PERFORMANCE-BASED REGULATION: HELPING TO ENABLE A CUSTOMER-CENTRIC FUTURE

NARUC ANNUAL MEETING
SAN ANTONIO

NOVEMBER 17, 2019
TABLE OF CONTENTS

SECTION 1     Key Takeaways
SECTION 2     Evidence of a Changing Electric Industry
SECTION 3     Summary of Alternative Regulation Mechanisms
SECTION 4     A Comprehensive Framework: PBR 2.0
KEY TAKEAWAYS
KEY TAKEAWAYS

Overview

• We see a structural shift in the traditional utility business model
• In response to changing dynamics, a range of alternative regulatory mechanisms have built up over time
• A growing number of states are considering or actively pursuing changes to the current regulatory framework
• Utilities should proactively engage with and help shape an evolution to the existing regulatory framework or risk having others dictate it for them

Leading Examples

Navigant carried out a thorough investigation into current and developing regulatory frameworks to uncover emerging best practices. Selected models for success include:

• New York
  • Multi-year Rate Plans + Earnings Adjustment Mechanisms (PIMs) + Platform Service Revenues
• Illinois
  • Performance-based Formula Rate Plan
• Hawaii (in progress)
  • Multi-year Rate Plan + Performance Mechanisms (Metrics/Scorecards/PIMs) + Shared Savings
• Vermont
  • Regulatory Sandbox: Pilot Framework that permits utility flexibility for 18 months without prior approval

The very nature of the regulatory framework and process needs to change
EVIDENCE OF A CHANGING ELECTRIC INDUSTRY
EVIDENCE OF A CHANGING ELECTRIC INDUSTRY

THE ENERGY CLOUD: TOWARD A CLEAN, DECENTRALIZED, AND INTELLIGENT GRID

**PAST:** Traditional Power Grid
Central, One-Way Power System

**TODAY:** The Energy Cloud
Distributed, Cleaner, Two-Way Power Flows

Market Demand
Technology Innovation
Policy & Regulation

Source: Navigant
Customers are coming to expect higher levels of service from their utilities.

This comes in part from a shift in consumer expectations in other industries, whether it be media services (Netflix), lodging (AirBnB), or retail (Amazon).

The common thread in these industry shifts is digital disruption, with customer-centric thinking winning out in the end.

These revolutionary business models have used technological innovation at the offerings – and platform – level to provide seamless, fast, and convenient service to customers.

(Source: Navigant Research)
SUMMARY OF ALTERNATIVE REGULATORY MECHANISMS
### SUMMARY OF ALTERNATIVE REGULATORY MECHANISMS

#### OVERVIEW OF CORE ALTERNATIVE MECHANISMS

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Mechanism</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue Adjustment Mechanisms</strong></td>
<td>Focus on how target revenues are determined, collected, and adjusted, and shifting regulation to incentivize cost control and rewards utility performance.</td>
<td>Revenue Decoupling</td>
<td>Reduces utility interest in growing energy sales, removing barriers to energy efficiency and customer-sited generation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Multiyear Rate Plans</td>
<td>Improves cost containment and reduces administrative burden</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Formula Rates</td>
<td>Ensures the authorized rate of return on agreed-upon investments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Earning Sharing Mechanisms</td>
<td>Safeguards that performance-based mechanisms will not harm a utility’s financial integrity, nor negatively impact customers</td>
</tr>
<tr>
<td><strong>Performance Mechanisms</strong></td>
<td>Provide incentives to reach performance targets aligned with policy and customer priorities</td>
<td>Reported Metrics</td>
<td>Informs the development of revenue adjustment mechanisms; tracks the efficacy of regulatory mechanisms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Scorecards</td>
<td>Encourages better achievement of regulatory outcomes with clear visuals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Performance Incentive Mechanisms</td>
<td>Financially motivates utilities to improve performance toward established outcomes</td>
</tr>
<tr>
<td><strong>Other Regulatory Mechanisms</strong></td>
<td>Help level the field across resource classifications and provide utilities opportunity to earn revenues from procurement of third-party solutions.</td>
<td>Shared Savings</td>
<td>Incentivizes utilities to seek more cost-effective solutions without compromising shareholder interests</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Regulatory Sandbox</td>
<td>Create regulatory space to test innovative products and services</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CAPEX/OPEX Equalization</td>
<td>Financially rewards a utility for pursuing the least-cost, highest value solution</td>
</tr>
</tbody>
</table>

Source: Navigant
Revenue adjustment mechanisms, which are increasingly adopted in the U.S., can be used to transition a utility towards a performance-based and customer value-centric regulatory model.

