

# Washington D.C. Performance-Based Regulation Workshop

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THE **Brattle** GROUP



# Agenda

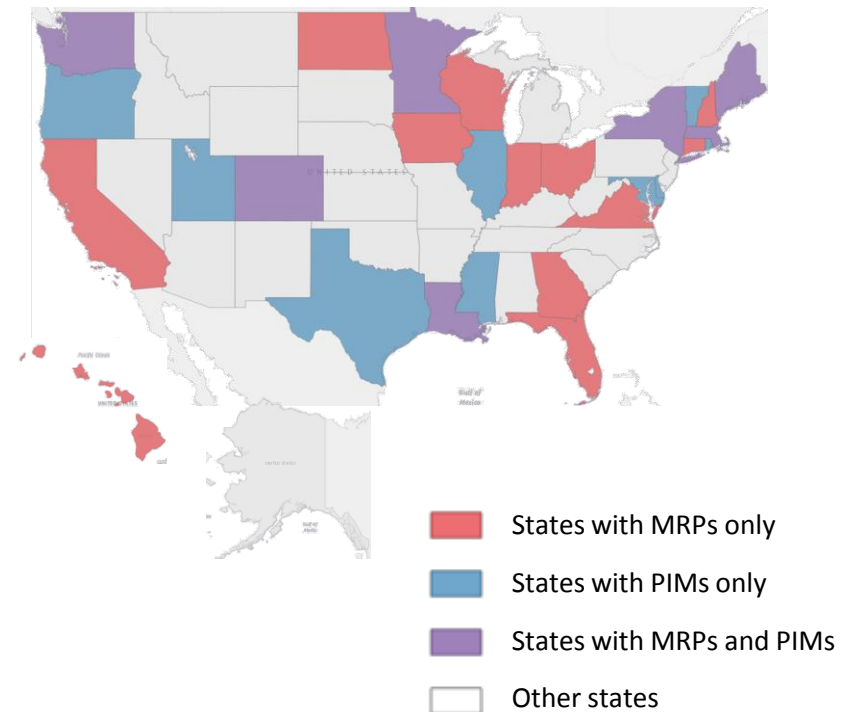
- Performance-Based Regulation – Definitions and Motivations
- Multi-year Rate Plans (MRPs)
- Performance Incentive Mechanisms (PIMs)
- Observations and Findings
- Q&A and Next Steps

# Performance-Based Regulation – Definitions and Motivations

# PBR In Perspective

- *Umbrella* terms: Performance Based Ratemaking (PBR) and Incentive Regulation (IR)
- Has been in use for some time; relatively widely applied in the U.S. and abroad
- Builds on incentive structures used in traditional rate of return regulatory methodology
- Some renewed attention as a result of changes in the industry environment, interest in advancing policy goals and keeping customer rates affordable

**PBR in the U.S.**



# Performance-Based Regulation Definitions

- Terms you may have heard:

- Multi-year rate plans
- Performance incentive plans
- Earnings adjustment mechanisms
- Price / revenue cap plans
- RPI-X, CPI-X, I-X

# A Little More Specific

No single official definition, but general agreement that PBR refers to a regulatory mechanism that creates a stronger connection between utility performance (e.g., cost, operations, policy goals) and earnings

Goal	Incentive Area	Mechanism
1) Cost/Price Control	Overall financial performance	<b>Broad-based Incentive Frameworks</b> MRPs
2) Targeted Performance or Policy Goals	“Traditional” operational areas (e.g., SAIDI) “Emerging” performance targets (e.g., increased EE, decreased DER interconnection time, etc.)	<b>Narrower Incentive Mechanisms</b> PIMs
3) (Expedited) Investment (e.g., Grid Modernization, Reliability, Resilience)	Risk Reduction	<b>Supplemental Incentives</b> (e.g., Capex Riders)

# Labeling PBR Plans

- Surveys, benchmarking and “counts” necessarily require labels, definitions and assignments – which makes for neat columns (but sometimes causes more divisiveness than consensus)
- Plans and approaches are “labeled” because they are commonly discussed by practitioners. However, such labels are not always consistently applied, and may not consistently represent the important features that distinguish one PBR plan from another
- Regulatory plans reflect the policy priorities of a jurisdiction, the challenges faced and the specific circumstances of utilities. As a result, regulatory plans incorporate multiple components and labeling is more complex

