



Barriers and Policy Options to Demand Response

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Agenda

- Vision Statement
- Overview of organization of barriers and policy options
- Presentation of key barriers and policy options
- Discussion and feedback
- Next Steps

Meta Barrier Group 1: Limited acceptance of dynamic pricing

	Regulated Retail in Non-Organized Wholesale Market	Regulated Retail in Competitive Organized Wholesale Market	Competitive Retail in Competitive Organized Wholesale Market
Barrier Description	Limited information related to how best to implement retail dynamic pricing at scale.		
Policy Option 1	Development of means (e.g. regulatory collaboration, professional associations, clearinghouse, etc.) for on-going coordination and sharing of data on and evaluations of pilots and rollouts		
Policy Option 2	Initial rollouts at a meaningful scale accompanied by evaluation of alternate approaches combining different consumer education, enabling technology, and rate design alternatives		

Vision Statement

- Demand Response has the potential to provide cost savings and enhanced value to consumers of all sizes. An “optimal” level of DR is one that:
 - Reflects options offered to consumers that allow them to respond to prices and other incentives that incorporate the time-varying costs of electricity supply, including the costs for generation, transmission and distribution, in both competitive and regulated wholesale and retail markets.
 - Provides overall economic and societal benefits greater than the infrastructure investments and societal costs that make it possible
- Achieving that potential requires changes to wholesale and retail market rules and regulatory policies. This roadmap offers a set of federal and state policy options that will help move the deployment of DR resources toward optimal levels in both restructured and vertically integrated retail electric markets.

Organization of our Presentation

	Regulated Retail in Non-Organized Wholesale Market	Regulated Retail in Competitive Organized Wholesale Market	Competitive Retail in Competitive Organized Wholesale Market
Barrier Description			
Policy Option 1			
Policy Option 2			
Policy Option 3			

Organization of Our Presentation

- Meta vs. Micro Barriers
- Disclaimer:
 - Myopic view of policy options: DR is the priority
 - Therefore, there are may be “cons” to some of the presented options which must be weighed against the “pros” they provide for enabling DR
- Many of the policy options presented represent “best practices,” which either are being considered or have been implemented in some states or regional wholesale markets

Summary of Key Barriers

- Meta Barrier 1: Limited acceptance of dynamic pricing
- Meta Barrier 2: Limited deployment of AMI
- Meta Barrier 3: Limited deployment of Enabling Technology
- Meta Barrier 4: Limiting business and program rules
- Meta Barrier 5: Lack of Consumer Awareness and Knowledge
- Meta Barrier 6: Financial disincentives to utilities and LSE's to run DR programs

Wholesale-retail market disconnect

- The “disconnect” is that retail rates seen by customers do not reflect the time-varying costs of supply, resulting in economically inefficient consumption levels.
- Each of the meta barriers contributes to this disconnect in some way

Meta Barrier Group 1: Limited acceptance of dynamic pricing

	Regulated Retail in Non-Organized Wholesale Market	Regulated Retail in Competitive Organized Wholesale Market	Competitive Retail in Competitive Organized Wholesale Market
Barrier Description	Customer lack of knowledge of the impacts of dynamic pricing limits participation for opt-in tariffs		
Policy Option 1	Implement dynamic pricing (which is a voluntary rate)		
Policy Option 2	Provide opt-in tariffs that address customer fears about downside risk (e.g., peak time rebates, first-year bill guarantees, etc.)		
Policy Option 3	Provide enabling technology (e.g., IHDs, control devices) that automates response and/or educates consumers about bill impacts of behavioral changes in response to prices		

Meta Barrier Group 1: Limited acceptance of dynamic pricing

	Regulated Retail in Non-Organized Wholesale Market	Regulated Retail in Competitive Organized Wholesale Market	Competitive Retail in Competitive Organized Wholesale Market
Barrier Description	Regulatory concerns about negative impacts of dynamic pricing		
Policy Option 1	Educate regulators regarding the high levels of customer satisfaction among participants in dynamic pricing pilots		
Policy Option 2	Conduct and communicate research on the differential impact of dynamic pricing on various customer groups—replace assumptions and conjecture with empirical evidence.		
Policy Option 3	Disseminate empirical evidence from pricing pilots and programs showing the load impacts and benefits associated with adoption of dynamic pricing and similar DR options.		

