

Performance-Based Regulation State Working Group

Can New Forms of PBR Advance the Clean Energy Transition?

March 23, 2023 | 3:00-4:00pm (ET)

Performance-Based Regulation State Working Group

Working Group Chair: Commissioner Abigail Anthony, Rhode Island
Working Group – 31 Jurisdictions

- Arizona
- British Columbia, Canada
- Colorado
- Connecticut
- District of Columbia
- Delaware
- Georgia
- Hawaii
- Idaho
- Illinois
- Indiana
- Kentucky
- Massachusetts
- Maryland
- Maine
- Michigan
- Minnesota
- Missouri
- North Carolina
- Nevada
- Ohio
- Oregon
- Oklahoma
- Pennsylvania
- Puerto Rico
- Rhode Island
- Texas
- Utah
- Vermont
- Washington
- Wisconsin

Please send any feedback or inquiries to enethercutt@naruc.org

Performance-Based Regulation State Working Group

Agenda

- Updates and announcements – Elliott Nethercutt (NARUC)
- Opening Remarks – Abigail Anthony (RI)
- Expert Webinar Presentations – Can New Forms of PBR Advance the Clean Energy Transition?
- Open Discussion
- Closing Remarks – Abigail Anthony (RI)

Performance-Based Regulation State Working Group

2023 Event Schedule

Date	Topic	Event Type
Jan 5	Member Roundtable and 2023 NARUC Work Plan	Roundtable
Mar 23	Can New Forms of PBR Advance the Clean Energy Transition?	Expert Webinar
May 4	Commission Approaches for Using Capital Efficiency Performance Incentives	<i>R&I</i>
Jul (TBD)	Evolving Performance Incentives Mechanisms for Energy Efficiency	<i>In-Person Panel</i>
Sep 7	Examining the Full Range of Service Quality Metrics	<i>Expert Webinar</i>
Nov 2	Best Practices for Gas Utilities Using PBR	<i>R&I</i>

- **Roundtable:** WG members receive a prompt or topic; each has a few minutes to respond with their state's perspective
- **Ruminate & Illuminate:** 75-minute peer sharing call in response to question or issue raised by a member. NARUC staff will develop a one-page summary.
- **Expert Webinars:** 60-minute webinar with at least one 10-minute presentations from each expert on a topic selected by the chair or proposed by a WG member. The prepared presentations will be recorded and posted to a public webpage; the Q&A will be for members only.

Performance-Based Regulation State Working Group

Can New Forms of PBR Advance the Clean Energy Transition?

March 23, 2023 | 3:00-4:00pm (ET)

Moderator: Abigail Anthony (RI)

Panelists: Cara Goldenberg & Kaja Rebane (RMI); Jake Van Reen, CPA (Van Reen Accounting)

How Totex Ratemaking Could Address Utility Capex Bias in the US

NARUC PBR State Working Group
March 23, 2023



Presenters



Cara Goldenberg

Principal, RMI
Carbon-Free Electricity Program



Kaja Rebane

Senior Associate, RMI
Carbon-Free Electricity Program



Agenda

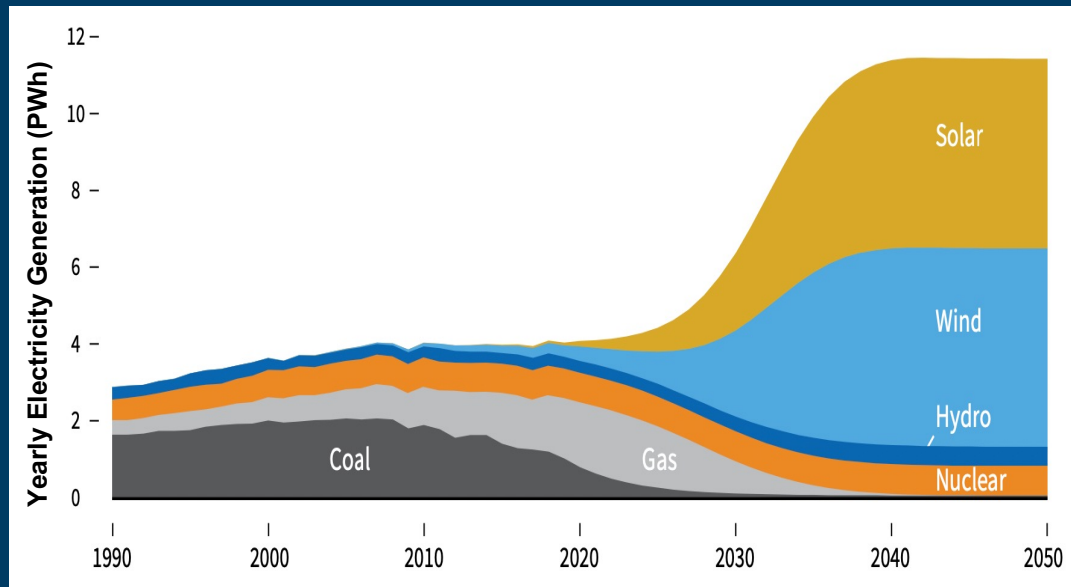
- The coming electric-sector investment boom, affordability, and the challenge posed by capex bias
- Regulatory strategies to address capex bias
- One comprehensive approach: totex ratemaking
- Discussion

The Coming Investment Boom, Affordability, and Capex Bias



The US Electric Sector Faces a Massive Spending Surge in Coming Years

- To decarbonize & accommodate electrification, an unprecedented level of clean capacity will be needed.

