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for a changing world

# Utility Incentives and Policy Convergence

National Governors Association  
Policy Academy

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# Introducing RAP and Rich

- RAP is a non-profit organization providing technical and educational assistance to government officials on energy and environmental issues. RAP staff have extensive utility regulatory experience.
  - Richard Sedano directs RAP's US Program. He was commissioner of the Vermont Department of Public Service from 1991-2001 and is an engineer.

# Are there incentives in utility regulation?

- Always

# Are the Incentives Explicit?

- Yes, look at how utilities make money
- In traditional utility regulation, net income flows from
  - Return on **invested capital**
  - Margins on **sales growth** between rate cases
    - Because incremental sales revenue  $>$  marginal cost
- Utilities are good at “playing the game” offered by regulation, whatever the rules

# Not talking about Utility Policy in which Utility is Passive

- Renewable Portfolio Standard
  - successful
  - utility just executes the policy
  - Shareholders have no investment
- What gets management attention?
  - **Earnings Per Share**

# Are the Incentives Intentional?

- No, not in most states
- Not much thought goes into whether utility incentive practice **aligns** with public policy
  - Or how utilities can better support the public interest
  - Sometimes, utilities are candidates to “pass through” public policy because it is easier than legislating and taxing

# Routine Regulation

- Do next year what we did last year
  - Safe
  - Adequate

# PUCs Defer to Legislature

- Implementing laws
  - Not policymakers
- Sometimes more than they need to
  - Some public policy matters related to utilities are clearly outside the PUC scope
- PUCs can hold utilities accountable for a range of public policy priorities

# Undifferentiated Earnings

- Earnings come to the utility whether it is serving actual public policy goals (which might be coincident with traditional regulation), or not
  - Investment in the system is vital, of course
  - If you think resource constraints (**air, land, water**) are important, current practice is a problem (ask: why should CFO care?)
- How to be **strategic** about utility earnings?

# Focus on Performance

- Performance of what?
- The utility does many things that are important to customers and to society
  - Many of these are subject to utility measurement already
  - Some PUCs get this info too, some don't
- Attach some utility earnings to **exemplary** performance in matters important to public policy and to people
  - Dividend: Utility may become more popular

# How to choose public interest metrics?

- A **public process** can best arrive at the best public interest metrics
  - Creativity is good
  - An array of metrics (more than one) is fine
- **Revisit** periodically
- **Remedial**
  - Moreland Commission and LIPA in NY

# Collaborative Process Helps PUCs

- Deciding on proper utility metrics is less conducive to evidentiary process than typical PUC business
- Engagement and iteration allows PUC to listen to a synthesis of **reasoning** and **creativity** to arrive at a good balance
  - Invite **non-insiders** into the conversation

# Recent example of a successful collaborative process

- Massachusetts Grid Modernization
  - New and complex issues
  - Many points of view
  - Organized issues and will enable the commission to decide with more clarity
  - Can be time intensive
    - PUC can be disciplined, that can help
- **Near consensus around significant redefinition of utility role**

# Example: Smart Grid

## Is utility passive or intentional?

- Utilities seem to want the smart grid
  - Helps them operate the system
  - They can earn money on the investment
- Opportunities from smart grid to **empower customers and promote clean energy**
  - In most states, these are not embraced Why not?
  - Can performance metrics motivate?

# Characteristics of Good Metrics

- Important
- Measureable
  - Proper balance of cost to get enough accuracy
- Utility control
- Representative
- Maintain focus (not too many, monopoly services)

Not unlike performance metrics in many other situations (program eval, employees)

