



Evolution of Performance Based Rates



Why Performance Based Rates?

Traditional Cost of Service
Ratemaking does not provide
incentives for Utilities to innovate



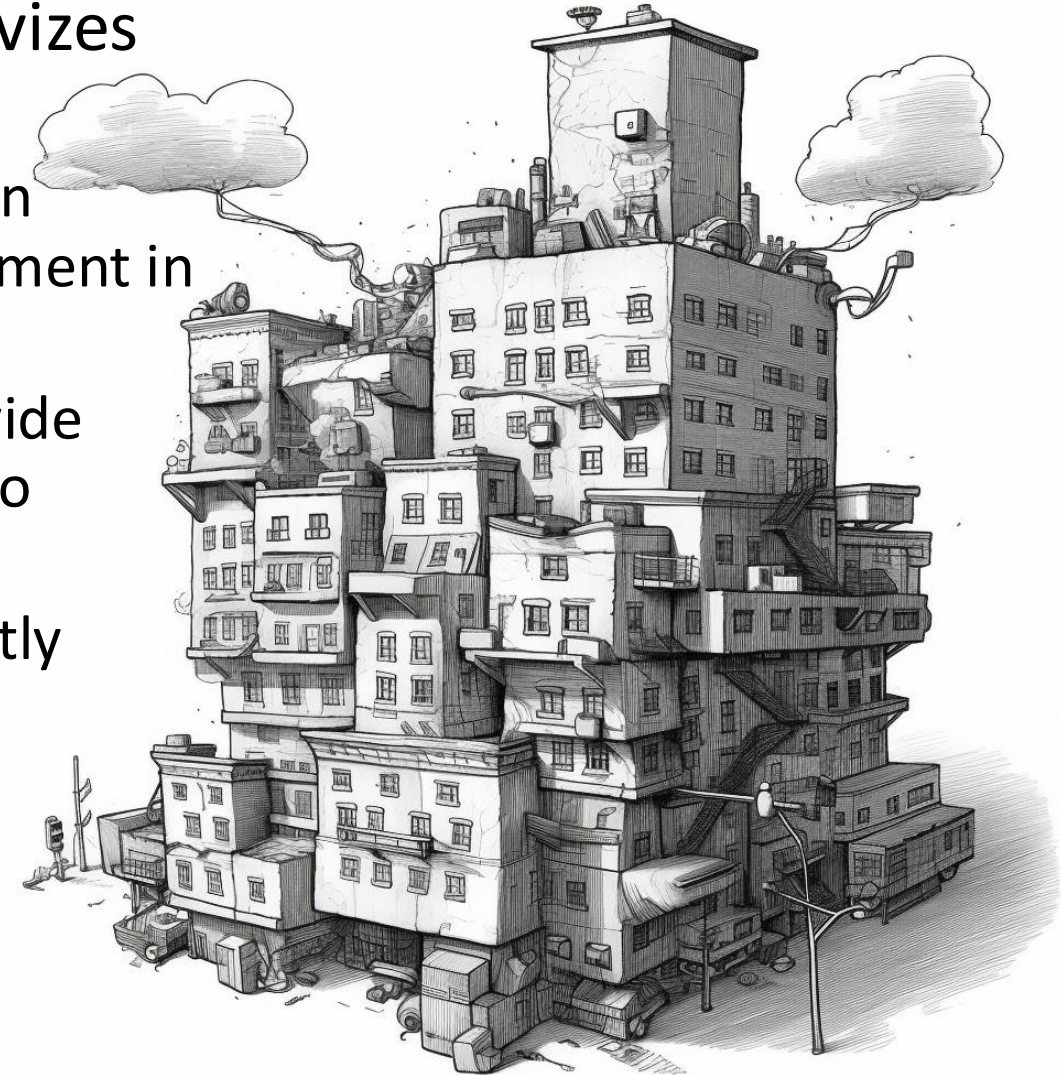
- Traditional Ratemaking means traditional capital investments
 - **Utilities get ROE on capital spending**
 - **Depreciation on capital assets aids cash flow, reduces rate impacts**
 - **Regulatory certainty for known, measurable, used and useful capital**
- However, this traditional approach also has potential downsides:
 - **Limited incentive for innovation:** Only costs for tangible, future-benefiting assets can be capitalized - there will be less motivation to invest in new, potentially risky technologies, especially technology that is less capital intensive.
 - **Potential for over-investment:** The guaranteed return on investment can lead to over-investment in infrastructure, aka "gold-plating".