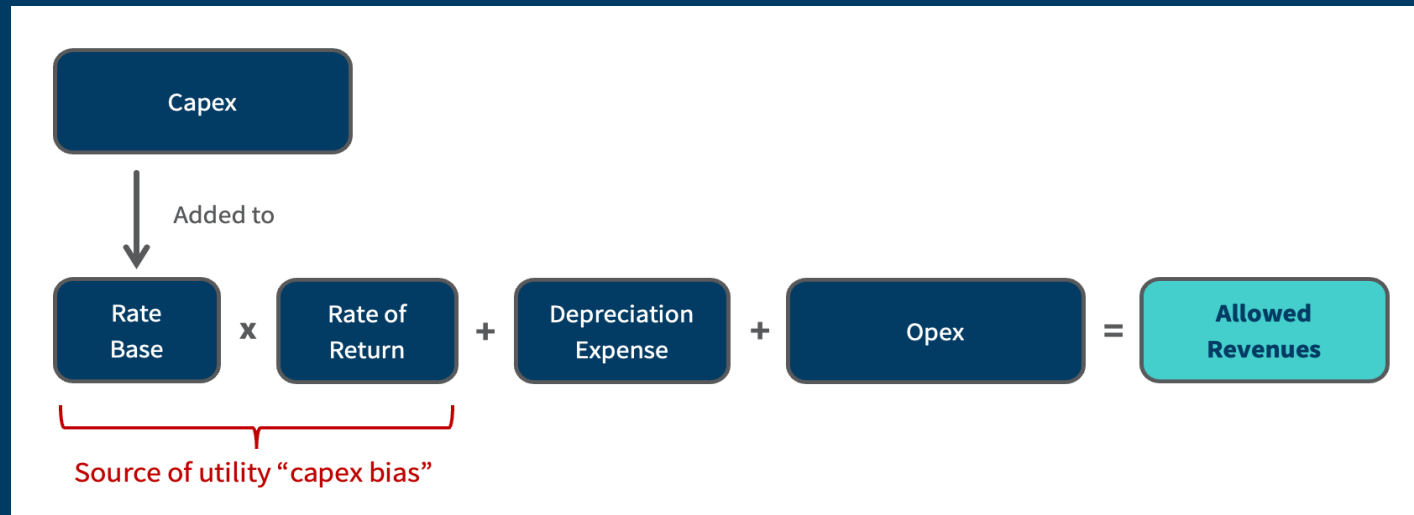


Source: Chaz Teplin, et al., *Scaling US Climate Ambitions to Meet the Science and Arithmetic of 1.5°C Warming*, RMI, April 2021.

- Ensuring resilience and replacing aging infrastructure will add more spending needs to the mix.
- To ensure affordability, all potential projects — whether they represent capital expenditures (capex) or operating expenses (opex) from the utility's perspective — should be on equal footing.
- But the playing field is currently not level due to capex bias.

Capex Bias is a Result of Traditional Regulation

- Capex bias is a perverse incentive created by traditional cost-of-service regulation (COSR). It stems from how regulators set the revenue requirement for investor-owned utilities:



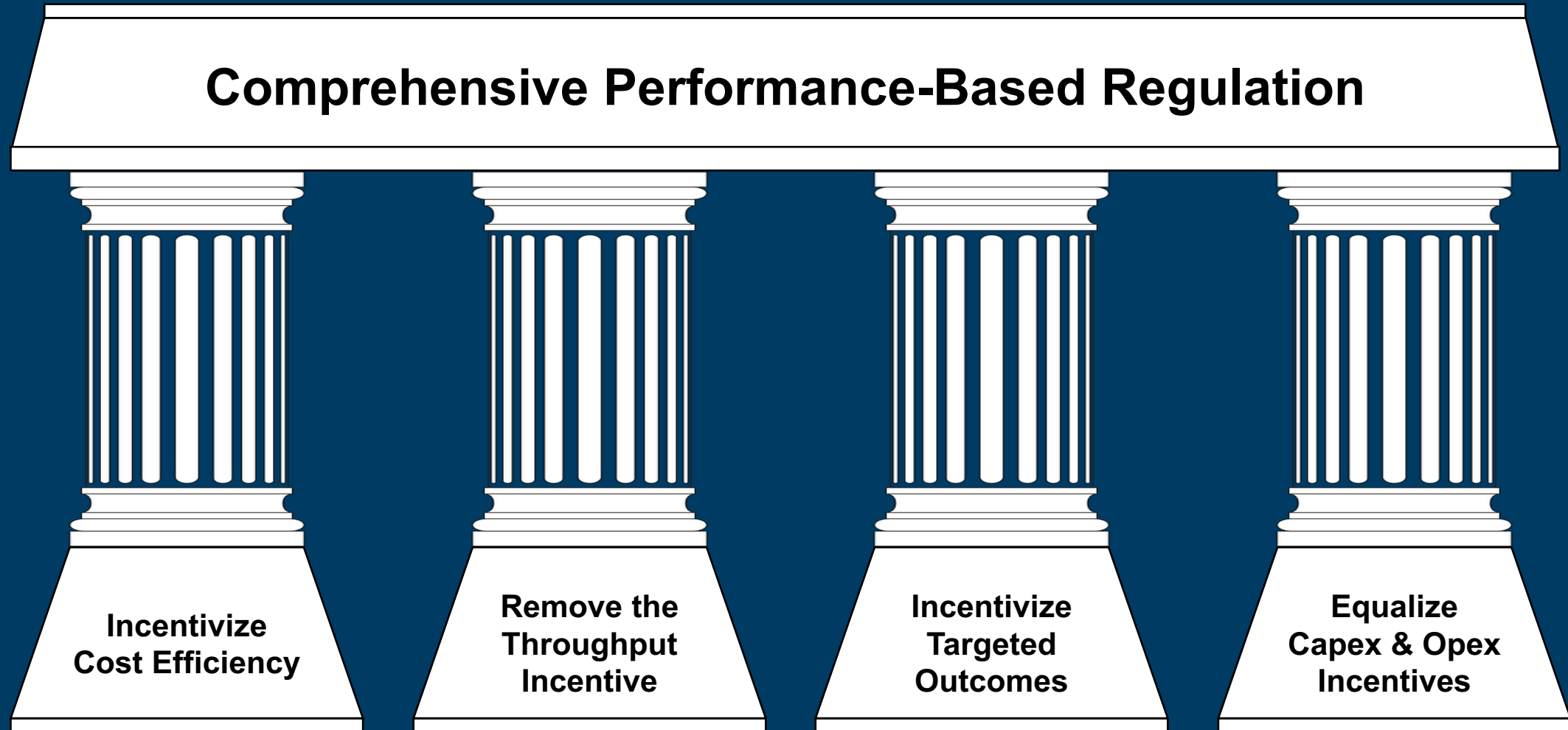
- Capex bias incents the utility to prefer long-lasting infrastructure over other solutions (e.g., energy efficiency) and to invest its own capital rather than purchase services from 3rd parties.
- It encourages utilities to pursue capital investments — even when alternatives exist that could save customers money.*

* Though we focus on electric utilities in this presentation, capex bias is also a concern for investor-owned gas utilities.

The background of the slide is a collage. It features several US dollar bills, including \$20 and \$100 denominations, which are slightly faded and overlaid. Superimposed on the currency are black silhouettes of high-voltage electrical transmission towers and power lines, creating a grid-like pattern across the image. The overall color palette is dominated by the warm tones of the currency (yellows, oranges, and browns) and the dark blue of the top and bottom left corners.

Regulators Can Address Capex Bias Through Capex-Opex Equalization

Capex-Opex Capitalization is one of the “Four Pillars” of Comprehensive PBR



Capex-Opex Equalization Mechanisms

Opex capitalization. Amortizes a category of opex and lets the utility earn a return on it over time.

Performance incentive mechanisms (PIMs). Attaches a financial reward or penalty to a utility's performance in a specific opex-dependent domain (e.g., energy efficiency).

Shared savings mechanisms (SSMs). A type of PIM. Allows the utility to retain a share of the cost savings when it implements a cheaper alternative — which can be opex.



Capex-Opex Equalization Mechanisms (Cont.)

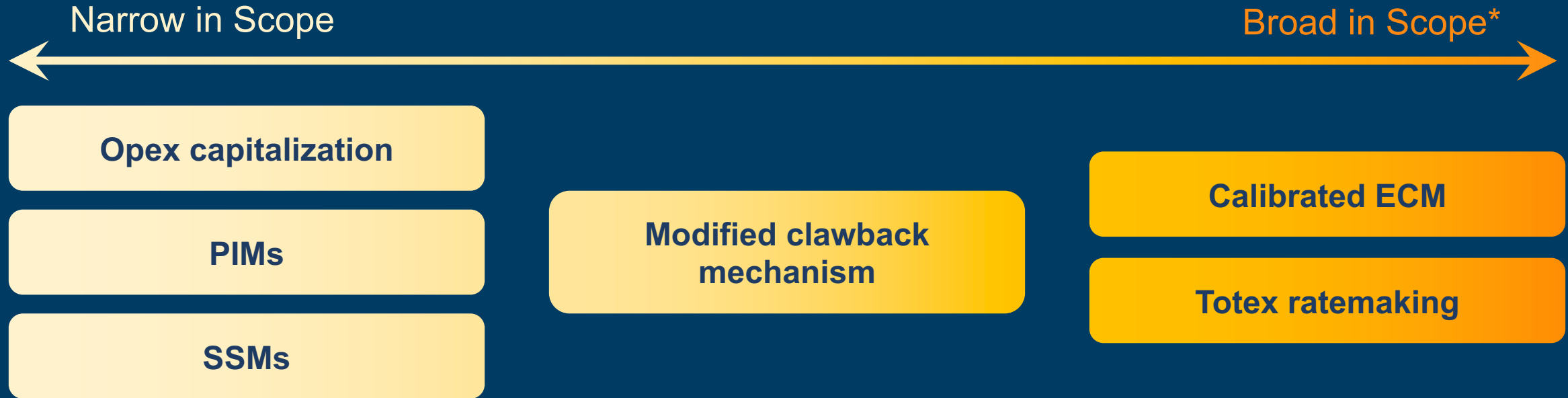
Modified clawback mechanism. Some states use a clawback mechanism to reclaim budgeted but unspent capex. A modified version can allow the utility to retain the difference between approved capex and actual opex until rates are reset.