**PBR plans vary significantly from jurisdiction to jurisdiction, making them hard to label**

# PBR In Practice

Regulatory plans that are referred to as “PBR” or “IR” are actually composed of traditional rate of return regulation with one or more PBR-type mechanisms added on

Utility	State	Traditional RoR	MRPs		PIMs		Investment Incentives	
			"I-X"	Other	Traditional	Emerging	Formula Rates	Broad Capex Mechanisms
ComEd	IL, US	✓			✓		✓	
Con Edison	NY, US	✓		✓	✓	✓		
FPL	FL, US	✓		✓				
PG&E	CA, US	✓		✓				
PSE&G	NJ, US	✓						✓
Xcel Energy, NSFMN, US		✓		✓	✓			
ATCO Electric	Alberta, Canada	✓	✓					✓
Ausgrid	NSW, Australia	✓			✓	✓		✓
NPg (RIIO)	England, UK	✓	✓		✓	✓		✓

**Regulatory Framework = Traditional RoR + Combinations of PBR Elements**



# Foundation in Traditional ROR

- Mechanisms enhance and/or fill in incentives that are underplayed (or perhaps are missing from) traditional RoR regulation
- Rate of return regulation – in some form or fashion – tends to be the foundational framework upon which PBR mechanisms are layered
- Departure from or enhancement to traditional ROR...  
...really, a matter of perspective and degree

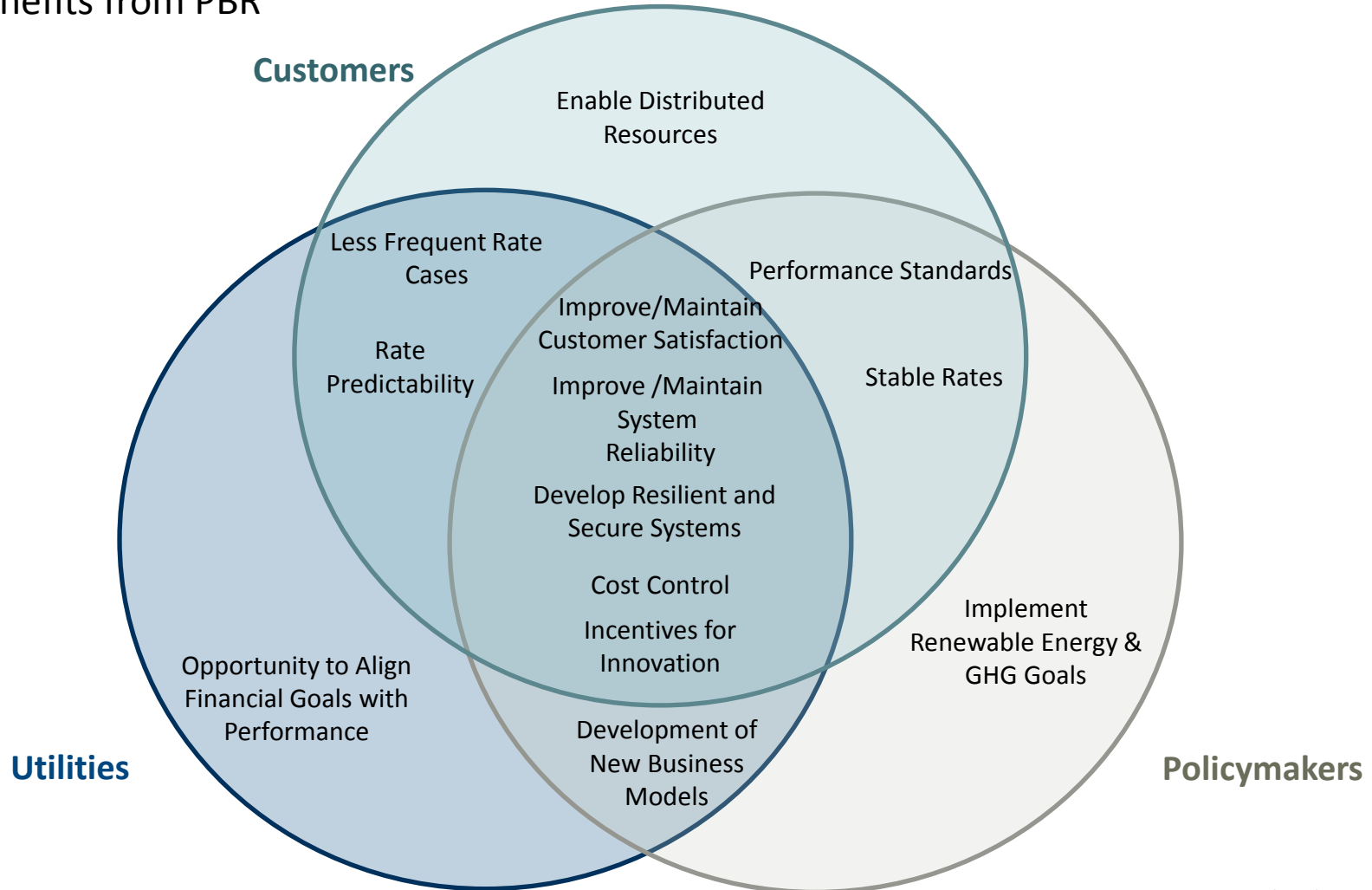
“All regulation is  
incentive regulation”  
– *Peter Bradford*