Why Performance Based Rates?



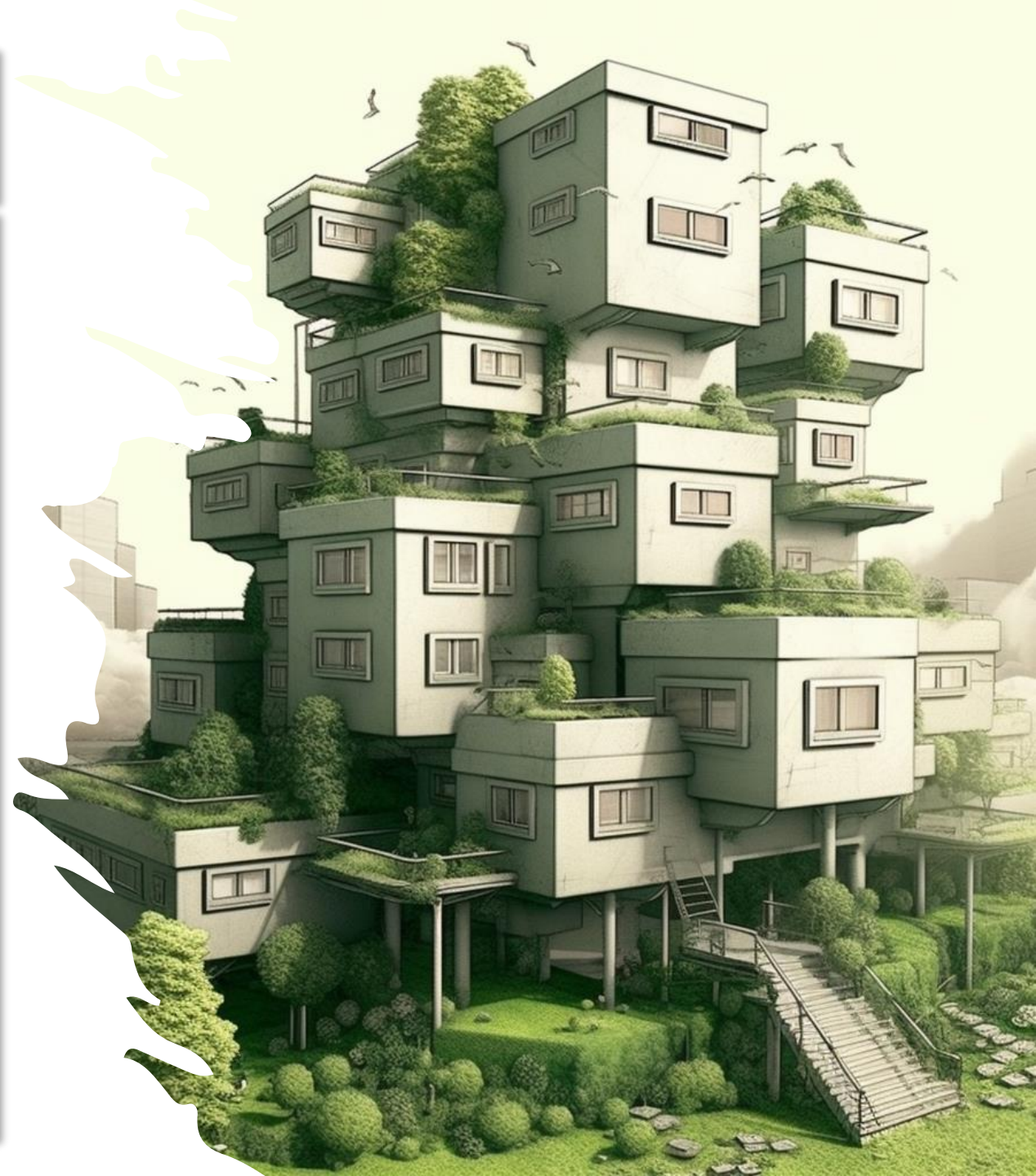
- Traditional cost-of-service regulation incentivizes utilities to:
 - **Invest in Infrastructure:** Utilities earn a return on capital investments, promoting sustained investment in existing infrastructure.
 - **Ensure Reliability:** Utilities are obligated to provide reliable service to customers, motivating them to maintain and upgrade their infrastructure.
 - **Manage Costs Effectively:** Utilities must prudently manage costs, as only reasonable costs can be recovered from customers.

This is works is nothing is changing.



Everything is Changing!

