

# Smart Grid Information Clearinghouse

Lisa Schwartz

Presentation to NARUC/FERC Smart Grid Collaborative

Feb. 14, 2010



*The Regulatory Assistance Project*

---

China ♦ EU ♦ India ♦ United States



# About the Regulatory Assistance Project

---

- RAP is a nonprofit organization providing technical and educational assistance to government officials on energy and environmental issues. Senior RAP staff all have extensive utility regulatory experience.
- Funded by foundations and the US Department of Energy. We have worked in nearly every state and many nations throughout the world.
- RAP also provides educational assistance to stakeholders, utilities and advocates.



# What Is the Clearinghouse?

---

- Objective: To design, populate, manage and maintain a public smart grid web portal that reaches out to a broad user community for information gathering and knowledge delivery
  - Serve as a decision support tool for regulators
  - Provide public outreach, answer questions
- \$1.3 million initiative under Recovery Act
- Managed by Virginia Tech; launched 9/09



# Clearinghouse Draft Priority List (2/9/10)

---

1. **Smart grid 101** – General education, definitions, NIST model
2. **Technologies** – State of the art, deployments
3. **Standards** – Lists, organizations, feedback on implementation
4. **Regulations** – Federal/state, monthly update of dockets/legislation
5. **Cyber-security issues** – Roadmap, activities
6. **Business cases/use cases/cost benefit analyses/best practices**
7. **Smart grid projects** – ARRA project overviews with link to DOE metrics, information on non stimulus projects, federal funding opportunities
8. **Continuing education, training sources, R&D**
9. **International information**
10. **More resources** – Links to key industry sites, calendar of events



# DOE Guidebook for Reporting on Metrics/Benefits of ARRA Projects

---

- Specifies information to be collected from awardees
  - *Build metrics*: Money, infrastructure assets, policies and programs, marketplace innovation and jobs
  - *Impact metrics*: How, and to what extent, a smarter grid is affecting grid operations and performance, or how it is enabling customer programs and behavior changes
  - Awardees must submit a draft Metrics and Benefits Reporting Plan to DOE within 60 days of award
- Explains how information will be used to communicate smart grid progress/impacts to public
- Issued December 2009



# Gap Analysis

---

- Compare reporting requirements in DOE Guidebook with March 2009 Collaborative information requests
  - Also compare to User Group Top 10 list (Regulators/Standards Organizations)
  - Analysis by Benjamin Stafford, aide to Commissioner Centolella
  - Detailed write-up available



# Gap Analysis (cont.)

---

- Reporting requirements in DOE Guidebook cover most information requests from the Collaborative
- But there appear to be some information gaps
  - Evaluation – Primary source material, 3<sup>rd</sup> party analysis
  - Improvement in accurate measurement of end-use energy efficiency
  - Improvement in ability to integrate non-dispatchable renewable generation resources
  - *Incremental* amount of efficiency, demand response
  - New business models
  - Maybe others



# Gap Analysis (cont.)

---

- Also some gaps between reporting requirements in DOE Guidebook and Regulators/Standards Organizations' Top 10 list (Clearinghouse User Group)
  - Cost/benefit analysis
  - Cyber-security conformance provisions/best practices
  - Privacy provisions
  - 3<sup>rd</sup> party capital participation and business models
  - Anonymous lessons learned
  - Maybe others



# For More Information

---

➤ DOE Guidebook:

[http://www.oe.energy.gov/DocumentsandMedia/09\\_SG\\_Kickoff\\_Guidebook.pdf](http://www.oe.energy.gov/DocumentsandMedia/09_SG_Kickoff_Guidebook.pdf)

➤ Smart Grid Information Clearinghouse

[www.smartgridinformation.org](http://www.smartgridinformation.org)

*Currently off-line; password-protected site will be launched soon for beta testing by User Group members*

[smartgrid@vt.edu](mailto:smartgrid@vt.edu)



---

Lisa Schwartz  
Senior Associate  
541-990-9526

[lschwartz@raponline.org](mailto:lschwartz@raponline.org)

***RAP is committed to fostering regulatory policies for the electric industry that encourage economic efficiency, protect environmental quality, assure system reliability, and allocate system benefits fairly to all customers.***



# **EXTRA SLIDES**



# Update on Clearinghouse Activities

---

## ➤ Advisory Group

- Recommend content, organization and presentation
- 11/2/09 meeting: Objectives and milestones, identify User Group

## ➤ User Group

- Identify available information and recommend how Clearinghouse can be developed, used and improved – site workability and usefulness for advancing smart grid
- 12/7/09 meeting: Top 10 “want” lists from *each* stakeholder group
  - Utilities, ISOs/RTOs, and service providers
  - Regulators and standards organizations
  - Consumer advocates / Research organizations / Media
  - Professional and trade associations
- Priority list based on input from stakeholders now out for review
- Next meeting: 3/15/10



# User Group Top 10 Lists: Regulators/Standards Org.

---

1. Detailed cost/benefit analysis plus supporting documentation
2. Standards and other specifications used for the smart grid project
3. Cyber-security conformance provisions/best practices
4. Project description (technology enabler, expected results)
5. Actual results (e.g., case studies, market impact, price changes)
6. Anonymous lessons learned
7. Dynamic operational information – actual experience over time (events, reliability impact, mitigation plans, actual costs and benefits)
8. Planning and assessment data (demand forecasting, privacy, upgrades, integration, generation, T&D)
9. Business models/market information and 3<sup>rd</sup> party capital
10. Metadata (data about data) – e.g., use cases

---

*User Group meeting, December 7, 2009 (in order of importance)*



# Information Requests From the Collaborative

---

Information/data requirements – to be eligible for funding a grantee must agree to provide detailed data and documentation of project results, including the following information, as applicable to the project, to the DOE Clearinghouse [not every project will deal with all the items listed]:

- a) Any internal or third party evaluations, ratings, and/or reviews including all primary source material used in the evaluation;
- b) Detailed data and documentation explaining any improvement in the accurate measurement of energy efficiency, energy conservation, price responsive demand, or demand response resources;
- c) Detailed data and documentation explaining the expansion of the quantity of energy efficiency, energy conservation, price responsive demand, or demand response resources that resulted from the project and the resulting economic effects;
- d) Detailed data and documentation that shows reduction in both electric demand and energy consumption associated with the project;



# Information Requests From the Collaborative (cont.)

---

- e) Detailed data and documentation for any improvements in the ability to integrate non-dispatchable renewable generation resources;
- f) Detailed data and documentation that shows any achievement of greater system efficiency through a reduction of transmission congestion and loop flow;
- g) Detailed data and documentation showing how the information infrastructure supports distributed resources such as plug-in electric vehicles;
- h) Detailed data and documentation that shows how the project resulted in enhanced utilization of energy storage; and
- i) Detailed data and documentation that shows how the project encouraged new business models, market innovation, and third party and private capital participation.
- j) All data on project results must be publicly available while protecting individual customer privacy and commercially sensitive data.