# Typical Performance Incentives in Use

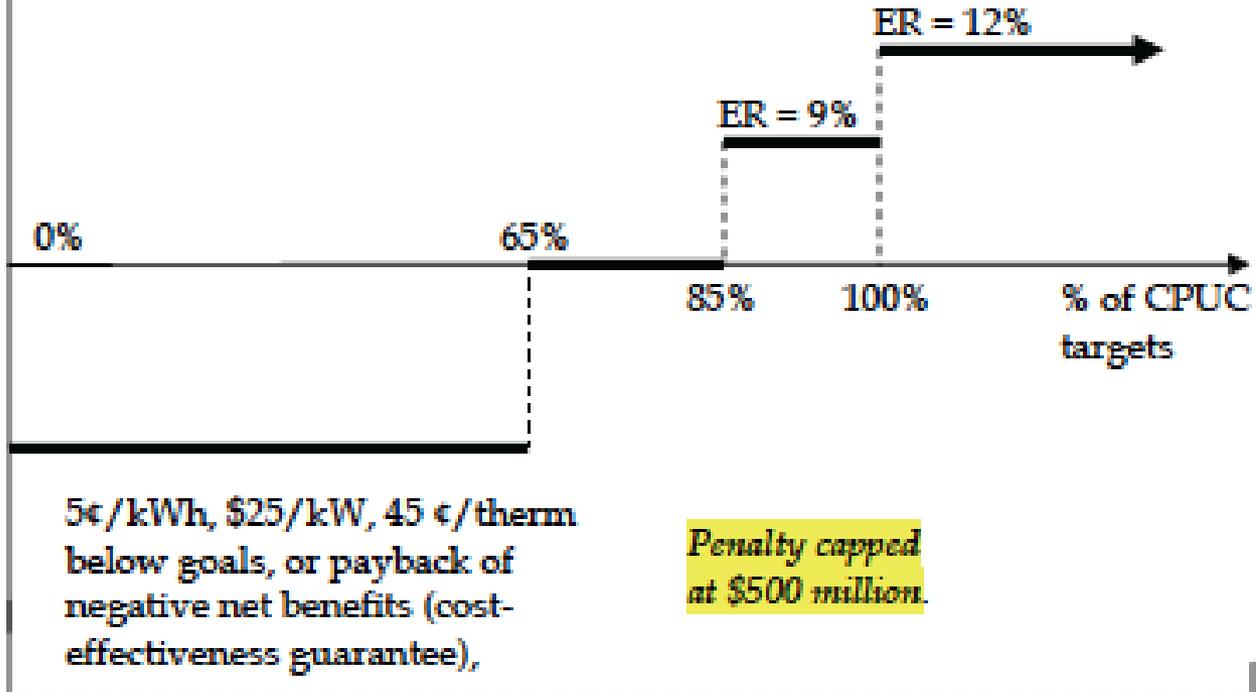
- **Energy Efficiency** is the most used
- Also used:
  - **Reliability** (outage frequency, duration)
  - **Customer service** (responsiveness, accuracy)
- Archaic (80s): generation performance
  - Why archaic? **Markets** have taken over
- Shared savings on **off system sales** is a big one where it is allowed

# California Shared Savings Plan 2007

Earnings capped at \$500 million

Reward  
(% of PEB)

(per unit below CPUC goal)  
Penalty



$$\text{Earnings} = \text{ER} \times \text{PEB}$$

PEB = Performance Earnings Basis

ER = Earnings Rate (or Shared-Savings Rate)

# Other Metrics to Consider

- Anything that is important and measurable
  - Customer generation enabling (interconnect)
  - Environmental performance (#/Mwh)
  - Renewable Energy Production (MW, MWh, type)
  - Social outcomes (i.e. low income, small biz)
  - Safety (pole strikes)
  - Satisfaction (surveys)
  - Geographic Differentiation (circuits, targeted)
  - Longer term (>1 year) performance

# Focus on Monopoly

- Most categories focus on distribution company
  - Applicable in all (retail competition and not) situations
- Utility 2.0 may be an enabler of competitors (PV, DR, other services)
  - Metrics could promote competitor access to customers

# Consideration

- How to address the “enabling” power of a utility?
- Utility not only delivers service
  - It can also enable others, for example:
    - A utility can enable a community to accomplish energy efficiency,
    - Or it can help the state’s economic development efforts
- Should metrics address macro effects?
  - That are not fully in the utility’s control

