Performance-Based Ratemaking

21st Century Energy Policy Development Task Force

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Who am I?

- Executive in charge of regulatory affairs for a public company, NRG Energy: Fortune 500 company, provider of gas and power services throughout North America
- Recovering regulator: Chairman, Montana Public Service Commission; Past President, National Association of Regulatory Utility Commissioners
- Sometime academic: Lecturer, University of Chicago, teacher of “Utilities and Electricity Markets: Regulation in the United States”

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Roadmap for Today's Presentation

- Incentives in Competitive vs. Cost-of-Service Pricing
- Utilities: Spend More, Make More?
- What is Performance-Based Regulation?
- Examples of Performance-Based Regulation
- Conclusion

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Competitive vs. Monopoly Enterprises

- How do competitive firms make money?
  - Lower the cost of goods sold (efficiency of processes, input costs)
  - Increase the value of one's product (e.g., customer service, guarantees, etc.), allowing increased pricing vs. competitors
  - Gain market share (increasing sales volume multiplies profits, often lowers the unit cost of goods sold)
- How do monopolies make money?
  - Spend more!*

*so long as you convince your regulator/legislature to approve recovery of costs from your customer base through an administrative proceeding to set rates

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What's the Math?

- Utilities' rates are based on a "revenue requirement", where:

Revenue Requirement = O + T + D + r(RB)

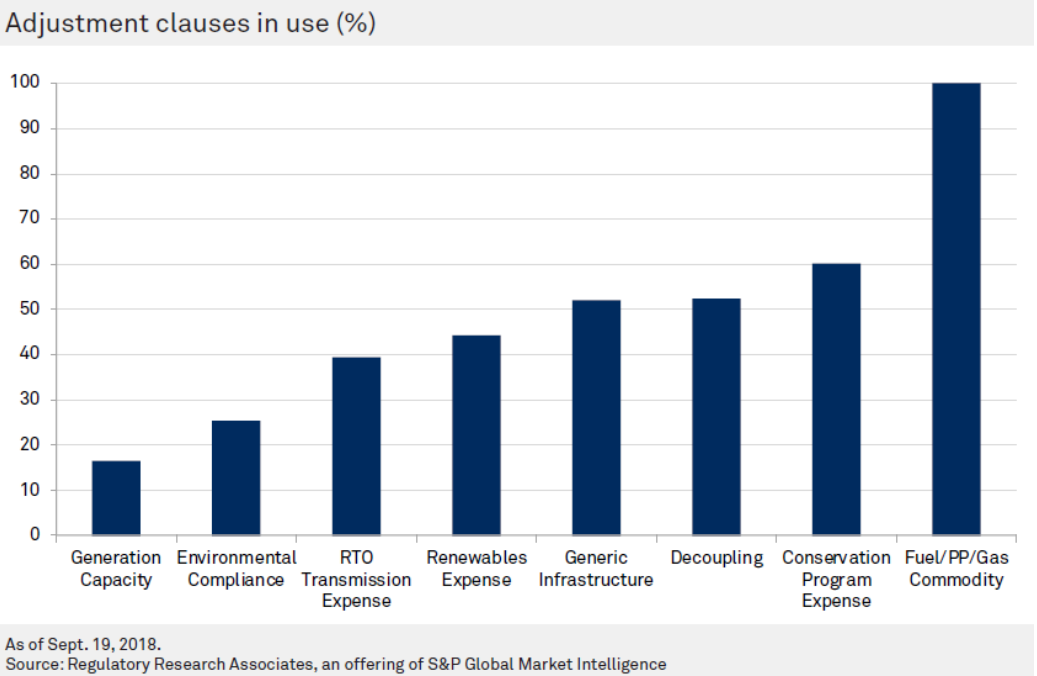
  - O= Operating Expenses
  - T = Taxes
  - D = Depreciation (return *of* capital investment to utility)
  - r= fair rate of return (weighted cost of capital)
  - RB= Rate Base
    - **value of utility plant assets** minus **accumulated depreciation**

- Note how "RB" is the only variable in this equation that inherently earns a return/profit, which is 'r'

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Vanishing Incentives in Utility Regulation

