EnergyTrust of Oregon, Inc.

Energy Trust Workshop on Demand Response/Smart Grid
January 22, 2009

The purpose of the Demand Response/Smart Grid workshop is to identify roles that Energy Trust might play in Demand Response and Smart Grid development and/or implementation.

10:00 Welcome and overview *(Ken Canon)*

- Meeting format and agenda
- Outcomes:
  - Clarify what Demand Response and Smart Grid are and how they involve energy efficiency or renewable energy
  - Clarify role(s) Energy Trust might play
  - Clarify whether and how potential Energy Trust roles depend on utilities or others

10:15 Introduction *(20 minutes plus 10 minutes for questions for each presentation)*

- What are Smart Grid and Demand Response? How do energy efficiency, renewable energy and distributed generation fit? How might they evolve over time? *Jessie Berst, GlobalSmartEnergy (20 minutes plus 10 minutes for questions)*
- Economics in Oregon (e.g., how East Coast capacity costs compare to NW) and what this says about when Smart Grid and Demand Response may be upon us. *Pete Catching, Energy Trust (15 minutes plus 10 minutes for questions)*
- What is the institutional context? Who is likely to drive the issues? *Lisa Schwartz, Oregon Public Utility Commission (15 minutes plus 10 minutes for questions)*
- Follow-up questions/discussion *(10 minutes)*

11:45 Lunch break

12:30 Energy Trust role(s)

- Smart Grid and Demand Response components; functions that are most relevant to Energy Trust. *Pete Catching (20 minutes plus 10 minutes for questions)*
- Panel discussion: How would Energy Trust involvement fit with the primary actors, i.e., utilities? *(1½ hours)*
  - *Don Jones, PacifiCorp*
  - *Joe Barra, PGE*
  - *Lisa Schwartz, Oregon Public Utility Commission*
  - *Bill Welch, EWEB*

2:30 Wrap-up: Outcomes and next steps

Demand Response & Smart Grid: Terms and Concepts

(Adapted from NW Energy Efficiency Task Force working definitions)

Demand management: Technology or behaviors at a given customer's premise that enable the customer, directly or indirectly through devices installed in equipment and appliances, to reduce the electricity use during peak times, e.g.:

- Rate designs: time-of-day, real-time pricing, critical peak pricing, demand buy-back
- Behaviors: manual, semi-automated, or automated management of equipment and appliances in reaction to the various rate designs
- Devices: management of equipment or appliances on the customer's premise controlled by a utility via communication, by pre-arrangement with the customer, typically with compensation in the form of a bill credit

These concepts are not mutually exclusive. With respect to "devices," the difference between load management and the Smart Grid is one of degree and integration. Smart Grid enables load management and other behaviors that reduce the overall cost of providing electrical power to consumers.

Smart Grid: The use of digital information technology to enhance the electrical power grid's communications and control, by:

- Enabling active participation by consumers
- Accommodating all generation and storage options
- Enabling new products, services, and markets
- Providing power quality for the needs of a digital economy
- Optimizing asset use and operating efficiency
- Anticipating and responding to system disturbances in a self-healing manner
- Operate resiliently against physical and cyber attack and natural disasters

The first three characteristics relate directly to the efficiency of how the region uses energy to perform work. The fifth characteristic relates to the energy efficiency of the grid itself.