The Smart Grid Suite

Smart Appliances:
Controllable load
Status reporting
PHEV as resource

Smart Operations:
Dispatch savings
Reliability
Ancillary Services
Service connection/disconnection, etc.
Integration & firming of renewables

Smart Policies:
Clear policy objectives
Net Benefits Framework
Proper Rate Design
Consideration of Carbon Impacts

Smart Pricing:
Value differentiated pricing
Aggregation pricing
Market participation

Smart Planning:
Deferral or avoidance of new supply-side construction
Applies to G, T & D
Least-cost/least-carbon system planning

Smart Grid Questions

- Are there particular technologies or applications which are likely to have high value (or high detriment) from an environmental or economic impact point of view?
- Can most (or a significant portion) of the net benefits from smart grid choices be captured much more cheaply through other means (e.g. load control systems, critical peak pricing, traditional rate design)?
- Where should the intelligence of the smart grid reside – in the meter, in the appliance, on a PC platform, the utility, the consumer, somewhere else, some or all of these? Will the market sort this out or is this a matter of regulatory policy?

Smart Grid Questions

- How will the smart grid reveal the various values of demand-side resources, if at all?
- What relationship is there between smart grids and improved access to transmission for renewables?
- Will the smart grid infrastructure be an open-source model?
- What public reporting of aggregated data should be required, if any?
- Will the information at the consumer level “belong” to that consumer, so that it can be easily (transparently, timely and inexpensively) shared with service providers?

Smart Grid Questions

- Are there any positive incentives for the utility to seek optimization in the smart grid deployment? If not, what should those be?
- What disincentives do utilities face when assessing the deployment of smart grids?
- What incentives exist for utilities to deploy sub-optimal smart grids?
- What barriers do utilities face to pursue smart grids?

Smart Grid Questions

- Will the carbon impact of infrastructure choices be appropriately understood (“revealed”) and valued -- especially in large scale (utility or “state”-wide) deployment decisions?
- Where does the cost of carbon fit in the smart grid?
- How can the value of clean resources be properly “seen” by the smart grid framework?

Smart Grid Questions

- What other complementary policies can enhance or diminish the value of smart grid, for example:
- What would the impact of environmental dispatch have on the value of smart grid and vice versa?
- What rate design strategies best capture the potential values of Smart Grid?
- What are the best practices for pricing in a smart grid environment?
- What are the acceptable practices for pricing?
- What are the pricing approaches to be avoided in a smart grid environment?