- Investments in flexible load, DR, behind-the-meter DER like storage, and solar require engaged customers.
- Energy Efficiency low hanging fruit is gone
- Pressure to expand the grid for clean energy and to decarbonize
- All of this, maintaining a focus on keeping costs low for consumers.



PBR: Regulatory Mixed Messages



Cybersecurity



No clear path for returns of non-capitalized costs

Interconnection



DERs Increases labor, decreases traditional reliability, triggers upgrades outside of lifecycles

Decoupling



Do Decoupling and Electrification fit?

Regulatory Policy



Evolving policies require new goals, targeted cost-recovery, and more benefit/earning sharing with customers

Modern Policies: Catalysts for Change



Dynamic Pricing,
Innovative Rate Design

Customer
Flexible
Load

Status
Quo

Complex
Regulatory
Proceedings

Decarbonization

Slow but major
innovations need to
be thoughtful to
avoid being
disruptive

Capital Intensive and
customer participation



- A factor adjusts rates approved in a rate case.
- Rates are improved based on benchmarks and performance
- Factors:
 - Inflation (I)
 - Productivity (X)
 - Earning Sharing Mechanism (ESM)
 - Performance Mechanism (PIM)
 - Exogenous factors (Ex)
 - Decoupling (Dc)

$$\text{New Rate} = \text{Approved Rates} \times \left[I - X + \text{ESM} + \text{PIM} + \text{Ex} + \text{Dc} \right]$$



- PBR can remove the “Capital first” mindset; Utilities should be investing in *efficiency*
 - Investing in software solutions should be encouraged.
 - Mechanisms have been developed keep part of efficiency in next rate case (Alberta ECM)
 - Decarbonizing policy should lead to prioritizing decarbonization investments
 - Creating dynamic rates, integrating DERs, improving grid visibility, adopting low carbon policies



Pay
attention to
how existing
costs are
recovered!

Performance Incentive Mechanisms (PIMs)



Energy Efficiency - Incentives and penalties based on achievement of energy savings goals, (RI, IL, MA)



Reliability - Service quality standards and swift outage response measures (NY, MA)



Affordability - Reducing Economic hardship, Tracking Energy Burdens (MI, MA, MN)



Interconnection - Enforcing strict interconnection timeline standards (Hawaii)

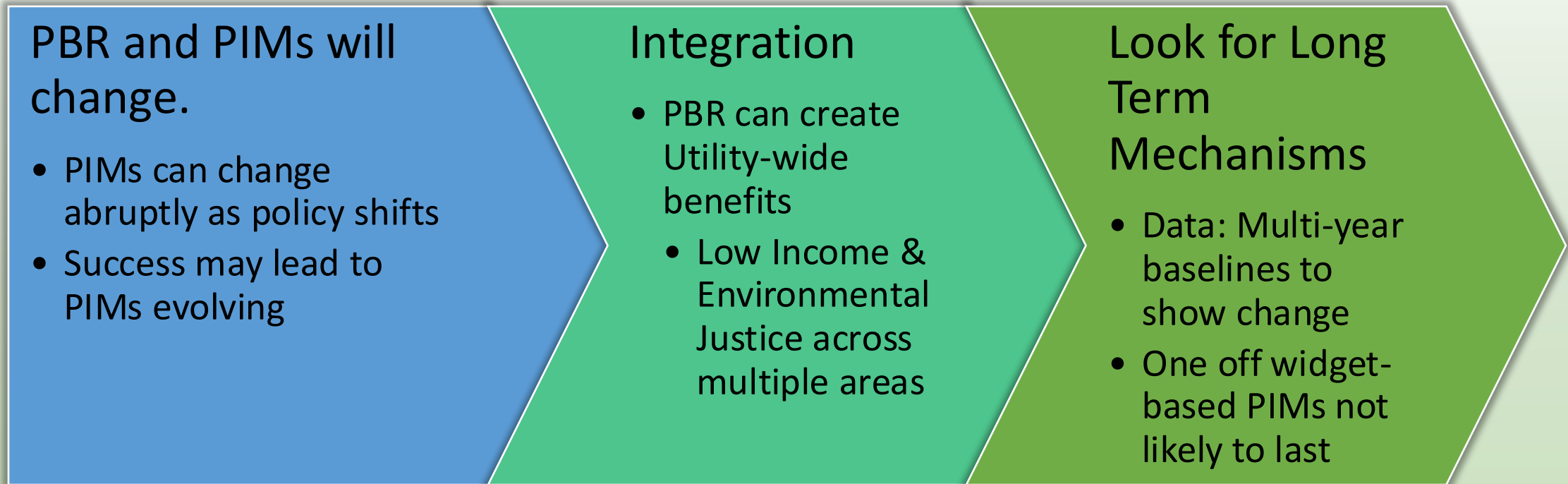


Renewable Energy - Shareholder Profits/ROE to carbon or renewable policy (Hawaii and MN) models