Calibrated efficiency carryover mechanism (calibrated ECM). Preserves the cost-containment incentive under a multiyear rate plan (MRP) through its later years. If the ECM is applied to capex and opex separately and calibrated to equalize incentives, it can also address capex bias.

Totex ratemaking (TR). Removes the distinction between opex and capex for ratemaking purposes.



These Mechanisms Have Different Qualities



- All of these mechanisms except the calibrated ECM and TR have been adopted in the US
- TR levels the playing field between capex and opex more comprehensively than the other mechanisms

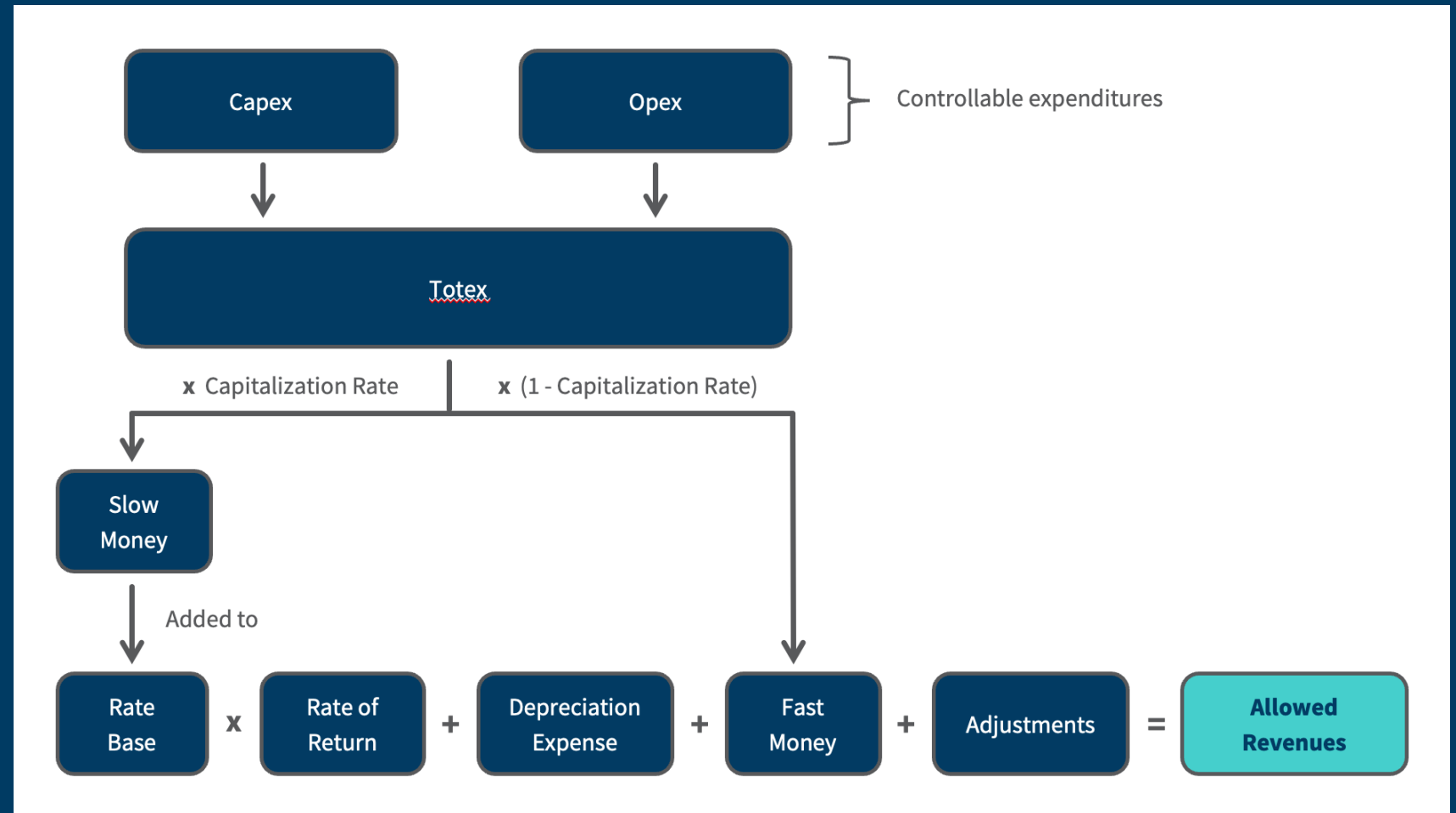
* The “broad” mechanisms can be implemented in a narrow fashion if desired — for example, to pilot their use.

A detailed close-up photograph of a mechanical watch movement. The image shows several interlocking gears of different sizes, some made of brass and others of steel. There are also several small, round, faceted jewels (likely rubies or sapphires) visible, which are part of the watch's internal mechanism. The background is a solid dark blue color.

