Options for Increasing Competition in the Electricity Sector

Carolinas Power Market Reform Workshop

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Introduction

The Regulatory Assistance Project (RAP) is a global NGO providing technical and policy assistance to government officials, agency staff, and others on energy and environmental issues.

- Foundation-funded; some contracts
- Non-advocacy; no interventions
Some Options for Increasing Competition in the Electricity Sector

- Wholesale markets
- Retail competition
- Competitive procurement
- Performance-based regulation to create competitive pressures
Wholesale Power Prices ($/MWh – Real 2017)

Wholesale Electric Power Markets

Source: Federal Energy Regulatory Commission

Source: FERC, taken from https://www.epa.gov/greenpower/us-electricity-grid-markets
Evolution of Wholesale Markets

Markets in the past:
- Dominated by large, inflexible central station power plants
- Few wind and solar generators
- Predictable demand
- Excessive operating reserves

Markets in the future:
- Near-zero energy cost of renewables
- Low cost natural gas
- State policy goals around clean energy
- Non-discriminatory access to markets
- Need for flexibility
Challenges with Capacity Markets

Energy, capacity and ancillary services as shares of total PJM market revenues

Challenges with Capacity Markets

PJM Reserve Margin Expansion since adoption of capacity market

Source: PJM data, compiled by J. Chen, Nicholas Institute for Environmental Policy Solutions, Duke University.
Western Energy Imbalance Market (EIM)

- Real-time bulk power trading market
  - $800 million in benefits
- Day-ahead market under development
  - Governance issues
  - Resource sufficiency test
Retail Electric Power Markets

[Map showing states with traditionally regulated and competitive retail electric power markets.]

Taken from [https://www.epa.gov/greenpower/us-electricity-grid-markets](https://www.epa.gov/greenpower/us-electricity-grid-markets)
Community Choice Aggregation

**Power Generators**
The CCA purchases electricity on behalf of the entire community from traditional or green power sources.

**Utility**
The existing utility continues to deliver the electricity using the same power lines and billing mechanisms.

**End Users**
Customers benefit by receiving lower cost power, often with higher green power contents and minimal effort.

Graphic from [https://www.epa.gov/greenpower/community-choice-aggregation](https://www.epa.gov/greenpower/community-choice-aggregation)
Competitive Procurement

- Starts with a resource need
- Solicit proposals for alternatives to fulfill the resource need
- Review prices and attributes of alternatives
- Compare alternatives using criteria (e.g. cost and policy preferences)
Competitive Procurement

Existing plant costs vs. Xcel CO bids – late 2017

Existing Plant Average Fuel and O&M from USEIA Table 8.4 Electric Power Annual 2016
Xcel Energy Plan – mid 2018

Wind: $.011/kWh
Solar: $.023/kWh
Solar plus storage: $.030/kWh

Image credit: Jeffrey Beall, Wikimedia
Competition from Distributed Resources

- Distributed resources increasingly able to meet grid needs; provide market value
- Traditional utility regulation disincentivizes investment in distributed solutions
- Regulators can invite or require evaluation of alternatives
- Identify needs through planning processes or other means
ConEd’s Brooklyn-Queens Demand Management Project

- $1 billion traditional solution avoided with a $200 million approved investment
- Only $70 million spent through 2017, $95 million in net benefits
- Customer and utility side demand reductions
- Incentives for ConEd to achieve demand reductions
Can PBR lead to competitive outcomes?

- Reduce ROR on traditional investments, increase earnings opportunities on other activities
- Move toward “TOTEX” model
  - Incorporates both CAPEX and OPEX
- Allow ROR on contracts
- Beware potential pitfalls – there is good PBR and bad PBR
Conclusions

• Many options for increasing competition, reducing costs, and expanding renewable energy
• Benefits of wholesale energy markets are achievable without need to join capacity market
• Regulation can invite, require, and incentivize competitive solutions to system needs
About RAP

The Regulatory Assistance Project (RAP)® is an independent, non-partisan, non-governmental organization dedicated to accelerating the transition to a clean, reliable, and efficient energy future.

Learn more about our work at raponline.org