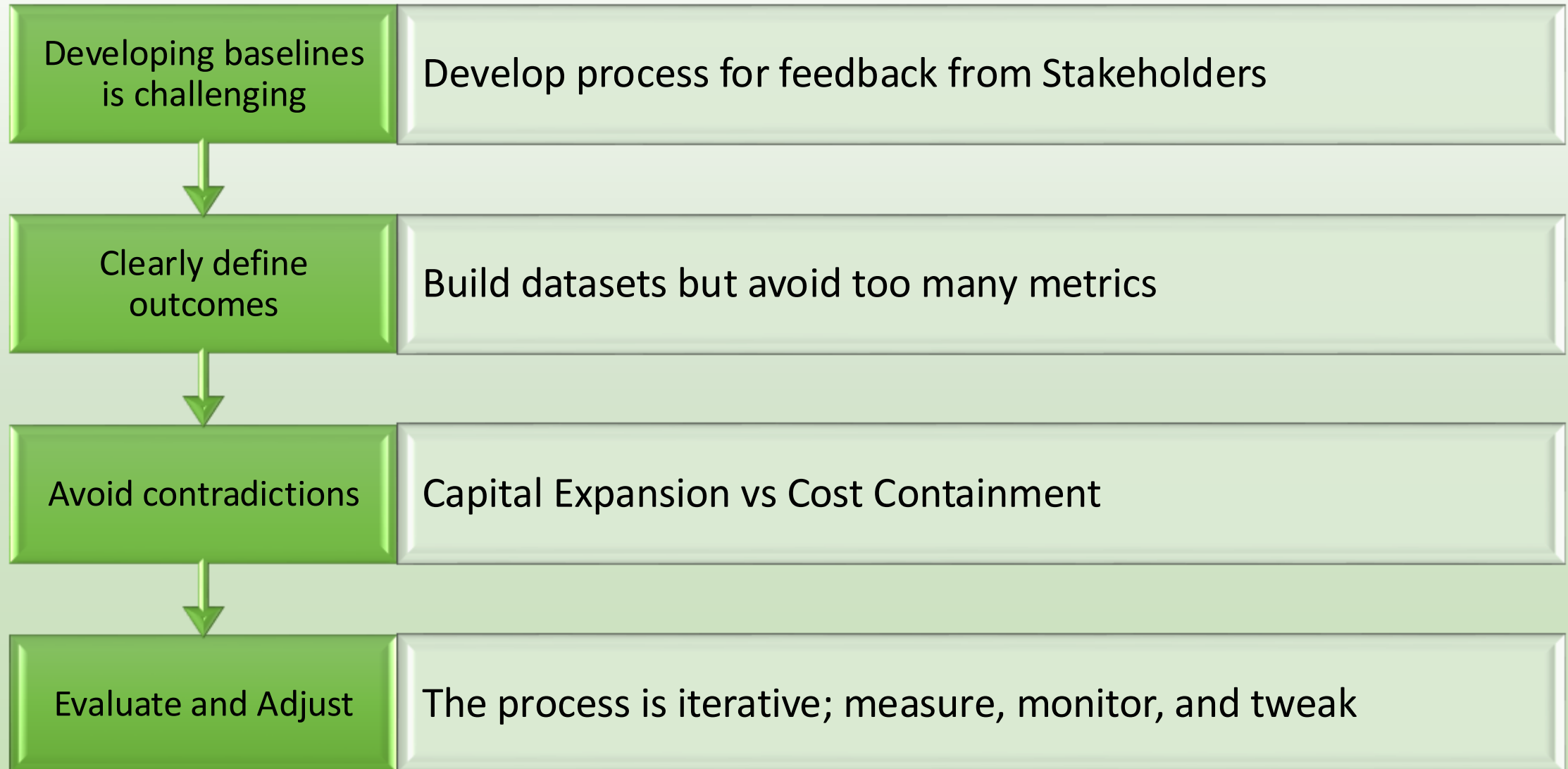
Customer Service – Management Audits, improving customer experience (HI, MA)

