

Distributed Resource Barriers

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Overview:

Markets, Process & Incentives

- Technical Standards for Distributed Generation (DG) largely (but not completely) resolved
- DG interconnection rules
 - Still unresolved
 - Too process heavy
- Market Structure issues for DG and Energy Efficiency/DSM
 - Hides values
 - Divides economic interests
- Trump card: Utility throughput incentives



Technical Standards for Distributed Generation

- IEEE 1547
 - Basic standards finalized
 - Follow issues still being resolved
 - Not adopted by most states at this point
- As a barrier -- more of a symptom of other problems
 - Utility culture
 - Utility incentives



Distributed Generation Interconnection Rules

➤ Wholesale

- FERC interconnection rule
- Generally larger systems

➤ Retail

- States lagging in adoption of standard (or any) rules
- Some confusion/overlap with old PURPA rules
- Some regional progress (e.g. PJM/MADRI)



Restructuring Impact: Broken Value Chains

- Vertically Unbundled Industry
 - Fragmented planning process
 - Market Power Solution = Market Barrier Problems
- Multi-faceted Values
 - Wholesale vs. Retail
 - Customer vs. Utility
 - Direct Participants vs. Unintended Beneficiaries



Re-linking the Value Chain: Wholesale Policy Action

- Build the demand side into the market
 - Regional (ISO-sponsored) price-response programs
 - Demand bidding and demand-reduction bidding
 - DR for reliability: ancillary services, emergency curtailments
- Resource adequacy policies
 - Sufficiency of capacity over the longer term
 - Capacity credits, payments for customer efficiency
- Transmission: congestion relief, prices, and expansion plans
 - Least-cost, resource-blind solutions
- Emissions requirements, trading regimes
 - Output-based standards



Re-linking the Value Chain: Retail Policy Action

- Performance-based ratemaking
 - Get the incentives right
- Pricing and advanced metering
 - Economically efficient pricing
- Long-term demand response
 - Funding comprehensive EE programs
- Renewable portfolio requirements and public benefits programs
 - Are there ways for CHP to participate?
- Integrated resource planning (vertically integrated utilities) and portfolio management (default service)
 - A company's least-cost plan of action should also be its most profitable



Customer-Sited Resources: The Ratemaking Problem

- Investments on the customer side of the meter generally reduce utility sales and profits
 - Rate design (\$/kWh and \$/kW) links profits to sales
 - Incremental revenues almost always exceed incremental costs;
 - Utility makes money even when the additional usage is wasteful, and loses it even when the reduced sales are efficient
- In three decades, the problem hasn't changed: how do we align utility incentives with the public good?
- Solutions still available but more complicated



Customer-Sited Resources: Ratemaking Solutions

- Decouple sales from profits with Performance-based regulation
 - Revenue (not price) caps that reward utilities for improving the efficiency of their customers' usage
- Maintain unit-based pricing, but with rate structures that better reflect the economics (including environmental costs) of generation and delivery
- TOU, critical peak, inverted block, real-time



Regulators Depend on Advocacy

- Primary communication channel for most regulators
- Participation in process is largely welcomed by regulators
- Recent activities have mostly trended toward informal collaborative processes rather than litigation or administrative proceedings



Additional Resources

- Website: <http://www.raonline.org>
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