Meta Barrier Group 1: Limited acceptance of dynamic pricing

	Regulated Retail in Non-Organized Wholesale Market	Regulated Retail in Competitive Organized Wholesale Market	Competitive Retail in Competitive Organized Wholesale Market
Barrier Description	Policy restrictions on dynamic pricing.		
Policy Option 1	Allow utilities to offer opt-out default dynamic rates (e.g. CPP) to mass market customers Allow tariffs that incorporate dynamic pricing		
Policy Option 2		Remove wholesale price caps and allow scarcity pricing	
Policy Option 3		Set “last resort” and required opt-out default rates as a dynamic tariff, e.g., C&I above 20 kW on CPP or RTP, where appropriate	

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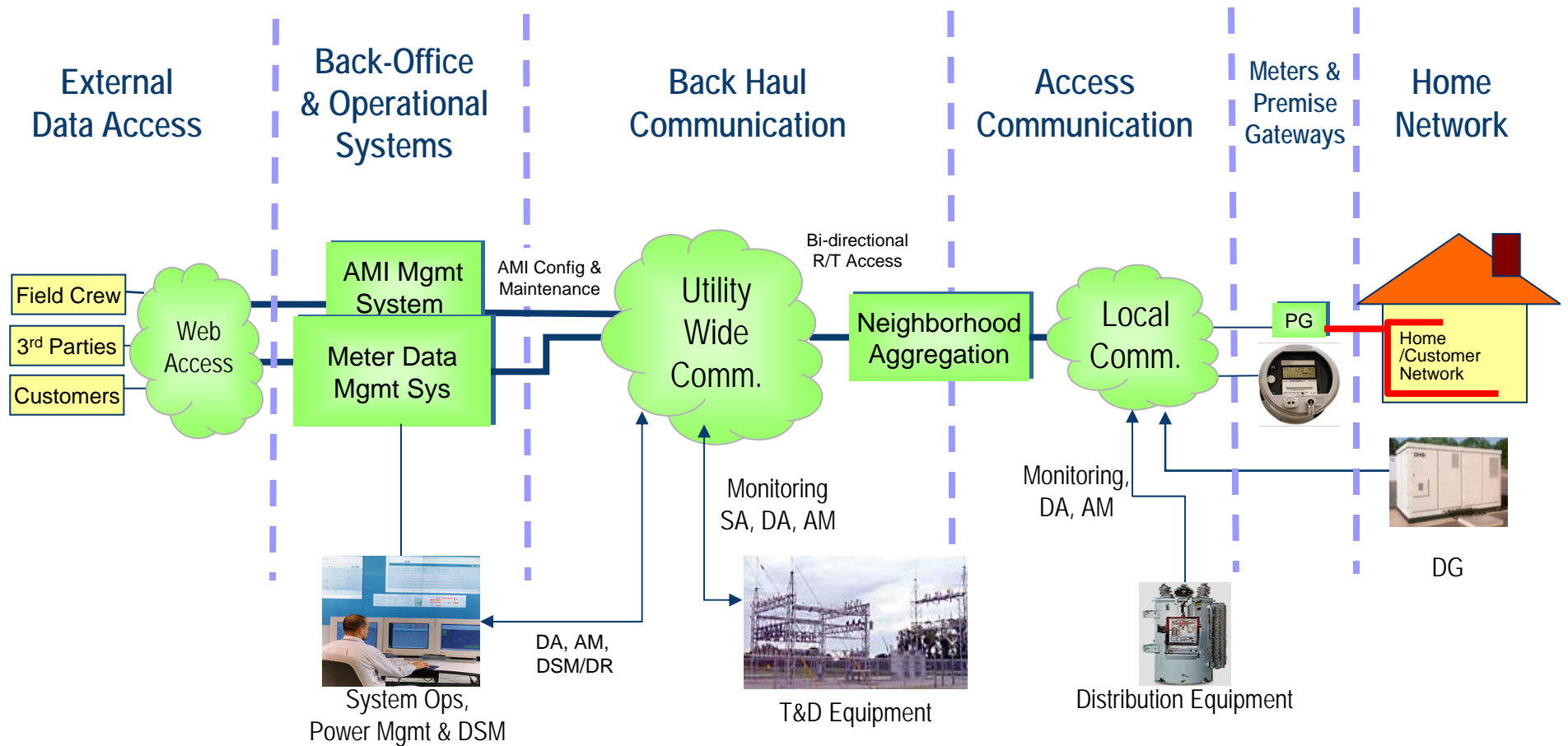
I'm not aware of any commission that wouldn't allow such rates to be offered on an opt in basis, assuming the metering is available.