“The contrast ... is  
mostly one of emphasis”  
– *Laffont and Tirole*

**Traditional ROR is a foundational element of PBR**

# Benefits/Motivations for PBR

Customers, utilities and policymakers have overlapping motivations for and potential benefits from PBR



# Back to Goal / Mechanism Alignments

Different goals, different tools

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# Multi-year Rate Plans (MRPs)

# Multi-year Rate Plan Overview

## **Simple Definition:**

- Rates are set contingent upon a rate case moratorium (e.g., pre-determined 3-5 years)
- Adjustments escalates rates or revenue between rate cases to address cost increases

## **Primary Drivers:**

- Enhances incentives for cost control
- Reduces frequency of rate cases and increases administrative efficiency

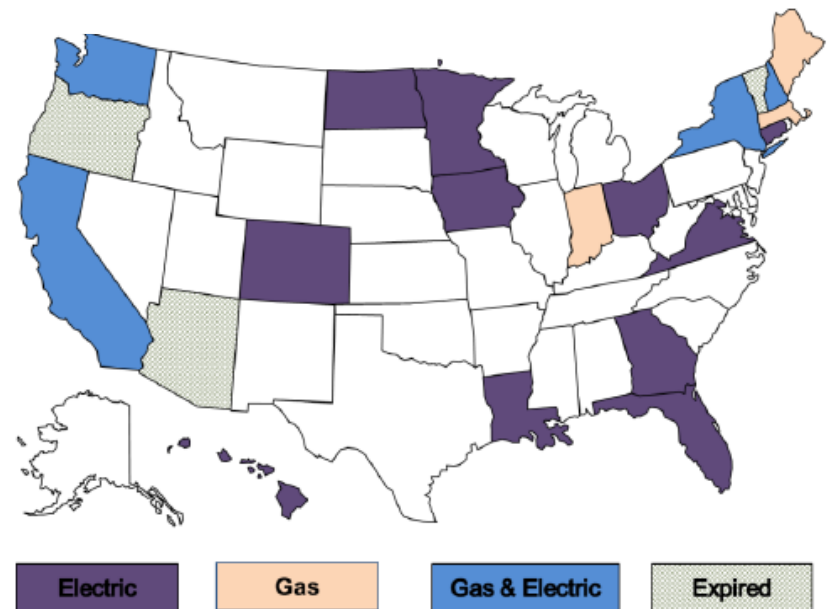
## **Regulatory Practice**

- Widely applied: California, New York, Colorado, Minnesota, etc.
- Reasons for adoption vary by jurisdiction

# Multi-year Rate Plans Applied

- 15+ states have adopted an MRP approach
- Initially adopted by some as an administrative convenience
- More recently, recognized as an incentive regulation application

## MRPs In the U.S.



Grid Modernization Laboratory Consortium, *State Performance-Based Regulation Using Multiyear Rate Plans for U.S. Electric Utilities*, sponsored by the U.S. Department of Energy, July 2017.