**Revenue adjustment mechanisms** focus on how a utilities’ target revenues are determined, collected and adjusted over time, and include policy tools that shift regulation away from a backward-looking focus on costs and sales to a more forward-looking approach that incentivizes cost control and rewards utility performance.
Revenue adjustment mechanisms, which are increasingly adopted in the U.S., can be used to transition a utility towards a performance-based and customer value-centric regulatory model.

**SUMMARY OF ALTERNATIVE REGULATORY MECHANISMS**

**REVENUE ADJUSTMENT MECHANISMS**

U.S. Revenue Decoupling Precedents

- New development since 2015
- Revenue decoupling
- Pending revenue decoupling

U.S. Multi-Year Rate Plan Precedents

- Electric Utility MRP
Performance mechanisms provide incentives for the utility to reach performance targets through the public display of metrics or benchmarking, or through financial reward for achieving certain performance.

**Performance mechanisms** can be used to assess diverse areas of the utility’s performance, such as safety and reliability, customer satisfaction, and adoption of energy efficiency programs. The reported metrics and scorecards can also be used as building blocks for a utility, helping it to build metric tracking capabilities and gather historic and peer-compared performance trends to ultimately pursue a PIM.
Regulatory Sandbox: Creating Space for Innovation

WHAT ARE REGULATORY SANDBOXES?

1. They are a concept developed to address regulatory uncertainty
2. They give companies leeway from normal regulations and licensing requirements for a limited period of time
3. They allow new products and services to be rolled out in a limited environment as clarity is gained about regulatory implications
A COMPREHENSIVE FRAMEWORK: PBR 2.0
To create sufficient space for innovation, enhance customer satisfaction, lower overall costs, and facilitate the transition to a platform utility model, policymakers should explore an advanced PBR framework that includes critical, core elements.
### A COMPREHENSIVE FRAMEWORK: PBR 2.0

#### CORE ELEMENTS OF AN ADVANCED PBR FRAMEWORK

<table>
<thead>
<tr>
<th>Revenue Adjustment Mechanisms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Multi-Year Rate Plan (MRP) and Indexed Revenue Cap</strong></td>
</tr>
<tr>
<td><strong>Revenue Decoupling</strong></td>
</tr>
<tr>
<td><strong>Earnings Sharing Mechanism (ESM)</strong></td>
</tr>
</tbody>
</table>
## Performance Mechanisms

<table>
<thead>
<tr>
<th>Performance Mechanisms (PIMs)</th>
<th>Set of PIMs designed to help drive achievement of the following regulatory and policy outcomes: Reliability; Interconnection Experience; Customer Engagement; and DER Asset Effectiveness.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scorecards</td>
<td>Scorecards with targeted performance levels to track progress against emergent regulatory outcomes, such as: Interconnection Experience; Customer Engagement; Cost Control; and GHG Reduction.</td>
</tr>
<tr>
<td>Reported Metrics</td>
<td>Portfolio of Reported Metrics to highlight activities under the following regulatory outcomes such as: Affordability; Customer Equity; Electrification of Transportation; and Resilience.</td>
</tr>
</tbody>
</table>
## A COMPREHENSIVE FRAMEWORK: PBR 2.0
### CORE ELEMENTS OF AN ADVANCED PBR FRAMEWORK

<table>
<thead>
<tr>
<th>Other Regulatory Mechanisms</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAPEX/OPEX Equalization</td>
</tr>
<tr>
<td>One or more shared savings mechanisms to incentivize the cost-effective pursuit of non-wires solutions and revise regulatory provisions so utilities can earn a rate of return on third-party service solutions.</td>
</tr>
<tr>
<td>Innovation</td>
</tr>
<tr>
<td>Regulatory sandbox to create space for the development of innovative products and services and experiment with subscription pricing to facilitate enhanced customer access to new products and services.</td>
</tr>
<tr>
<td>Platform Service Revenues</td>
</tr>
<tr>
<td>Examine how platform service revenues can be incorporated into the regulatory framework to diversify utility revenues in the near-term and facilitate a utility platform business model in the longer term.</td>
</tr>
</tbody>
</table>
The Evolving Utility

YESTERDAY
- SAFE
- RELIABLE
- AFFORDABLE

TODAY
- SAFE & SECURE
- RELIABLE & RESILIENT
- AFFORDABLE
- CUSTOMER-FOCUSED
- INCREASINGLY CLEAN

TOMORROW
- SAFE & SECURE
- RELIABLE & RESILIENT
- AFFORDABLE & EQUITABLE
- CUSTOMER-FOCUSED & INTERACTIVE
- CARBON FREE
- SERVICE PLATFORM
- PLATFORM FOR OTHER INFRASTRUCTURE
Evolving Regulatory Model -- PBR

PBR = Regulatory mechanisms that create stronger connection between a utility’s performance and its earnings.