sgeorge, 11/14/2008

Meta Barrier Group 1: Limited acceptance of dynamic pricing

	Regulated Retail in Non-Organized Wholesale Market	Regulated Retail in Competitive Organized Wholesale Market	Competitive Retail in Competitive Organized Wholesale Market
Barrier Description	Dispatcher and regulator distrust of dependability of dynamic pricing as a “resource”.		
Policy Option 1	In daily operation, give resources registered in dynamic rates comparable treatment to other demand and supply side resources. Factor such resources into operating procedures during reliability-constrained conditions.		
Policy Option 2	In long-term operation, develop a transparent elasticity function based on empirical data as a basis for developing load forecasts and setting resource adequacy requirements. This should significantly reduce pressure on supply-side resources to satisfy the total RA requirement.		
Policy Option 3	Develop commonly agreed protocols for empirically determining ex post load impacts for existing programs, and develop data repositories of estimates derived with these protocols, that can be accessed by operators and others as a means of gaining confidence that load impacts will occur when programs are called		

Common Communications Infrastructure



Meta Barrier 2: Limited deployment of AMI

	Regulated Retail in Non-Organized Wholesale Market	Regulated Retail in Competitive Organized Wholesale Market	Competitive Retail in Competitive Organized Wholesale Market
Barrier Description	Lack of consensus on the benefit streams that should be included in AMI business cases		
Policy Option 1	Conduct research on the potential benefits (in terms of supporting DR) of AMI functionality such as connectivity between meter and in-home devices such as IHDs and control devices		
Policy Option 2	Conduct research on potential participation of customers in DR options supported by various functionality (e.g., dynamic pricing) as these are critical inputs into DR benefit/cost analysis associated with AMI business cases and deployment		
Policy Option 3	Gather and disseminate summaries of AMI business case applications		

Meta Barrier 2: Limited deployment of AMI

	Regulated Retail in Non-Organized Wholesale Market	Regulated Retail in Competitive Organized Wholesale Market	Competitive Retail in Competitive Organized Wholesale Market
Barrier Description	Concern of technology obsolescence and lack of consensus on minimum functionality that should be included in AMI deployments.		
Policy Option 1	Educate regulators and utility decision makers concerning key issues such as interoperability and open standards, limited ability to migrate cost-effectively from AMR to AMI		
Policy Option 2	Disseminate information on flexible technologies that facilitate future upgrades		
Policy Option 3	Set minimum technology specifications to support “future-proofing” such as open architecture and inter-operability requirements		

Meta Barrier 2: Limited deployment of AMI

	Regulated Retail in Non-Organized Wholesale Market	Regulated Retail in Competitive Organized Wholesale Market	Competitive Retail in Competitive Organized Wholesale Market
Barrier Description	High cost of AMI and cost recovery uncertainty		
Policy Option 1	State regulators should provide cost recovery for AMI investments that meet a pre determined cost effectiveness criteria.		
Policy Option 2	State regulators should state explicitly that stranded costs of existing metering will not be an issue and that “Monday Morning Quarterbacking” of technology decisions will not occur if technology breakthroughs occur shortly after PUC approval		
Policy Option 3	Provide tax credits & accelerated depreciation for AMI		

Meta Barrier 3: Limited Deployment of Enabling Technology

	Regulated Retail in Non-Organized Wholesale Market	Regulated Retail in Competitive Organized Wholesale Market	Competitive Retail in Competitive Organized Wholesale Market
Barrier Description	Lack of consensus and or policies on cost-effectiveness methods for screening DR programs that offer enabling technology		
Policy Option 1	State regulators should define requirements for: <ul style="list-style-type: none"> -benefits to be claimed from DR -societal benefits from DR facilitation - Appropriate costs 		

Meta Barrier 3: Limited deployment of Enabling Technology

	Regulated Retail in Non-Organized Wholesale Market	Regulated Retail in Competitive Organized Wholesale Market	Competitive Retail in Competitive Organized Wholesale Market
Barrier Description	Cost recovery uncertainty		
Policy Option 1	State regulators should provide cost recovery for enabling technology investments that meet a pre determined cost effectiveness criteria.		
Policy Option 2	If appropriate, system benefits charge funds could be used for cost recovery of enabling technology investments that meet a pre determined cost effectiveness criteria.		
Policy Option 3	Put enabling technologies into building code standards		

