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Traditional Regulation Shortcomings and PBR Possibilities

Hawaii PUC – PBR Technical Workshop No. 1

Regulatory Assistance Project
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Shortcomings of Traditional Cost of Service/Rate of Return Regulation and Rate Design



Three Primary Shortcomings

- A Cost Allocation Focus Leads to a Fixation on Inputs and Marginalizes Important Outcomes
- A Capital Bias (“Averch-Johnson Effect”) Incentivizes Overspending on Capital and Spending on the Wrong Capital
- A Throughput Incentive Encourages More kWhs of Energy Sales When Fewer Sales May Lead to Better Outcomes

“Allocation of costs is not a matter for the slide rule. It involves judgment of a myriad of facts. It has no claim to an exact science.”

Justice William O. Douglas

U.S. Supreme Court

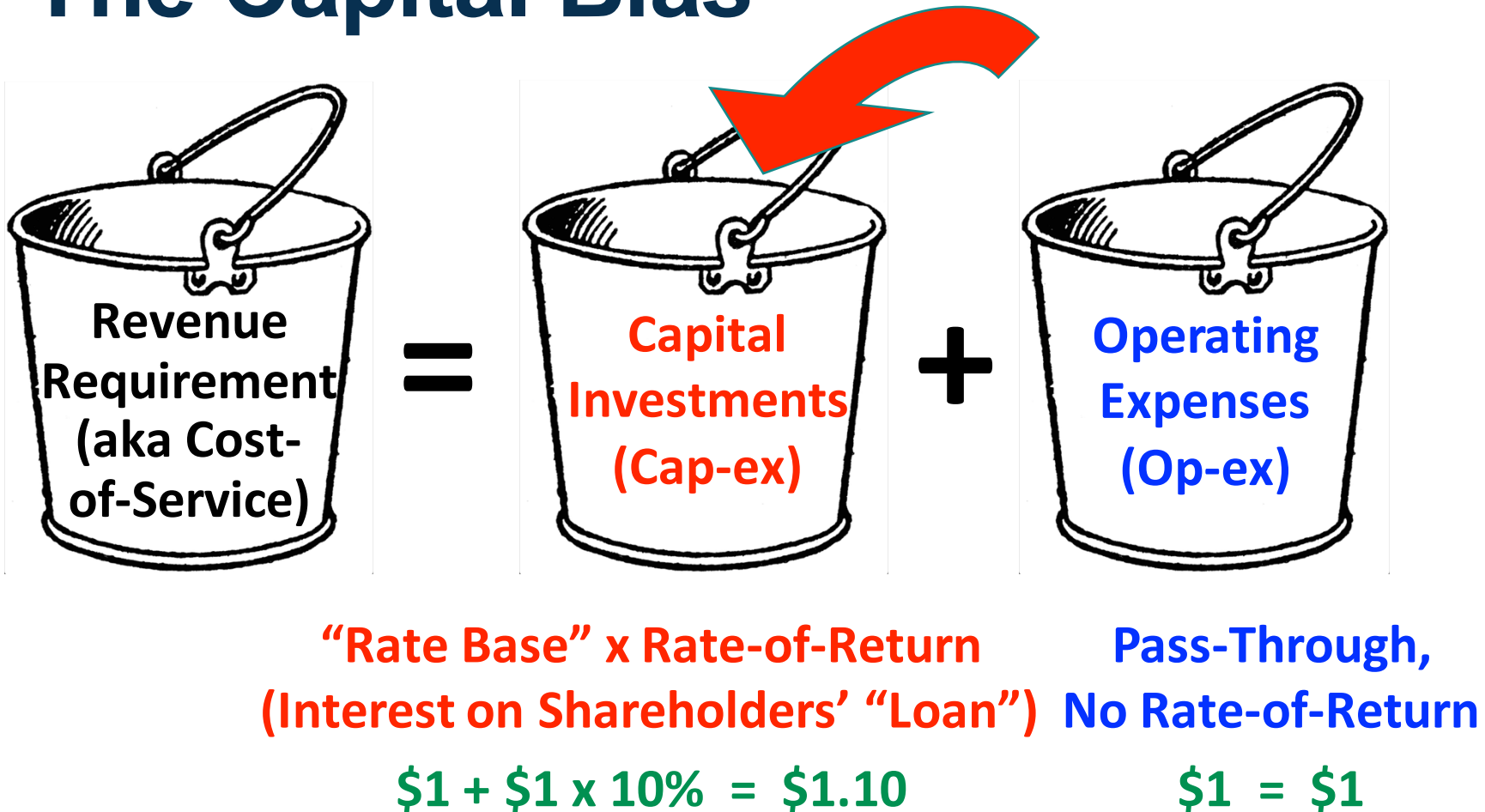
Colorado Interstate Gas Co. v.