How Totex Ratemaking Works

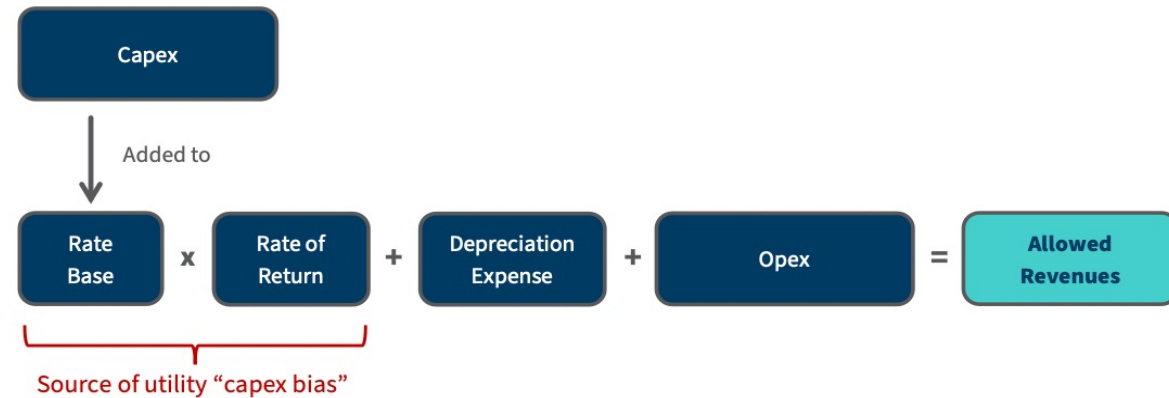
Totex Ratemaking Treats Capex and Opex Equivalently for Ratemaking Purposes

- TR addresses the root cause of capex bias.
- It is part of the UK's RIIO framework, and it has also been adopted in Italy.

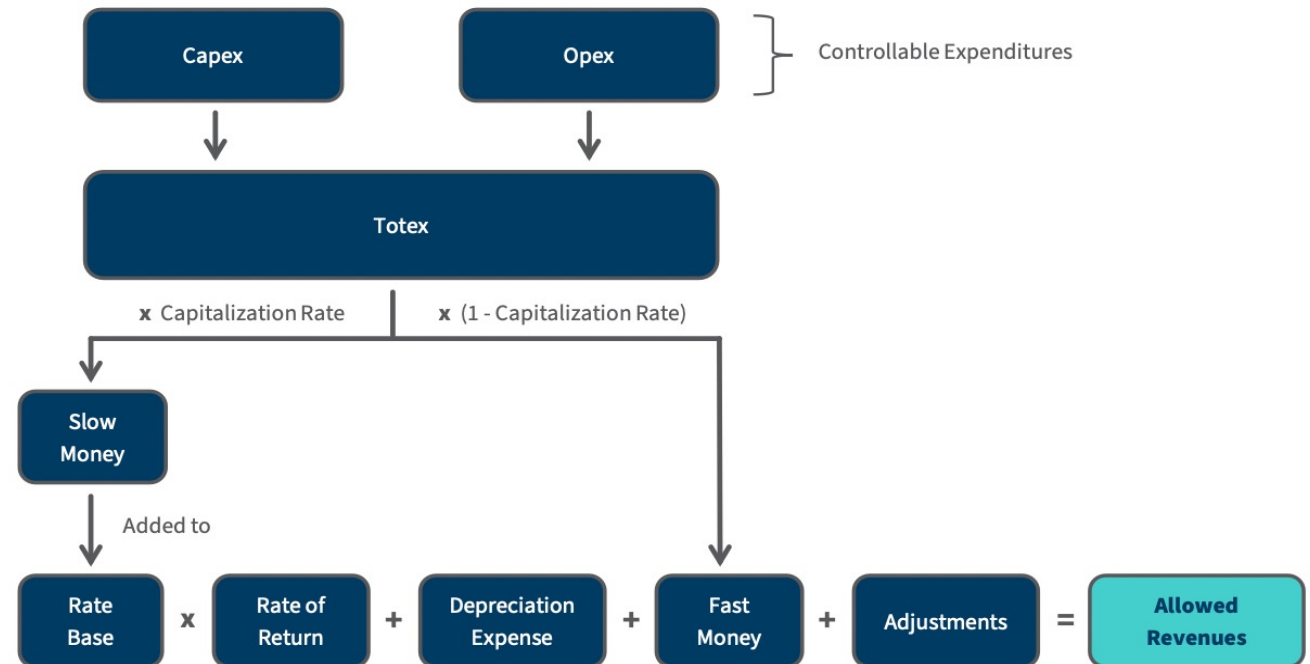


Comparison of the Revenue Formulas Under COSR and Totex Ratemaking

Traditional Cost-of-Service Regulation



Totex Ratemaking



Totex Ratemaking Should Be Implemented Together with Strategies that Encourage Cost Control

TR can help keep rates affordable by addressing capex bias — but it does not address **gold plating**. It should therefore be paired with other reforms that do.

- Gold plating is the utility's financial incentive to increase overall spending. Under TR, this incentive is spread over both capex and opex.



Totex Ratemaking Should Be Implemented Together with Strategies that Encourage Cost Control (Cont.)

Under RIIO, TR addresses capex bias while other PBR mechanisms incentivize cost containment. These include:

- **An MRP with a revenue cap.** This sets the totex allowance in advance, and indexes it to external cost drivers rather than the utility's own spending decisions.
- **A Totex Incentive Mechanism (TIM).** The TIM allows the utility to keep a share of any savings relative to its totex allowance and makes it bear a share of any overspends.