Meta Barrier 4: Limiting business and program rules

	Regulated Retail in Non-Organized Wholesale Market	Regulated Retail in Competitive Organized Wholesale Market	Competitive Retail in Competitive Organized Wholesale Market
Barrier Description	Stringent data requirements for certain markets or programs.		
Policy Option 1	Allow load profiling as a settlement option for mass market customers. Establish appropriate standards for sample design and metering.		
Policy Option 2	Require the capability to provide customers and CSPs with access to the load data		

Meta Barrier 4: Limiting business and program rules

	Regulated Retail in Non-Organized Wholesale Market	Regulated Retail in Competitive Organized Wholesale Market	Competitive Retail in Competitive Organized Wholesale Market
Barrier Description	Long lead times for registering resources.		
Policy Option 1	Utilities, ISO/RTOs should be required to respond to resource registration requests within 30 days.		

Meta Barrier 4: Limiting business and program rules

	Regulated Retail in Non-Organized Wholesale Market	Regulated Retail in Competitive Organized Wholesale Market	Competitive Retail in Competitive Organized Wholesale Market
Barrier Description	Inconsistent requirements and standards across overlapping programs in a market		
Policy Option 1	Standardize requirements where appropriate at the ISO level.		

Meta Barrier 4: Limiting business and program rules

	Regulated Retail in Non-Organized Wholesale Market	Regulated Retail in Competitive Organized Wholesale Market	Competitive Retail in Competitive Organized Wholesale Market
Barrier Description	Inconsistent requirements and standards across markets.		
Policy Option 1	Build on existing national efforts to standardize M&V to ensure DR and load profiling is covered		
Policy Option 2	Educate regulators on the benefits of standardized M&V		
Policy Option 1		FERC should bring together ISO/RTO parties to negotiate a standardization of lead times, penalties, minimum load requirements, etc across all regions where possible and practical.	

Meta Barrier 5: Lack of Consumer Awareness and Knowledge

	Regulated Retail in Non-Organized Wholesale Market	Regulated Retail in Competitive Organized Wholesale Market	Competitive Retail in Competitive Organized Wholesale Market
Barrier Description	Lack of knowledge of nature of time-varying costs in electricity markets Lack of awareness of DR contracts available to consumers.		
Policy Option 1	Marketing/public awareness campaigns sponsored by state agencies, ISO/RTO organizations (eg ISO/RTO Council), CSPs, REPs and Utilities similar to the “Retail Choice” campaign or California Energy Commission’s efforts for DR awareness, such as “Flex Your Power” or the Statewide Pricing Pilot. Education to explain how and why marginal costs change, and marketing offers in state,		
Policy Option 3	Develop more regional DR working groups.		
Policy Option 4	More research on what the impact is of enabling technologies, opt-in vs. opt-out rates, and what influences customer decision making. I.e. “Pure” research.		

Meta Barrier 5: Lack of Consumer Awareness and Knowledge

	Regulated Retail in Non-Organized Wholesale Market	Regulated Retail in Competitive Organized Wholesale Market	Competitive Retail in Competitive Organized Wholesale Market
Barrier Description	Limited knowledge of customer-specific load response strategies		
Policy Option 1	Marketing/public awareness campaigns sponsored by state agencies, ISO/RTO organizations (eg ISO/RTO Council), CSPs, REPs and Utilities similar to the “Retail Choice” campaign or California Energy Commission’s efforts for DR awareness, such as “Flex Your Power” or the Statewide Pricing Pilot. Education on technical actions consumers can take to make the most of DR.		
Policy Option 2	Provide incentives for DR audits to identify strategies for what actions can be taken.		
Policy Option 3	Develop more regional DR working groups.		
Policy Option 4	More research on what the impact is of enabling technologies, opt-in vs. opt-out rates, and what influences customer decision making. I.e. “Pure” research		

Meta Barrier 6: Financial disincentives to utilities and LSE's to run DR programs

	Regulated Retail in Non-Organized Wholesale Market	Regulated Retail in Competitive Organized Wholesale Market	Competitive Retail in Competitive Organized Wholesale Market
Barrier Description	Financial disincentive for utilities to run DR programs		
Policy Option 1	Decoupling or cost recovery for DR.		
Policy Option 2	Including DR in state energy plans, or setting goals for DR.		