Align Policy Goals to create lasting outcomes



Track the outcome; Reward the Action

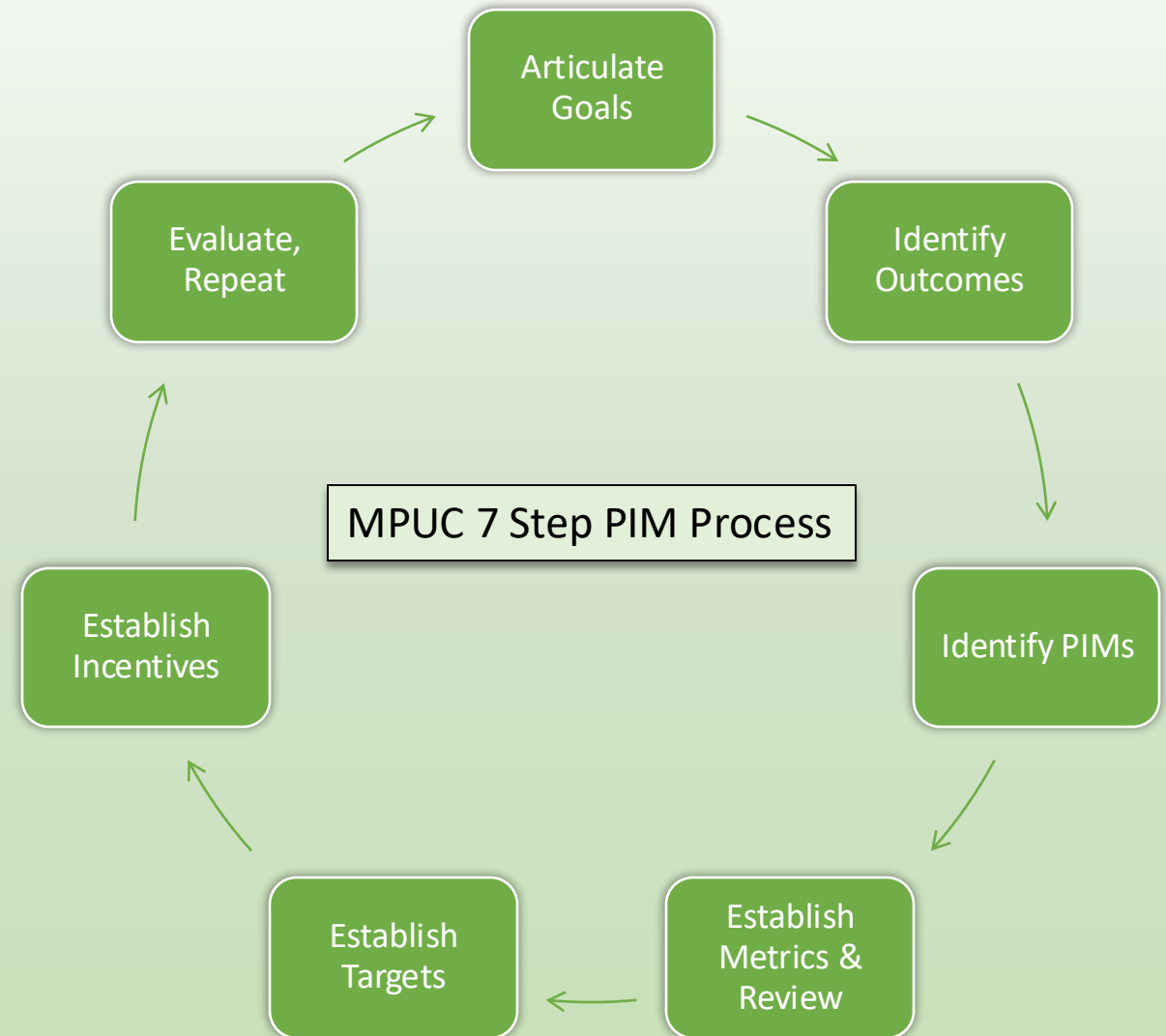
Plan for Success



PBR can modernize Regulators and Utilities



- PBR is the right regulatory tool to alter utility business model
 - Stay-outs avoid rate cases
 - Blending capital and expenses optimizes investment
 - Improved efficiency is the goal
 - Policy implementation has direct performance rewards
 - Don't compromise safety



THANK YOU

For More Information:

Contact: Matt Nelson mattn@apexanalyticsllc.com

Additional Resources:

[MA-DPU 18-150](#)

[MA-DPU 19-120](#)

[MA-DPU 22-22](#)

[RI-4943 PIM Principles](#)

[HI-37787](#)

[MN-CI-17-401](#)