Recent RMI Research

- Our report focuses on whether a perceived conflict with US accounting standards would prevent the use of TR to regulate US utilities
 - The key takeaway: **It would be feasible to use TR in the US**
- But we also address other questions about capex bias and TR implementation



Making the Clean Energy Transition Affordable

How Totex Ratemaking Could Address Utility Capex Bias in the United States



Report / July 2022

Other Questions We Address in the Report

- Would adopting TR affect the utility's **financial health**?
 - TR could affect the utility's credit rating and cost of capital. However, whether the impacts would be positive or negative would depend on how TR and any accompanying reforms are implemented.
- Would adopting TR alter the pace of **decarbonization**?
 - Where opex alternatives offer greater decarbonization potential (e.g., energy efficiency programs, third-party clean energy portfolios), TR could spur their adoption.
 - However, renewable energy projects tend to be capital intensive, so reducing capex bias could reduce a utility's incentive to pursue them. Regulators could address this by pairing TR with other PBR mechanisms (e.g., PIMs) that reward the utility for reducing emissions.
- Would adopting TR make **utility accounting** more complex?
 - The experts we consulted disagreed about whether this would happen — but if so, they thought the impacts would be manageable.

Other Questions We Address in the Report

- We also consider the following TR design questions:
 1. What share of the utility's total costs should be included in totex?
 2. Should regulatory assets and liabilities be included in totex?
 3. Should fuel costs be included in totex?
 4. How can cost containment be encouraged?
 5. How should regulators set the amount of the totex allowance?
 6. How should regulators set the totex incentive rate?
 7. How should the capitalization rate be set?
 8. Should the allowed ROE be lowered if totex ratemaking is implemented?