# The Details

Designing an MRP requires specification

Term of MRP

Scope of costs

Rate setting

Revenue requirement

Rate adjustment mechanism

Profit sharing

Off ramps and resets

# Term and Scope

- **Plan term** refers to the period of time between one rate case and the next
  - The longer the time between rate cases, the greater the incentives for cost savings and realizing additional earnings (and also the greater the chance for losses if the utility performs below expectations)
  - MRPs typically range in length from three to five years
- **Plan scope** refers to activities and associated costs that are included within the revenue requirement determined at the outset in the rate case
  - Most MRPs include most costs, excluding costs covered by trackers or other mechanisms (e.g., fuel adjustment clauses)



# Rate Setting and Revenue Requirement

- **Revenue requirement** is forward looking and can be estimated using a forecast, historical trend, an average industry-wide trend
  - Using (internal) forecasted costs recognizes that costs may change over time in a more complex fashion and aligns rates with those costs during the MRP effective period
  - Using an historical trend and/or average implicitly assumes that the costs of an efficient utility change over time in way that can be captured with past patterns and are relatively easy to predict
- Methods to adjust rates between rate cases (if not using internally forecasted costs) include inflation less productivity offsets (I-X); may also include other variables such as:
  - C or K factors that account for forecast incremental revenue each year to support capital expenditures
  - Z factor to account for unforeseen events that may have an impact on costs

# Profit Sharing

**Profit sharing** is a safety valve of sorts, in case earnings get too far off track

- Earnings Sharing Mechanism: under this mechanism, earnings above specified levels are shared with customers and earnings that fall below specified levels may be compensated in part by customers
  - ESMs moderate the level of reward and risk included in the MRP incentive structure
  - Typically, ESMs are triggered when ROEs fall outside a deadband
  - ESMs are included in about half of the MRPs in place in the U.S.

# Off-ramps & Extraordinary Events

- **Off-ramp** refers to the provisions included in the MRP that allow for a broader review of the plan or for termination of the plan
  - Most common trigger for the re-opening or termination of a plan is when performance is consistently above or below target (authorized) returns by a pre-defined amount
  - Sometimes triggers and off-ramp provisions are unspecified but unforeseen changes (e.g., tax law change) may necessitate reviews, re-opening and termination of plans
- To accommodate extraordinary events, MRPs frequently include mechanisms to avoid the need to off-ramp
  - For example, ConEd allows for deferred accounting on storm-related costs in excess of the planned reserve fund

# Performance Incentive Mechanisms (PIMs)

# Intro to Performance Incentive Mechanisms

- Performance incentive mechanisms (PIMs) refer to the assignment of financial rewards and/or penalties to narrowly specified areas of utility performance or policy outcomes
- Brattle has reviewed and analyzed a wide range of PIMs in the U.S. and other parts of the world over the course of the last decade and have found them to be very widely applied
- Regulators usually require utilities to report on a variety of performance measures, sometimes at a detailed level, but only a subset of these usually have the financial incentives attached that make them PIMs
- The scope of most PIMs covers areas of utility operations, mainly reliability, customer service, and safety, which Brattle collectively refers to as “traditional” PIMs

# Trends in PIMs

- PIMs tend to focus on specific areas of utility performance, but can cover any area of interest
- PIMs have been used for some time and tended to cover “traditional” PIM areas including the key areas of utility operations – namely, reliability, customer service and safety
- The PIM concept has been extended to provide incentives for utilities to address emerging (and important) policy goals (e.g., environmental stewardship, customer engagement)
- These “Emerging” PIMs are becoming part of the regulatory fabric – being applied (e.g., NY’s Earning Adjustment Mechanisms) or at least widely discussed

# PIM Mechanics

- Utilities and regulators have tracked key areas of performance for decades
- Attaching a financial incentive (i.e., a reward and/or penalty) to an area of operational performance = PIM

Principles  
Measures  
Targets  
Deadbands  
Incentives

# Principles Underlying PIMs

Principles underlying PIMs are parallel to those guiding incentive regulation in general; they are broadly informative but provide little guidance in specification