Other barriers

	Regulated Retail in Non-Organized Wholesale Market	Regulated Retail in Competitive Organized Wholesale Market	Competitive Retail in Competitive Organized Wholesale Market
Barrier Description		Utility legacy program ineffectiveness in ISO/RTO footprint	
Policy Option 1		Capacity market rules should be changed to make sure that resources under such programs are not being counted for reductions which they do not provide.	
Policy Option 2		Develop guidelines to peg legacy program payments to wholesale market conditions without causing program attenuation.	

Other barriers

	Regulated Retail in Non-Organized Wholesale Market	Regulated Retail in Competitive Organized Wholesale Market	Competitive Retail in Competitive Organized Wholesale Market
Barrier Description		Incomparable treatment of DR in wholesale markets	
Policy Option 1		Treat DR with comparability with respect to generation. FERC RM07-19 is a step in the right direction.	

Other barriers

	Regulated Retail in Non-Organized Wholesale Market	Regulated Retail in Competitive Organized Wholesale Market	Competitive Retail in Competitive Organized Wholesale Market
Barrier Description	Ineffective DR design.		
Policy Option 1	Require load serving entities to base rate designs on empirical studies of time varying rate pilots		

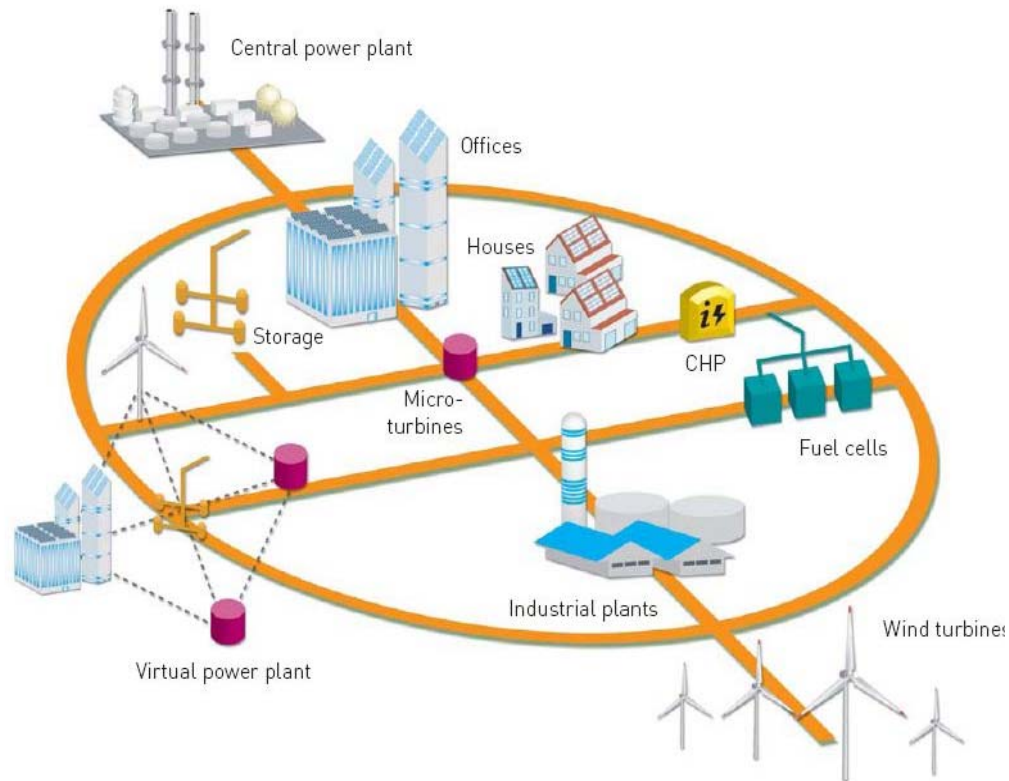
Other barriers

	Regulated Retail in Non-Organized Wholesale Market	Regulated Retail in Competitive Organized Wholesale Market	Competitive Retail in Competitive Organized Wholesale Market
Barrier Description		Benefits of wholesale DR do not flow to retail customers.	
Policy Option 1		Enable dynamic pricing (see policy options for Meta barrier 1)	

Next Steps

- Prioritize and sequence a roadmap
- Report

And the future may look like:





End

Thank you for your attention.