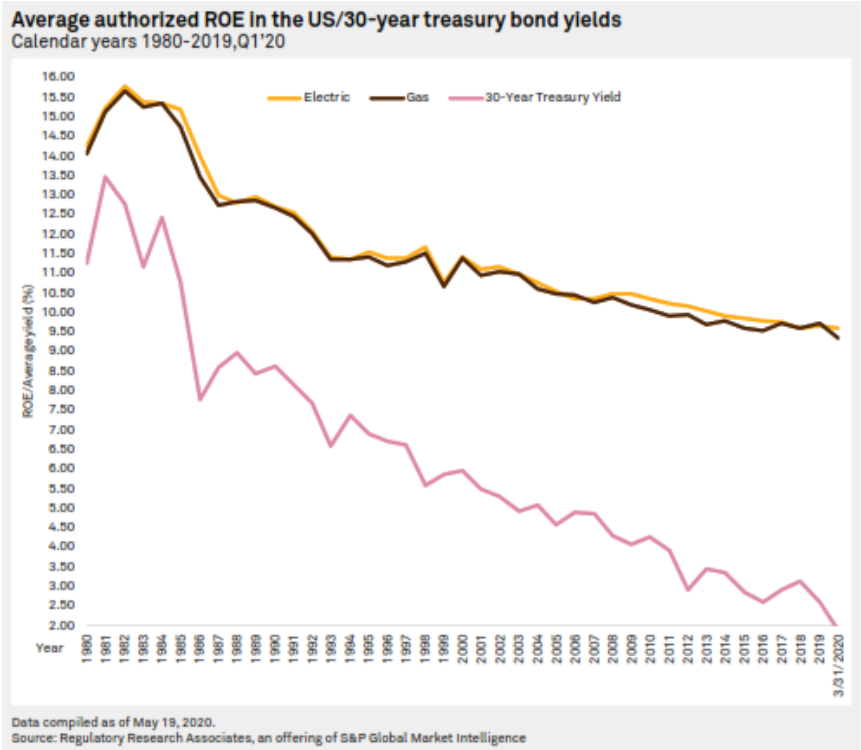
- Historically, utilities also had substantial profit opportunities by becoming more efficient. Once their rates were set, if their operating expenses decreased, they could pocket difference between revenue collected and actual costs
- The introduction of 'trackers' diminished this over time



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Less Risk… More Reward?

- Past 3 decades have seen utilities' authorized profits increase when compared against risk-free rate (measured by Treasuries)
- Increased profit even as 'risk' borne by utility shareholders has decreased (due to trackers)
- This trend may reverse due to Fed Reserve's interest rate hikes, depending on state PUC decisions



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More Rate Base, Please!

OGE Energy Corp

Excess Capital Deployment Strategy Remains Unknown: Waiting on OK

21 February 2019

OGE US

Reiterate Rating	Price	Price Objective	Upside	Market Cap	Average Daily Value	2019E EPS	2020E EPS	2021
NEUTRAL	42.60	42.00 ▲	-1.4%	8,509	63.39	2.14 ▼	2.30 ▼	2.4
	USD	from 41.00 USD		USD(mn)	USD(mn)	from 2.15 USD	from 2.31 USD	from

all data as of 21 February 2019

Key takeaways

- Mgmt guide on '19 was slightly behind Street, but overall continued solid improvement on earned ROE; ENBL is upside qn to EPS
- Critical qn remains fixated on future balance sheet latitude as $600Mn/yr spend level likely sustained even w/ grid rider
- Key rate case in OK should be resolved given de-risked scrubber; 2H should get more capital allocation details.

Results largely in-line; what to do with the cash?

OGE posted a slight beat with results aided by its ownership stake in Enable (ENBL) due to favorable hedging to finish the year at $2.12; mgmt. also introduced FY19 guidance of $2.05-2.20 with the mid-point ($2.13) slightly below our/consensus estimates. Meanwhile mgmt. rolled forward its capital plan through '23 with average annual capex of ~$593mn/yr, largely unchanged from its prior guidance. Commentary on the call suggested that ~$600mn/yr is likely the expected run-rate *even* with a successful grid modernization rider request. In our view, the key question is still capital deployment as mgmt. considers next moves for the excess capacity on the balance sheet amidst focus on reinvestment in OK with an improving regulatory backdrop, albeit still behind others

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So what?