- Based on measures that the company can reasonably influence
- Defined with clear, transparent and easily understood language and formulae
- Designed with outcomes that are quantifiable and easily measured
- Based on already collected data by the utility (whenever possible)
- Incentivized with financial rewards/penalties that reflect acceptable levels of risk and reward
- Relatively limited in scope; not all performance measures require incentives and many may be monitored instead



# Traditional Measures

3 main “traditional” PIM areas: Reliability, Customer Service and Safety

## Examples of Traditional Measures

Reliability (Outages)		Customer Satisfaction, Service, Billing	Employee/Public Safety
SAIDI	Damaged Pole Repair	Call Answer Rate	Total Case Rate
SAIFI	Poorly Performing Circuits List	Billing Accuracy/Adjustments	Lost Work Time Accident Rate
Circuit-level SAIDI	Replacement of Over-Duty Circuit Breakers	On-Cycle Meter Reads	Emergency Response Time
Circuit-level SAIFI	Repair of Street Lights/Traffic Signals	Service Appointments Kept/Missed	
Major Outage Frequency	Customers Experiencing Multiple Outages (CEMI)	Outage Notifications	
MAIFI	Customers Experiencing Long Interruption Durations (CELID)	Customer Surveys	
Storm Response			

# Emerging Measures

There is a long list of possible PIMs that address a wide range of evolving policy goals; most remain “blue sky” / thought pieces

- NY’s Earnings Adjustment Mechanism (EAMs) are one of few examples of specified and applied Emerging PIMs
- Many others are in the idea and discussion phase

## Emerging PIMs Implemented and Discussed

- |  | <b>EAMs</b> | Competition   |
|--|-------------|---|
| <ul style="list-style-type: none"><li>• Energy Efficiency</li><li>• Customer Load Factor</li><li>• Peak Load Reduction</li><li>• Customer Energy Intensity</li><li>• Distributed Generation Utilization</li><li>• DG Interconnection</li><li>• GHG Emissions Avoided</li></ul> |             | <ul style="list-style-type: none"><li>• Enrollment in Time-Varying Rates</li><li>• Third Party Access to Utility Data</li><li>• Fleet-Wide NO<sub>x</sub> Rate</li><li>• Fleet-Wide GHG Emission Rate</li><li>• Electric Vehicle Charging Station Installation</li><li>• Demand Response Enrollment</li><li>• Energy Storage Installation</li></ul> |
| <ul style="list-style-type: none"><li>• Stakeholder Engagement</li><li>• Compliance with Code of Conduct for</li></ul>   |             |   |

# PIM Structure

**Performance Target** is the quantified level of service (for a particular performance measure) that the utility is expected to provide on an ongoing basis

**Deadbands or Neutral Zones** are a range around the target level of performance in which the utility's financial position does not vary with the realized level of service quality

**The Incentive Provision** of a PIM refers to the structure through which the utility is penalized or rewarded for performing at service levels outside of the deadband

# Observations and Findings

# MRP Based Regulatory Plans

- Rates are set contingent upon a rate case moratorium with adjustments that escalate rates or revenue between rate cases to address cost increases
- Most of the regulatory frameworks (plans) that are included in the MRP category are composed of combinations of incentive elements; they generally are not just MRPs
- MRPs introduce additional rewards and risks into the utility regulatory framework
- MRPs mainly applied to incentivize cost controls
- More than 15 states include MRP regulation for at least one electric or gas utility

# Performance Incentive Mechanisms

- Regulatory plans involving MRPs frequently include PIMs and/or other alternative mechanisms to balance cost control and other objectives
  - Traditional PIMs provide incentives (penalties) to maintain service quality
  - Emerging PIMs provide incentive to push forward with new initiatives
- Traditional PIMs tend to be penalty only (i.e., asymmetrical downward incentive)
- In contrast, Emerging PIMs are designed to address policy goals and tend to be rewards only (i.e., asymmetrical upward)

# Last Words

- Review of proceedings concerning PBR frameworks confirms that plan design should reflect unique circumstances; there isn't a best practice that everyone should emulate
- Differences across regulatory plans tend to reflect priorities associated with utility and/or jurisdictional specific issues and/or policy goals – some regulatory plans prioritize grid modernization, others emphasize cost containment, some do both

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