

Encouraging Efficient Demand Response



Presentation to NARUC Workshop: Aligning
Regulatory Incentives with Demand-Side Resources

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How Markets WorkSM

What is Efficient Demand Response?



- In response to price signals, consumers make rational usage decisions that maximize their well being.
- Demand response occurs in all sectors of the economy without special programs.
- For demand response to be efficient, the price signals must be right and customers must be well informed.

What Do We Mean by Demand Response?



- Activities that reduce or shift the timing of demand for central generation, transmission, and distribution
 - Distributed generation
 - Price and load responsive demand
 - Energy efficiency

Economic Factors that Impede the Efficient Deployment of Demand Response



- 1) Rates are based on sales levels and are designed to recover fixed costs over a volume of usage. DR programs can lower these volumes and thus hurt utility revenue.
- 2) Rates are averages and do not reflect the real time market value of energy, reducing the incentive to mitigate higher costs.
- 3) Lack of a clear mandate for utilities to participate in DR promotion and development makes the recovery of DR costs in rates uncertain for utility.
- 4) The fragmentation of benefits and mismatch between distribution of cost and benefits may prevent the implementation of socially beneficial programs.

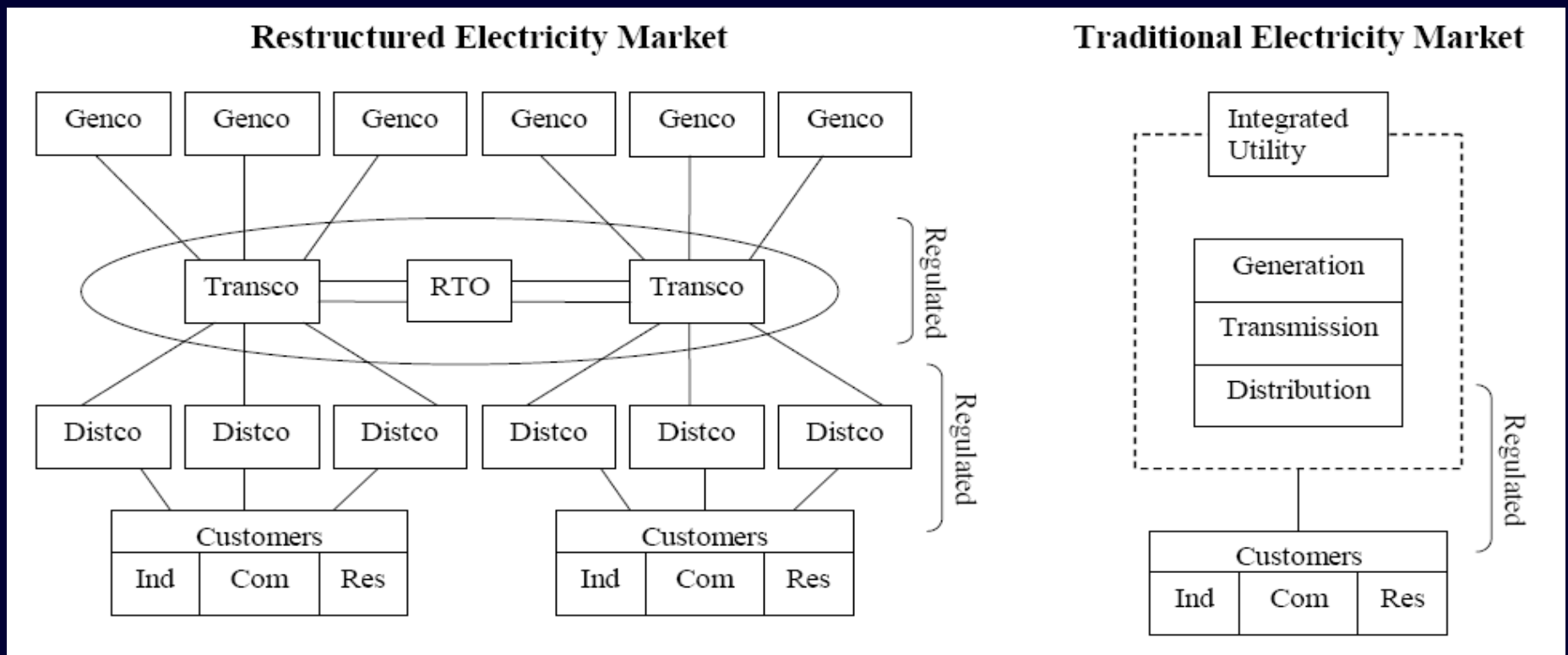
Why Demand Response Now? EPAAct 2005



- The Energy Policy Act of 2005 (EPAAct 2005) encourages utilities and regulators to consider more novel pricing plans and ratemaking standards, which are related to Demand Response.
 - EPAAct 2005 has added 5 new standards to the 10 standards outlined previously in 1978's PURPA and EPAAct of 1992, specifically:
 - Net metering
 - Dependence on fuel sources
 - Fossil fuel generation efficiency
 - Time-based metering and communications
 - Interconnection

Why Demand Response now? Restructuring

- Previous DR “pushes” occurred prior to restructuring.
- New market structure poses extra challenges and opportunities.
 - More parties will have to coordinate incentives and programs in order to attain efficiency savings.



Mitigating these Barriers to DR



1) Rate Structure Reform

- Align rates with costs

2) Specific Lost Revenue Recovery

- Track costs that stem the “throughput” issue

3) Clarification of the Utility’s Role in DR Programs

- Allow recovery of costs and provide incentives to pursue DR

4) Alignment of Costs and Benefits

- Consume and provide electricity in an economically efficient manner

NERA Developed a Whitepaper for EEI with Respect to DR Incentive



Key Points:

- Distributed resources can contribute to increasing efficiency in electricity production and consumption
- Mis-pricing of electric service is a significant barrier to DR development
 - Time period averaging
 - Geographic averaging
- Distribution cost savings are spread over entire customer base
- Barriers to DR implementation exist
- Incentives will encourage efficient DR implementation by utilities

Removing Barriers to Efficient DR Implementation



- Provide for target pricing – de-average over time and geography where feasible
- Provide cost recovery framework
- Provide for lost revenue recovery¹
- Enable utilities to partner with competitive DR providers

¹ While lost revenue recovery is a barrier, broad sales and revenue decoupling may well be too broad a solution with unintended negative effects.

Developing Incentive Program – Principles –



- Incentives should encourage “efficient” DR
- Role of competitive suppliers should be recognized and incentives should encompass utility collaboration efforts
- Recovery of DR investments and expenses should be timely and full
- Recovery of incentives should be incremental to base earnings

Summary Description of Incentive Models



- Sharing in market benefits in return for providing aggregation service
- Rate basing with incentive rate of return based on benefit/cost ratio
- Long-term delivery service rate indexing
- Fixed incentives based on MW demand reduction
- Incentives based on distribution investment deferrals

Models are more fully described in the NERA Whitepaper available on the EEI Website



- DR is part of an efficient energy supply and demand future
- DR is frustrated by complexity of utility pricing
- Barriers to DR can be removed through more efficient pricing and lost revenue recovery
- A cost recovery framework along with financial incentives will further incentivise efficient DR

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