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Performance-based regulation

GEODE Workshop: DSOs regulatory framework for revenues

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Outline for Today’s Discussion

1. What is PBR?
2. Designing a PBR
3. Good PBRs
4. Bad PBRs
5. Questions (for you)
Regulatory models in Europe

Figure 1. Regulatory models for distribution system operators in Europe

Source: Council of European Energy Regulators. (2018). Incentive schemes for regulating distribution system operators, including for innovation.
“All regulation is incentive regulation”
Some problematic incentives

- CAPEX bias
- Throughput incentive

In a world of

- consumers who want PV, EVs, storage, HPs
- innovative OPEX solutions
- EE ambitions
What is PBR?
The essence of PBR

• Driven by social outcomes

• Motivates through profits (and shame)

• Solution/technology agnostic
The essence of PBR

• Driven by social outcomes

• Motivates through profits (and shame)

• Solution/technology agnostic

Let’s focus on paying the utility for what we want them to do!

Leave it for the network companies to decide!
The logic of PBR

• Connects compensation to pre-defined targets
• Most often an overlay of revenue cap regulation
Designing a PBR

The essential ingredients
From goals to metrics

Understand the status quo!
PBR is versatile

Investor-owned utilities

Municipalities

State-owned entities

Cooperatives
3 Bad PBRs

How can it go wrong?
FERC’s bonus ROE for new transmission lines (Order No. 679)

- To improve reliability and reduce congestion and lower energy delivery cost
- Higher RoE on ACTUAL cost
- Regardless considering
  - benefits in relationship to overall costs
  - additionality
  - alternative solutions
- Result: excess cost and infrastructure
Puget Sound Power and Light, Washington

Energy Efficiency Incentive Structure

Utility short of the targets in 9 out of 10 topical areas, but received huge incentive
5 Good PBRs
Illinois: moving from ‘penalty only’ to ‘reporting only’

• 2011: 10-year plan/$2.6 billion for grid modernization

• 8 ‘penalty only’ performance metrics on reliability and losses

• failed to address numerous other potential benefits of smart grid investments

• 60 performance metrics to be tracked for future financial rewards
## Some of the 60

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customers enrolled in any dynamic pricing</td>
<td>Number and % in each delivery class.</td>
</tr>
<tr>
<td></td>
<td>Number and % of customers for which the supplier has requested monthly Electronic Data Interchange delivery of interval data</td>
</tr>
<tr>
<td>Peak load reductions by DR</td>
<td>MW of peak load reduction from the summer peak due to AMI enabled, ComEd administered demand response programs as a percentage of all demand response in ComEd’s portfolio</td>
</tr>
<tr>
<td>Voltage and VAR controls</td>
<td>Number and % of distribution lines using sensing from an AMI meter as part of ComEd’s voltage regulation scheme</td>
</tr>
<tr>
<td>Time required to connect DER to grid</td>
<td>ComEd’s response time: from receipt of application until energy flows to the grid.</td>
</tr>
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Brooklyn-Queens Demand Management Project

Instead of a new substation...

Demand-side solutions via competitive bidding: EE, PV, CHP, battery storage, fuel cells

$1 bn saving at a cost of $200 m
Utility incentives for demand-side alternatives in BQDM

• 10 year/accelerated amortization

• Regulated return
  • 45 basis points for achieving the proposed 41 MW demand reduction through DER
  • Up to 25 basis points for increasing DER diversity
  • Up to 30 basis points for achieving a lower dollar-per-megawatt value than traditional investments
“Tell us what you want us to do. Give us flexibility in how we do it. Give us the opportunity to recover the money we need to do it. And tell us how we’ll be measured, when we’ll be measured and then hold us accountable for the results.”

Joseph Viola
HECO’s VP for regulatory affairs

Source: https://www.hawaiibusiness.com/new-way-for-electricity/
Questions for discussion

• Does this have any appeal for you?
• Do you think it can help you to meet the challenges you face?
• (What challenge do you face?)
• Do you expect to see such a regulatory move in your country?
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