callaghan@hq.doe.gov

U.S. DEPARTMENT OF ENERGY

TA Topics Quick Links

- [EPA Regulations](#)
- [Ratepayer-Funded Energy Efficiency](#)
- [Demand Response](#)
- [Recovery Act Assistance](#)
- [Uniform Methods Project](#)

Contacts

Larry Mansueti

202-586-2588

lawrence.mansueti@hq.doe.gov

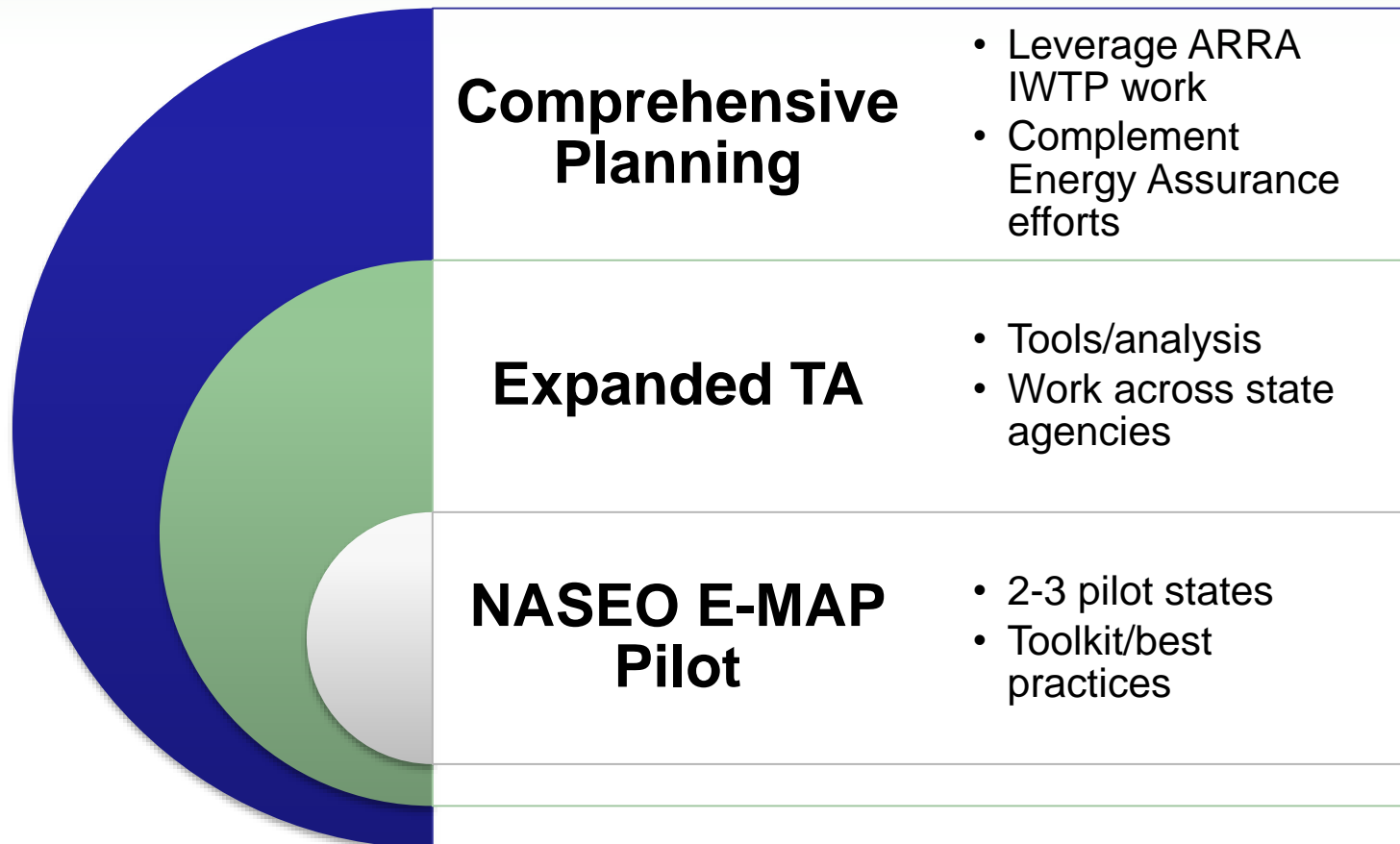
Caitlin Callaghan

202-287-6345

caitlin.callaghan@hq.doe.gov

<http://energy.gov/oe/services/electricity-policy-coordination-and-implementation/electricity-policy-technical>

Helping with Energy System Reliability Planning



State Energy Reliability and Assurance Grants

The State Energy Reliability and Assurance Grants program would provide grants to states, localities, and tribal governments in support of electricity transmission, storage, and distribution reliability and energy assurance.

Electricity TS&D Reliability (\$27.5M)

Provides grants to assist states and others to develop long-term energy system reliability plans that advance electric reliability planning and integrate it with planning and action for environmental protection, climate resiliency, and energy efficiency

Energy Assurance (\$35.5M)

Provides formula grants to state, local, and tribal governments to enhance resiliency through energy assurance planning, compliance, and training, including exercises

- State Energy Reliability and Assurance Grants will be offered to all 50 states, local, regional, tribal and territorial entities
- Grants would require coordination with relevant stakeholders (e.g. SEOs, PUCs, environmental regulators, reliability coordinators)



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