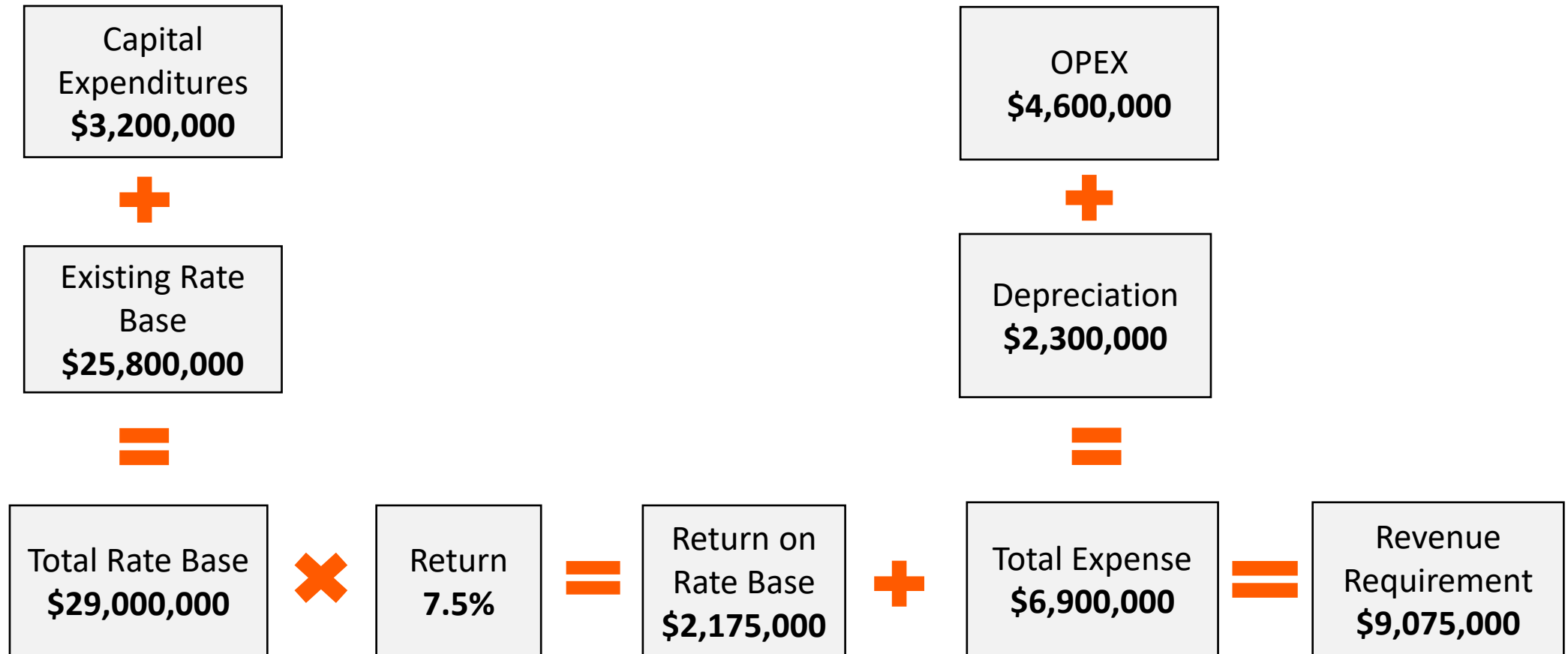
Traditional Cost of Service & TOTEX

Accounting Considerations

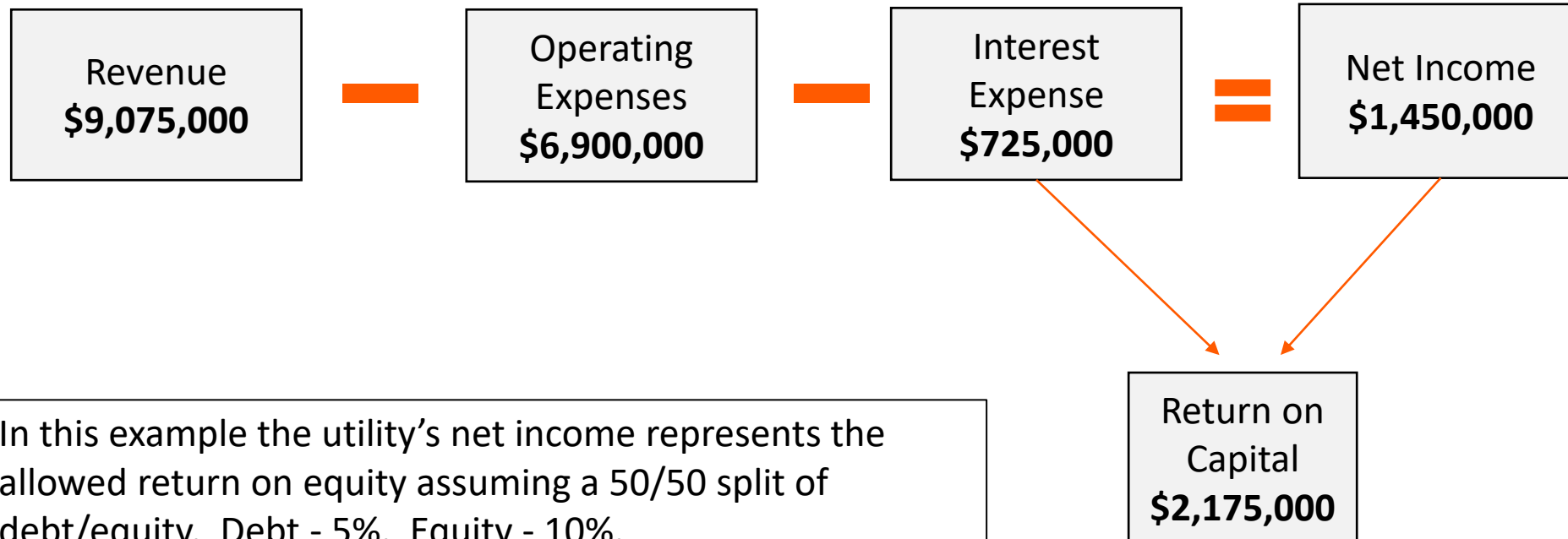
March 23, 2023



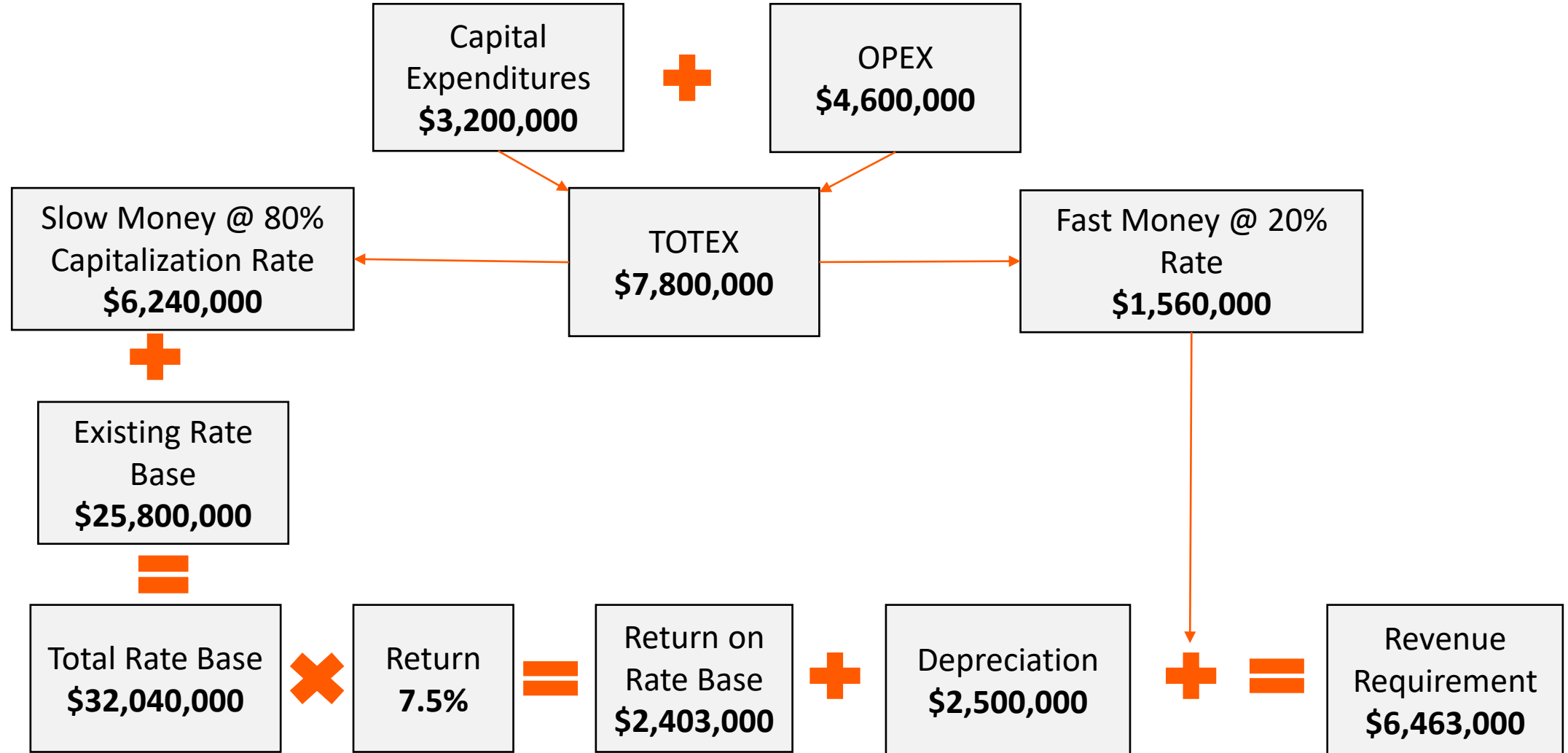
Traditional Cost of Service



GAAP Income



TOTEX Ratemaking



ASC 980

980-10-15-2

The guidance in the Regulated Operations Topic applies to general-purpose external financial statements of an entity that has regulated operations that meet all of the following criteria:

- The entity's rates for regulated services or products provided to its customers are established by or are subject to approval by an independent, third-party regulator
- The regulated rates are designed to recover the specific entity's **costs** of providing the regulated services or products
- In view of the demand for the regulated services or products ... it is reasonable to assume that **rates set at levels that will recover the entity's costs can be charged to and collected from customers**. This criterion requires consideration of anticipated changes in levels of demand or competition **during the recovery period for any capitalized costs**

asc.fasb.org

Key Consideration

1. Must be cost-of-service regulation to qualify for ASC 980.
2. Deferring costs under TOTEX will trigger additional consideration of recovery (i.e. charged to and collected from customers).

ASC 980

Evaluating whether rates are designed to recover costs of service

Factors	Indicators that rates are cost-based	Indicators that rates are other than cost-based
Rate case activity	Regulatory lag periods are not extensive and are comparable to peers	Unusually long lag periods, causing the reporting entity to under-earn or over-earn
Rate design	Rates are designed to recover incurred costs plus a reasonable return on rate base	Rates are based on market or average industry costs or based on reporting entity performance (incentive-based rates)
Cost uncertainty	Highly volatile costs (such as fuel) are recovered via a tracker or other similar recovery mechanism	Utility is required to manage volatile costs to a target; shareholders are subject to the risks and rewards of deviation from that target

Key Consideration
