

GRID MODERNIZATION

Institutional Support—Overview

State policymakers, regulatory agencies, and regional planning organizations play a critical role in shaping both the direction and pace of grid modernization, but many state regulatory agencies are hard pressed to address the complex issues related to grid modernization and the deployment of distributed energy and renewable resources. Thus, the demand for objective technical assistance and information on grid modernization is high and likely to increase.



The “Institutional Support” focus area has four main activities related to objective technical assistance and information on grid modernization. The first two activity areas focus on expanding efforts to provide high-quality technical assistance, primarily targeted to state energy agencies and regional planning organizations. The third technical area focuses on activities that analyze the potential impacts of (and barriers faced by) emerging technologies on grid operations and markets, and develops analytic methods and tools to value distributed energy resources. The fourth technical area focuses on research on the future of electric utility regulation. Each activity has specific goals and target achievements to be completed by 2020.

Activity 1: Provide Technical Assistance to States and Tribal Governments

Goal: Provide independent and unbiased technical assistance to state and tribal policymakers on existing and emerging issues in the electricity sector as related to grid modernization.

Target achievements:

- Provide technical assistance to all states and tribes to inform their decision making for electricity policy, accelerating policy innovation in at least seven states.
- Provide technical analyses to at least 10 states—including guidance on how to consider new technologies such as distributed energy resources—allowing them to establish formal processes to review utility distribution system plans.
- Assist at least 10 other states in developing comprehensive energy system plans.

Activity 2: Support Regional Planning and Reliability Organizations

Goal: Provide technical expertise to support the integration of new technologies into the grid and provide unbiased information, analyses, tools, and resources that help regional planning and reliability organizations develop their capabilities to address key grid modernization issues.

Target achievements:

- Support regional planning and reliability organizations in developing institutional frameworks, standards, and protocols for integrating new grid-related technologies.

- Coordinate a regional long-term planning process that uses standardized planning assumptions and publicly available databases of transmission topology and regional resource data.
- Facilitate long-term regional planning in each U.S. interconnection.



Activity 3: Develop Methods and Resources for Assessing Grid Modernization: Emerging Technologies, Valuation, and Markets

Goal: Provide analyses, case studies, and tool development for decision makers to facilitate stakeholder engagement and address the challenges posed by increasing deployment of emerging technologies on the electric grid, particularly more distributed energy resources. This will reduce the risks and better inform investment decisions regarding emerging technologies enabled by grid modernization.

Target achievements:

- Develop new methods for valuing distributed energy resources and services.
- Develop analysis tools and methods that facilitate states' and tribes' integration of emerging grid technologies into their decision making, planning, and technology deployment.
- Track grid modernization progress in states and tribes through standardized data collection methods and performance and impact metrics.

Activity 4: Conduct Research on Future Electric Utility Regulations

Goal: Provide analysis and modeling tools and technical assistance to state regulators, utilities, and industry stakeholders to support analyses of key issues facing state public utility commissions (PUCs) related to new business models for electric utilities.

Target achievements:

- Provide technical assistance to at least eight state PUCs and utilities on ratemaking alternatives using DOE-supported financial analysis tools, other analytic resources, or stakeholder-convened discussions.
- Provide technical assistance to at least five states and utilities that are considering fundamental changes to the existing regulatory model.
- Provide technical assistance to at least five states that are considering allowing third-party access to customer hourly interval load data and pricing of value-added services, which could spur new energy services markets.