PBR and DER in a changing regulatory world

Introduction to Compensation and Market Mechanisms Panel
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Power Sector Transformation

## Four ways DER owners can be compensated for value

<table>
<thead>
<tr>
<th>Mechanism</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tariffs or bill credits (rate design)</td>
<td>Net energy metering, value of solar tariff, NY Phase One value stack tariff</td>
</tr>
<tr>
<td>Market revenues</td>
<td>Energy, forward capacity, ancillary services, renewable energy credits</td>
</tr>
<tr>
<td>PPAs or contracts</td>
<td>PURPA contract, feed-in tariff</td>
</tr>
<tr>
<td>Programs (e.g., DSM) and One-time payments or credits</td>
<td>Tax credits for RE or EVs, EE rebates, annual bill credit for DR program participation</td>
</tr>
</tbody>
</table>
### Smart rate design examples

Time-of-use rates should reflect time-varying system value

(Hypothetical, illustrative example)

<table>
<thead>
<tr>
<th>Rate Element</th>
<th>Based on the Cost Of</th>
<th>Illustrative Rate</th>
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<tbody>
<tr>
<td>Customer charge</td>
<td>Service drop, billing and collection only</td>
<td>$4.00/month</td>
</tr>
<tr>
<td>Transformer charge</td>
<td>Final line transformer</td>
<td>$1/kVA/month</td>
</tr>
<tr>
<td>Off-peak energy</td>
<td>Baseload resources + transmission and</td>
<td>$.07/kWh</td>
</tr>
<tr>
<td></td>
<td>distribution</td>
<td></td>
</tr>
<tr>
<td>Mid-peak energy</td>
<td>Baseload + intermediate resources + T&amp;D</td>
<td>$.09/kWh</td>
</tr>
<tr>
<td>On-peak energy</td>
<td>Baseload, intermediate, and peaking</td>
<td>$.14/kWh</td>
</tr>
<tr>
<td></td>
<td>resources + T&amp;D</td>
<td></td>
</tr>
<tr>
<td>Critical peak energy (or PTR)</td>
<td>Demand response resources</td>
<td>$.74/kWh</td>
</tr>
</tbody>
</table>
How to improve

• Time-varying rates can more closely align compensation with time-varying value
• Market rules can be improved to allow fair competition among all resources
• Competitive all-source procurement processes can lead to lower cost contracts for energy, capacity, and ancillary services
Performance-based regulation (PBR)

- A regulatory framework that connects achievement of specified objectives to utility financial performance
- Can include performance incentive mechanisms (PIMs), namely, metrics and formulas that determine financial rewards or penalties (i.e., adjustments to allowed revenues)
State Investigations of PBR

**Early Exploration:** Initial inquiries often marked by a report examining PBR options

**Initial Stakeholder Engagement:** Soliciting comments and/or conducting workshops assessing PBR options

**Advanced Stakeholder Engagement:** Soliciting comments and/or conducting workshops in discussing specifics of PBR options

**Implementation:** Decisions have been made or are close to being made to deploy PBR options

**Conclusion of Inquiry:** Decisions have been made not to consider the PBR framework

Source: EnerKnol and Wood Mackenzie Power & Renewables; Tracking of the proceedings available on the EnerKnol Platform
PBR appeal

• Incent good things like non-wires solutions, aggregated DERs
• Avoid new substation, generation investment
• Incent rather than defer expenses like tree trimming, EE and bill payment assistance
Takeaways

• Changes in the power sector challenge traditional regulation
• Time-varying rates are a good way to accommodate growing DERs
• PBR has the potential to better align utility, ratepayer, and public interests
• PBR succeeds where it is clear, transparent, and aligns rewards and incentives for utilities and customers
RAP Resources

- Capturing More Value from Combinations of PV and Other Distributed Energy Resources | Regulatory Assistance Project (raponline.org)
- Next-Generation Performance-Based Regulation: Volume 1 (Introduction—Global Lessons for Success)
- Next-Generation Performance-Based Regulation: Volume 2 (Primer—Essential Elements of Design and Implementation)
- Next-Generation Performance-Based Regulation: Volume 3 (Innovative Examples from Around the World)
- Performance Incentives for Cost-Effective Distribution System Investments
- Protecting Customers from Utility Information System and Technology Failures
- Metrics to Measure the Effectiveness of Electric Vehicle Grid Integration
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

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