Dynamic Pricing for Commercial and Industrial Customers

Ohio Public Utilities Commission
Technical Workshop

March 28, 2012

Ralph Zarumba
Navigant

Chuck Goldman, Project Manager
Electricity Markets and Policy Group
Lawrence Berkeley National Laboratory
Dynamic Pricing for Commercial and Industrial Customers

Presentation to the Public Utilities Commission of Ohio

March 27, 2012
Disclaimer

Important Notice

This presentation was prepared by Navigant Consulting, Inc. exclusively for the benefit and internal use of Public Utility Commission of Ohio. No part of it may be circulated, quoted, or reproduced for distribution outside these organization(s) without prior written approval from Navigant Consulting. This presentation is incomplete without reference to, and should be viewed solely in conjunction with the oral briefing provided by Navigant Consulting.

March 28, 2012
Table of Contents

1 | Potential Savings
2 | Associated Risks
3 | Applicable Policies
   a | Metering Infrastructure
   b | Access to Information
   c | Customer Education
4 | Conclusion
# Table of Contents

1. **Potential Savings**
2. **Associated Risks**
3. **Applicable Policies**
   - a. Metering Infrastructure
   - b. Access to Information
   - c. Customer Education
4. **Conclusion**
Example – Flat vs. Dynamic Pricing

G3 Retail Customer’s Monthly Electricity Supply Cost for August 2007:

- Basic Service: $27,022
- Real-Time Price: $19,359
- Savings: 28%

Source: NEPOOL Markets Committee Report – May 2009
The Premium Associated with a Fixed Price Product Varies Based on Market Conditions

Ignoring the “blowout” for Katrina the Premium for a fixed priced product is 14%

Although the relative magnitude of the savings will change based upon markets and time it is reasonable to assume that over time a flat price will command a premium compared to Dynamic Pricing.
Table of Contents

1 Potential Savings
2 Associated Risks
3 Applicable Policies
   a Metering Infrastructure
   b Access to Information
   c Customer Education
4 Conclusion

©2012 Navigant Consulting, Inc. Confidential and proprietary. Do not distribute or copy.
Composition of the Electric Commodity Product

Illustrative

- Energy
- Renewable Requirements
- Volumetric Risk
- Network Trans
- Capacity
- ISO Surcharges
- Ancillary Services
- Energy Losses
- Basis

©2012 Navigant Consulting, Inc. Confidential and proprietary. Do not distribute or copy.
Elements of Risk in Electric Commodity

» Capacity
  – Unknown Customer Demand for future time periods
  – Load factor risk

» Energy
  – Forward curves mitigate price risk but are tied to blocks of power
  – Smaller blocks of power are available but command a premium price

» Ancillary Services
  – Marketers are price takers for ancillary services and exposed to “price blow-outs”

» Transmission Risk
  – Recalculation of transmission obligations
  – Transmission loss credit
Marketers are able to avoid market price risk associated with energy and capacity through forward contracts. However, much of the pricing is one-part or time-differentiated energy tariffs exposing them to load-factor risk. Furthermore, components such as ancillary services are currently cannot be hedged.
Energy Price ($/MWh)

Polynomial (3rd order) trend line
How Will Market Conditions Impact the Attractiveness of Dynamic Pricing?

» High electricity prices will trigger increased interest in complex pricing mechanisms

» However, recent electricity market prices have been generally low.

A paradox exists in that low market prices are an impediment to the adoption of complex pricing mechanisms such as Dynamic Pricing because it diminishes the importance of electricity procurement to an organization. However, high prices triggers interest in electricity pricing decisions and thus increases interest in Dynamic Pricing.
| 1 | Potential Savings |
| 2 | Associated Risks |
| 3 | Applicable Policies |
| a | Metering Infrastructure |
| b | Access to Information |
| c | Customer Education |
| 4 | Conclusion |
Discussion

» Metering Infrastructure
  – Although the sophistication of metering infrastructure is less of a problem today than it was a decade ago, significant challenges remain.
  – Participation in advanced market mechanism (i.e. ancillary services requires the use of meters with interval capabilities as potentially as short as 1 second.

Takeaways

» Policy initiatives providing customers' with timely access to advanced / optional metering capability.
**Applicable Policies – Access to Information**

**Discussion**

» Access to Information
  - Access to the customer’s meter data on a timely basis
  - Access to market prices

**Takeaways**

» Policy initiatives which promote – or at least remove the impediments – of data access from customers will promote dynamic prices

» Possibly include advanced metering and access to real time data as an Energy Efficiency program
## Discussion

- Ongoing support of programs which provide customers information about changes in the market
- Ongoing dialogue about new policies

## Takeaways

- Changes in market structures, regulatory policies and tariffs strongly influences customer's decisions.
Table of Contents

1. Potential Savings
2. Associated Risks
3. Applicable Policies
   a. Metering Infrastructure
   b. Access to Information
   c. Customer Education
4. Conclusion
Conclusions

» The retail market is barely a decade old and product development is still in its infancy compared to other markets

» New retail products for C&I customers will continue to evolve and develop as the market evolves and retailers and marketers gain experience

» Policymakers most effective role in promoting innovative products such as Dynamic Pricing would be to support utilities in offering advanced metering structure, encourage access to information, and provide education programs.