Utility motivations for PBR:
- Better aligns financial goals with performance
- Less frequent rate cases
- Rate predictability
- Aids in cost control
- Rewards improved customer satisfaction, system reliability, system resiliency
- Allows for greater innovation, collaboration, and embracing new business models
## Different Goals Align with Different Tools

<table>
<thead>
<tr>
<th>GOAL</th>
<th>MECHANISM</th>
</tr>
</thead>
<tbody>
<tr>
<td>COST CONTROL</td>
<td>MRP</td>
</tr>
<tr>
<td>TARGETTED PERFORMANCE OR POLICY GOAL</td>
<td>PIM</td>
</tr>
<tr>
<td>EXPEDITED INVESTMENT</td>
<td>Other Constructs (trackers, riders)</td>
</tr>
</tbody>
</table>

Multi-year Rate Plans (MRP) -- Rates are set contingent upon a rate case moratorium and adjustments escalate rates or revenue between rate cases to address cost increases

Performance incentive mechanisms (PIMs) -- assignment of financial rewards and/or penalties to narrowly specified areas of utility performance or policy outcomes
PIM Principles

• Based on measures the utility can reasonably influence

• Defined with clear, transparent and easily understood language and formulae

• Designed with outcomes that are quantifiable and easily measured

• Balanced financial rewards and penalties that reflect acceptable levels of risk and reward

• Should not penalize a utility for being an early adopter
PIM Types

- **Traditional PIMs** provide incentives to maintain service quality (largely via penalties)
- **Emerging PIMs** provide incentives to push forward new initiatives (largely via rewards)
  - **Programmatic PIMs** are based on achievement of targets within specific programs and would be contingent on approval of those programs
  - **Outcome Based PIMs** are based on achievement of targets, but not tied to any specific programs
Utilities are increasingly considering new ways to address grid needs reliably and affordably.

These new solutions may involve new asset ownership and business models:

- Utility owned and just used for grid needs
- Utility owned and optimized to benefit of customers
- Utility owned and leased to 3rd party for additional uses
- Third party owned and leased to utility for grid needs

New ownership and business models may require new utility recovery/revenue mechanisms:

- Earning on contracts/services
- Earning on savings
Recent Experience with Performance Incentives in Rhode Island

Abigail Anthony, Commissioner
Rhode Island Public Utilities Commission
November 2019
Example: “EV CO2”

- Proposal to award a shareholder incentive for achieving GHG reductions from electric vehicle adoption.

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Minimum</strong></td>
<td>553</td>
<td>761</td>
<td>1,060</td>
</tr>
<tr>
<td><strong>Target</strong></td>
<td>1,013</td>
<td>1,396</td>
<td>1,944</td>
</tr>
<tr>
<td><strong>Maximum</strong></td>
<td>1,474</td>
<td>2,030</td>
<td>2,828</td>
</tr>
<tr>
<td><strong>Earnings at Maximum ($1,000)</strong></td>
<td>$276</td>
<td>$367</td>
<td>$497</td>
</tr>
</tbody>
</table>

- Issues
  - Existing utility incentives
  - Action-based vs. outcome-based
  - Payout based on qualitative benefits
Proposed Principles for PIMs

**Principle 1:** A performance incentive can be considered when the utility lacks an incentive (or has a disincentive) to better align utility performance with the public interest and there is evidence of underperformance or evidence that improved performance will deliver incremental benefits.

Available at:
Principle 2: Incentives should be designed to enable a comparison of the cost of achieving the target to the potential quantifiable and cash benefits.
**Principle 3:** Incentives should be designed to maximize customers’ share of total quantifiable, verifiable net benefits. Consideration will be given to the inherent risks and fairness of allocation of both cash and non-cash system, customer, and societal benefits.
Principle 4: An incentive should offer the utility no more than necessary to align utility performance with the public interest.
Principle 5: The utility should be offered the same incentive for the same benefit. No action should be rewarded more than an alternative action that produces the same benefit.
Performance-Based Regulation: Recent State and Utility Activity

Eighteen states have considered various types of utility business model reforms so far in 2019, with at least 14 states taking significant actions related to performance-based regulation. Performance-based regulation is a potential alternative to traditional cost of service regulation, providing utilities with financial incentives for achieving certain metrics, and sometimes penalties for failing to achieve these metrics.