Federal Power Commission,

324 US 581, 589 (1945)



Utility Revenue Requirement: “The Capital Bias”

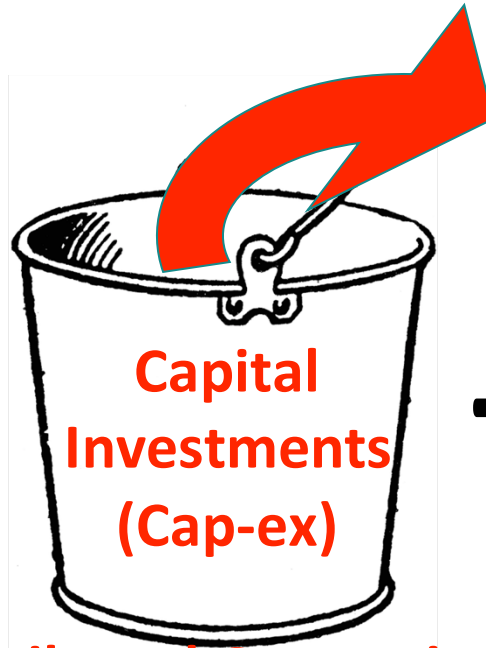


Utility Revenue Requirement: Discourages Distributed Energy Resources



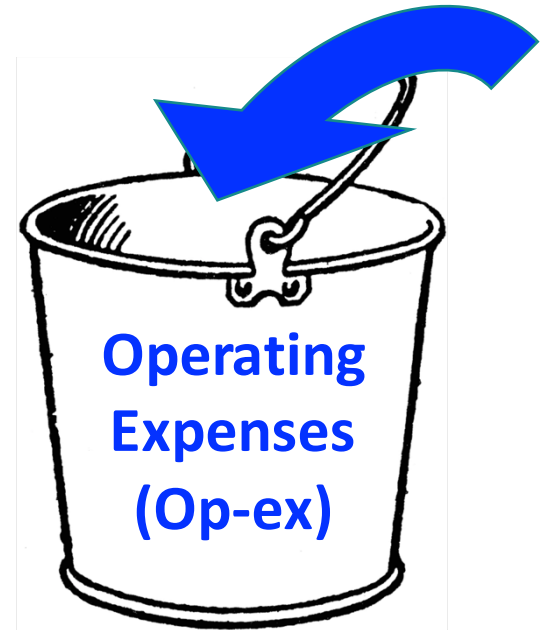
Both reduce
kWh sales =>
raises rates

=



Distributed Generation
= less need
for cap-ex =
lower earnings

+

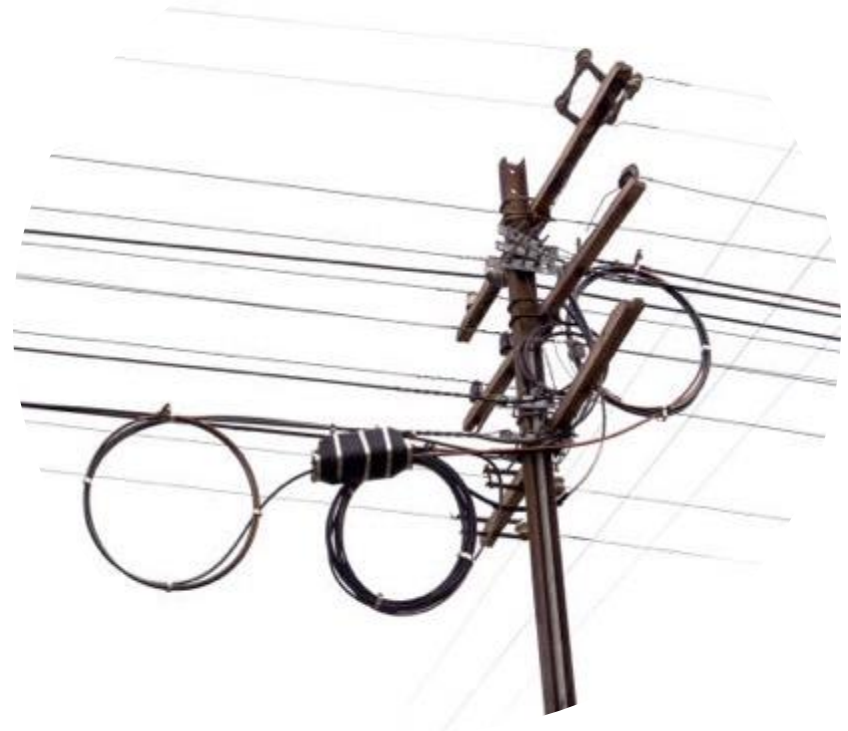


Energy Efficiency =
more op-ex & less need
for cap-ex

Throughput incentive

Increased sales lead to increased utility profit

- True when load is served with existing facilities, thus costs are fixed
- Creates incentive to resist measures that reduce sales



How Changes in Sales Affect Earnings: It's Significant

% Change in Sales	Revenue Change		Impact on Earnings		
	Pre-tax	After-tax	Net Earnings	% Change	Actual ROE
5.00%	\$9,047,538	\$5,880,900	\$15,780,900	59.40%	17.53%
4.00%	\$7,238,031	\$4,704,720	\$14,604,720	47.52%	16.23%
3.00%	\$5,428,523	\$3,528,540	\$13,428,540	35.64%	14.92%
2.00%	\$3,619,015	\$2,352,360	\$12,252,360	23.76%	13.61%
1.00%	\$1,809,508	\$1,176,180	\$11,076,180	11.88%	12.31%
0.00%	\$0	\$0	\$9,900,000	0.00%	11.00%
-1.00%	-\$1,809,508	-\$1,176,180	\$8,723,820	-11.88%	9.69%
-2.00%	-\$3,619,015	-\$2,352,360	\$7,547,640	-23.76%	8.39%
-3.00%	-\$5,428,523	-\$3,528,540	\$6,371,460	-35.64%	7.08%
-4.00%	-\$7,238,031	-\$4,704,720	\$5,195,280	-47.52%	5.77%
-5.00%	-\$9,047,538	-\$5,880,900	\$4,019,100	-59.40%	4.47%

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Performance-Based Regulation Possibilities



Performance-Based Regulation (PBR) is ...

- A regulatory framework to connect achievement of specified policy objectives to utility financial performance and executive compensation
- A PBR scheme is a collection of **performance incentive mechanisms (PIMs)**, namely, metrics and formulas that determine the levels of financial rewards or penalties (i.e., adjustments to allowed revenues) for achievement of the specified objectives

“All Regulation is Incentive Regulation”

What Traditional Regulation Incentives Might Benefit from PBR?

- Good things that are not profitable for the utility that don't get done (EE, solar PV)
- Bad things that are profitable to the utility that should be prevented (Gold-plating physical assets)
- Good things not getting done for lack of interest or motivation (Smart meters)
- Bad incentives not easily seen?(Deferring Expenses like Tree Trimming, Customer Care)

Bradford, P. (1989). Incentive Regulation from a State Commission Perspective. Remarks to the Chief Executive's Forum

Takeaways

- PBR is a powerful tool in the regulator's toolbox
- PBR done well aligns utility, ratepayer, and public interests
- PBR succeeds where it is clear, transparent at each step, and aligns rewards and incentives for utilities and customers

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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