<ol style="list-style-type: none">1. Over what period will deferred OPEX be recovered? Is this an “unusually long lag period”?2. Will the return on rate base change under TOTEX? Will TOTEX provide a “reasonable return on rate base”?3. What costs will be included in TOTEX? Does this create cost uncertainty?

TOTEX GAAP Income

Consideration: If regulatory asset treatment is not met, Net Income may fluctuate significantly on GAAP financials.

Revenue \$6,463,000	—	Operating Expenses \$6,900,000	—	Interest Expense \$725,000	=	Net Income (\$1,162,000)
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Future Comparison – Year 10

The projections contain the following assumptions:

- 1) Traditional cost of service assumes OPEX and CAPEX grow at 3% each year
- 2) TOTEX assumes OPEX grows by 5% while CAPEX remains constant (trending away from CAPEX in favor of OPEX)
- 3) Depreciation rate is held constant and applied to total rate base
- 4) Rate of return is held constant

Future Comparison – Year 10

Year 1 Traditional	
OPEX	\$4,600,000
CAPEX	\$3,200,000
Total	\$7,800,000
Rate Base	\$29,000,000
Revenue Requirement	\$9,075,000



Year 10 Traditional	
OPEX	\$6,000,000
CAPEX	\$4,200,000
Total	\$10,200,000
Rate Base	\$34,500,000
Revenue Requirement	\$11,900,000

Year 1 TOTEX	
OPEX	\$4,600,000
CAPEX	\$3,200,000
Total	\$7,800,000
Rate Base	\$32,040,000
Revenue Requirement	\$6,463,000



Year 10 TOTEX	
OPEX	\$7,000,000
CAPEX	\$3,200,000
Total	\$10,200,000
Rate Base	\$57,900,000
Revenue Requirement	\$11,900,000

Key Consideration

1. Short term rate relief provided by TOTEX may be offset by future rate increases.
2. TOTEX results in higher rate base balance which may jeopardize ASC 980

Based on this illustrative example, by year 20 TOTEX rate base is 2X traditional cost of service

Considerations

- 1) Will ASC 980 apply for GAAP reporting purposes under TOTEX?
- 2) How will depreciation be calculated?
- 3) Will working capital be allowed for “fast money”
- 4) Will ROE be adjusted (ASC 980 “reasonable return on rate base”)?
- 5) Can additional complexity of TOTEX be effectively regulated?
- 6) How will timing differences be addressed?
 - a) TOTEX accelerates a portion of CAPEX and delays a portion of OPEX as compared to Traditional Cost of Service
 - b) Will past rate base be adjusted, or does TOTEX get added to existing balance?