Table 1: Major State Activities Related to Performance-Based Regulation

<table>
<thead>
<tr>
<th>State</th>
<th>Bill/Docket</th>
<th>Summary of Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO</td>
<td>S.B. 236</td>
<td>S.B. 236, enacted in May 2019, requires the Public Service Commission to conduct an investigation of financial performance-based incentives and performance-based metric tracking for electric utilities. A general determination is to be made on whether a shift to performance-based incentives for regulated electric utilities would provide net benefits to the state.</td>
</tr>
<tr>
<td>HI</td>
<td>Docket No. 2018-0088</td>
<td>Pursuant to S.B. 2939 of 2018, the Public Utilities Commission opened a proceeding in April 2018 to investigate issues associated with performance-based regulation for the HECO companies. Phase 1 evaluated the current regulatory framework and identify which incentive mechanisms may not be functioning as intended, and identified specific areas that should be targeted for improvement. In Phase 2, the Commission is working collaboratively with stakeholders to refine elements of the existing regulatory framework, develop incentive mechanisms to better address specific objectives, and explore alternative regulatory frameworks. The Commission issued a decision in May 2019, adopting three guiding principles: a customer-centric approach, administrative efficiency, and utility financial integrity. The decision also establishes three goals and 12 prioritized outcomes.</td>
</tr>
<tr>
<td>MD</td>
<td>Case No. 9618</td>
<td>On August 9, 2019, the Maryland Public Service Commission issued an order on alternative forms of rate regulation and established a working group process. The Commission directed the Public Utility Law Division to lead a working group of interested parties to develop a detailed implementation report regarding multi-year rate plans. After the working group submits its report on multi-year rate plans, it is to consider issues related to performance-based regulation.</td>
</tr>
<tr>
<td>MN</td>
<td>Docket No. 17-401</td>
<td>Minnesota statutes provide that the Commission may require a utility operating under a multiyear rate plan to provide a set of reasonable performance measures and incentives that are quantifiable, verifiable, and consistent with state energy policies. The Commission opened a proceeding in September 2017 to reach an understanding of the combination of metrics and incentives that could appropriately align utility and ratepayer interests. The Commission identified several metrics and directed Xcel Energy to work collaboratively with interested parties to develop proposed specific methods to calculate each of the identified metrics. A notice filed by the Commission in September 2019 set a deadline of October 31, 2019 for Xcel to file the proposed final metrics with a description of the corresponding methodology.</td>
</tr>
<tr>
<td>NV</td>
<td>Docket No. 19-06008</td>
<td>Pursuant to S.B. 300 of 2019, the Public Utilities Commission of Nevada (PUCN) is adopting procedures for utilities to apply for approval of alternative ratemaking plans. An alternative ratemaking plan may include performance-based rates.</td>
</tr>
<tr>
<td>RI</td>
<td>Docket No. 4943</td>
<td>In March 2019, Commissioner Anthony prepared a memorandum describing principles for performance incentive mechanisms. The Commissioner proposed five principles, which parties provided comments on in May 2019.</td>
</tr>
</tbody>
</table>
 Utilities in a number of states have proposed specific performance incentive mechanisms, including those based on customer satisfaction, reliability, interconnection timeframes, and distributed energy resource deployment. Several utilities have performance incentive mechanisms currently in place related to energy efficiency and demand response.

Table 2: Recent Utility Performance Incentive Mechanisms (PIMs) under Consideration

<table>
<thead>
<tr>
<th>State</th>
<th>Utility</th>
<th>Performance Incentive Mechanism(s)</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC</td>
<td>Pepco</td>
<td>SAIDI, SAIFI, DER interconnection review timeframes</td>
<td>Pending</td>
</tr>
<tr>
<td>MA</td>
<td>National Grid</td>
<td>Peak reduction, electric vehicle adoption, electric vehicle supply equipment cost containment, customer ease (a score reflecting how easy it is for customers to interact and do business with the utility)</td>
<td>Not Approved</td>
</tr>
<tr>
<td>OK</td>
<td>Public Service Company of Oklahoma</td>
<td>SAIDI, grid modernization time and cost containment, customer satisfaction, economic development</td>
<td>Not Approved (PIMs not included in settlement)</td>
</tr>
<tr>
<td>RI</td>
<td>National Grid</td>
<td>Annual MW capacity savings, installed energy storage capacity, avoided tons of CO₂ from electric vehicles, avoided tons of CO₂ from electric heat, light-duty government and commercial fleet electrification, activated low-income and multi-unit electric vehicle charging sites, DG interconnection time</td>
<td>Only approved PIM is for annual MW capacity savings</td>
</tr>
</tbody>
</table>