- Utilities' profits depend on growth in utility spending – and not other variables that would be influential in a competitive environment
- A few take-aways:
  - Utilities are good at investing capital – but not in operationalizing it (e.g., spend money to deploy the smart meters but not use them)
  - Lots of "services" the utility might provide are *not* profit centers (customer service, timely interconnection, etc.)
  - If given the choice between "in-house" capital-intensive solution, and outsourced solution, they have an incentive to choose the former (e.g., in-house servers vs. cloud computing)

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Performance-Based Regulation

- "PBR" means different things to different people
- Core idea behind PBR is a recognition that existing incentives for utilities are not completely aligned to the public interest
- Two general concepts of PBR, both important, but distinct
  - Creating incentives that simulate the incentives of a competitive landscape; "putting utilities on a budget" / "shared savings"
  - Targeted bonuses for utilities to achieve certain outcomes specified by policymakers; "pay for performance"

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PBR Idea #1: Multi-Year Rate Plan

- Putting utilities on a budget to tie utility rates to wider economic indicators,
  - Allow utilities to seek cost-based "base rate" changes only once every few years
  - Eliminate certain 'trackers'
  - Allow rate changes annually, but where

$$\text{Revenue Requirement} = RR_t + RR_t*(I - P), \text{ where}$$

-RRt represents the revenue requirement of the previous interval (e.g., the one authorized by regulator in last rate case),

-"I" is an economy-wide measure of inflation, e.g., the U.S. GDP-Price Index

-"P" is a measure of productivity, or the rate of efficiency in the utilization of capital and labor

Treats utilities more like other businesses in the economy

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PBR Idea #2: Shared Savings

- Fuel & Purchased Power Costs are big & volatile. A ‘tracker’ may seem inevitable
- “Sharing” profits/losses still possible
  - Utilities today typically recoup 100% costs from customers through a ‘tracker’. If current rates do not recover a utility’s spending, a surcharge / rebate will be in effect
  - Instead of a “100% tracker”, regulators can introduce a sharing provision that sets a baseline for utilities them to recover a certain fraction (e.g., 90%) of the difference between actual revenue and actual costs.
    - E.g., If the ‘revenue requirement’ is $100MM for fuel/purchased power purchases, but a utility ends up spending $150MM and earning $120MM from authorized rates during a cold, volatile-priced winter, then the remainder $30MM would be subject to 90% recovery from customers, while 10% ($3M) would be charged to utility shareholders

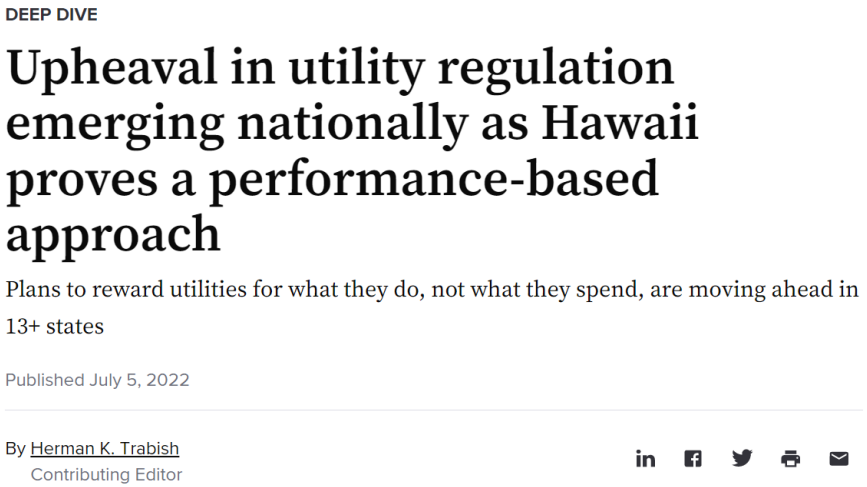
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PBR Idea #3: Pay for Performance

- Are utilities performing on the non-capital-related items that important
  - Are customers satisfied? What do wait times look like?
  - Are customers wanting new construction or distributed-resources to be connected to grid waiting too long?
  - Are utilities' "load factors" increasing? (i.e., are they making greater use of their existing assets, are they reducing 'peak' loads?)
- "Performance Incentive Mechanism"
  - Setting aside part of the authorized % return utilities have an opportunity to earn to specific accomplishment of pre-defined objectives
  - Pay a separate bonus

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Adoption of PBR



DEEP DIVE

Upheaval in utility regulation emerging nationally as Hawaii proves a performance-based approach

Plans to reward utilities for what they do, not what they spend, are moving ahead in 13+ states

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By Herman K. Trabish
Contributing Editor

- Significant use of PBR in foreign jurisdictions (Canada, U.K., Australia), where Multi-Year Rate Plans are common
- Multi-year rate plans were the norm in telecom regulation before disintegration of Ma Bell, but PBR lags in electric/gas

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