Policy Framework for a 21st Century Grid

Enabling Our Secure Energy Future

Background: ARRA investments in Grid Modernization

- $4.5 billion in federal money
- $5.5 billion match from utilities and industry
- 99 Smart Grid Investment Grants
- 42 demonstration grants
- 52 workforce training grants

National Science and Technology Council (NSTC) Subcommittee on Smart Grid

- 11 Agency task force
- Co-chaired by:
  - Patricia Hoffman, Assistant Secretary, DOE Office of Electricity Reliability and Deliverability
  - George Arnold, National Coordinator for Smart Grid Interoperability, NIST
- Met with over 100 organizations including states, utilities, technology firms, and consumer advocates
- Drew on three Requests for Information[1]

[1] Information and RFI comments: http://www.oe.energy.gov/Smart%20Grid%20Request%20for%20Information%20and%20Public%20Comments.htm

Summary of Policy Framework

Cooperatively support communications, sensing, control, information, and energy technologies to increase system efficiency, save consumers money, and support a clean energy economy

Recommendations:

1) Enabling cost-effective smart grid investments
- Incentives, R&D, information sharing

2) Unlocking innovation
- Standards, open markets, and demand response incentives

3) Empowering and informing consumers
- Education, data access, ease of use, privacy, protection

4) Securing the grid
- Cybersecurity standards, performance based cybersecurity

Enabling Cost-Effective Investments

Provide information about cost-effective smart grid investment approaches to help guide grid upgrades

1) Consider strategies to align market and utility incentives with the provision of cost-effective investments that improve energy efficiency
2) Continued Federal smart grid research, development, and demonstration projects
3) Federal support for information sharing from smart grid deployments to inform cost-benefit investments, decision making, and reduce duplicative experimentation

Unlocking Innovation in Electricity Sector

New products and services can offer consumers comfort, convenience, and savings

1) Continue Federal efforts to catalyze the development and use of open standards
   - Standards help to ensure that today's investments will be compatible with advancing technology and valuable in the future
2) Seek to reduce the generation costs during periods of peak demand
   - Smart grid supports many demand response strategies
   - Consider time-varying rates that more accurately capture the cost of supplying electricity
3) Continue to protect consumer options and prevent anti-competitive practices in market for devices, energy management services, and applications

Empowering and Informing Consumers

Provide customers information about their energy choices while protecting the privacy of consumers' energy usage data

1) Educate consumers about smart grid technologies and options

2) Building on recent efforts, states should continue to consider how to develop policies and strategies to ensure consumers receive timely access to, and control over, machine-readable information about their energy consumption in a standard format.

3) Consider means to ensure that any utility-deployed, consumer-facing energy management devices are easy to use

   – Next step is personalized feedback suggesting energy-saving measures

4) Provide methods to ensure consumers energy usage data are protected consistent with Fair Information Practice Principles (FIPPs) and develop approaches to address issues unique to energy usage.

5) Consider updating and enhancing consumer protections

Securing the grid

Protect the electric system from cyber attacks and ensure it can recover when attacked

1) Develop rigorous and open cybersecurity standards and guidelines through public-private cooperation

2) Promote a rigorous, performance-based cybersecurity culture including active risk management, performance evaluations, and ongoing monitoring

Next steps for DOE

The Administration will work with broad range of stakeholders to move forward

1) DOE will continue and expand cooperative, technical assistance relationships with states through NARUC and NASUCA

2) President's FY 2012 DOE Budget request funding for a Smart Grid Technology and Systems Energy Innovation Hub

3) DOE is convening regional stakeholder meetings

4) DOE will report on implementation in six months

5) EIA will undertake initial efforts to track consumer access to energy usage information through its utility data collection mechanisms

For More Information

- *Policy Framework for a 21st Century Grid:*
  - *http://www.whitehouse.gov/administration/eop/ostp/nstc*
- NSTC Committee on Technology:
  - http://www.whitehouse.gov/administration/eop/ostp/nstc/committees/cot
- Federal Smart Grid Efforts:
  - http://www.smartgrid.gov/