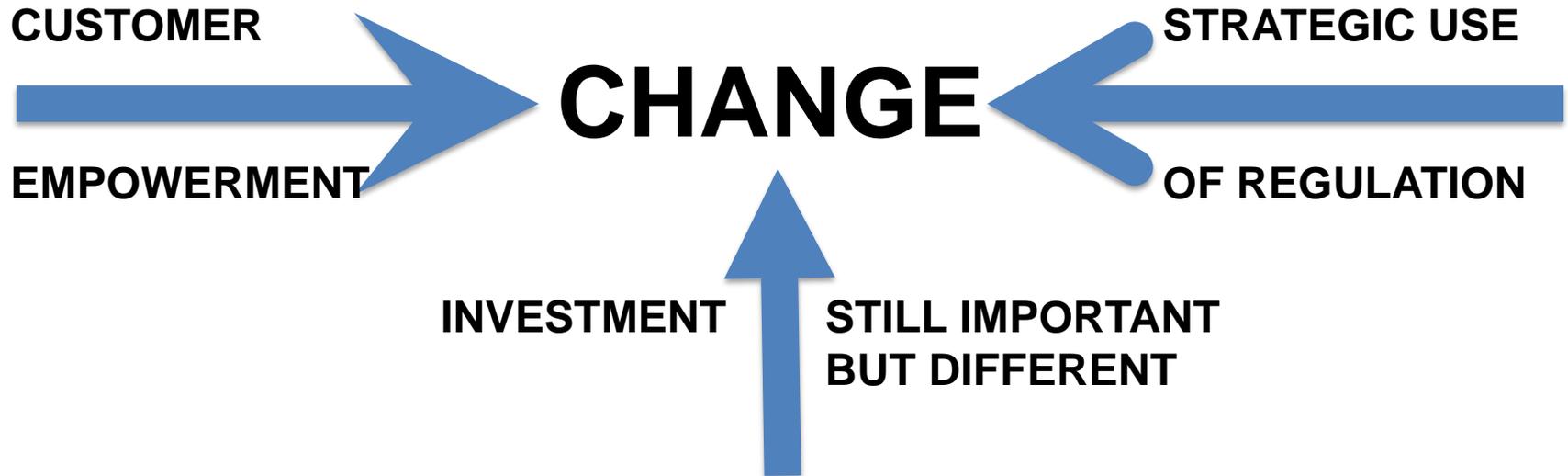
# Considerations

- PUC staffing
  - Be sure that when you give the PUC something new to do that it has the staff capacity
    - Many PUCs are understaffed
    - Ironic since many of these are adequately resources from a utility assessment, but appropriators and body counters have squeezed head counts and swept away ratepayer money for general government

# Convergence with Events

- Power Sector is in the midst of a revolution
  - Customers are being increasingly empowered
    - EE, PV, CHP, small wind, microgrid, demand response, ZeroNetEnergy, what about EVs?
    - Resource constraints: **more = risky**
  - Utility reliance on throughput is ending
  - Utility needs a new business model
    - One built on **service** and public policy success?

# Convergence

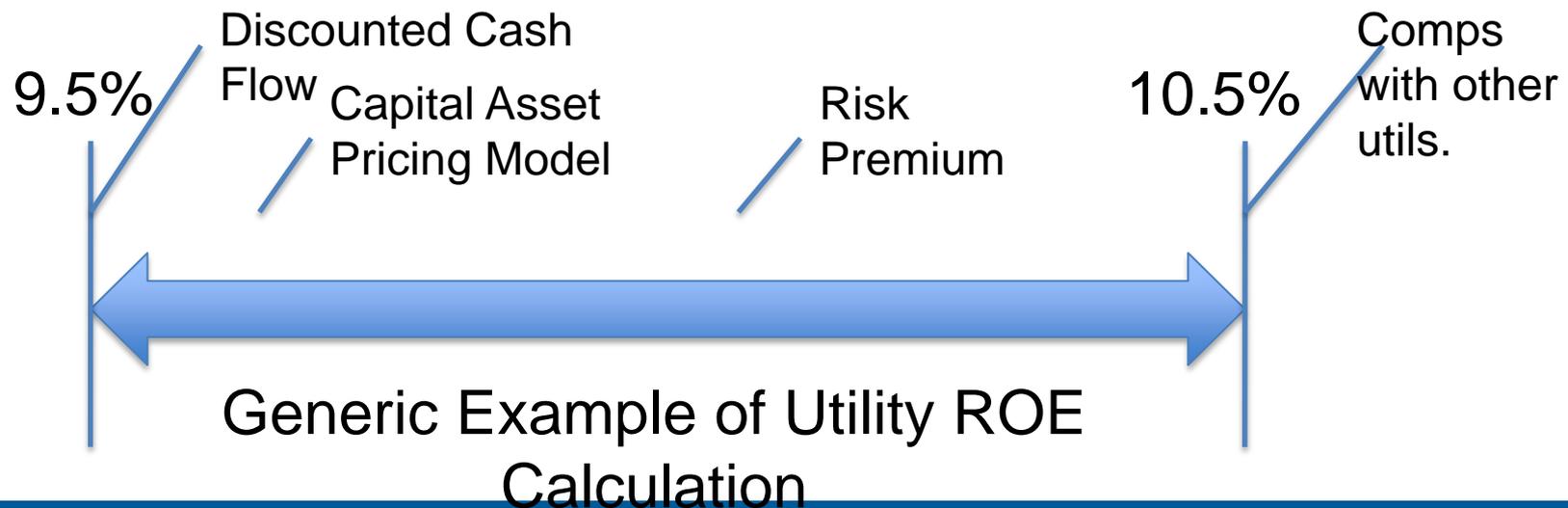


# How much?

- Typical Performance Incentives are small increments to allowed returns
  - Could add 5% to net income, nice but ...

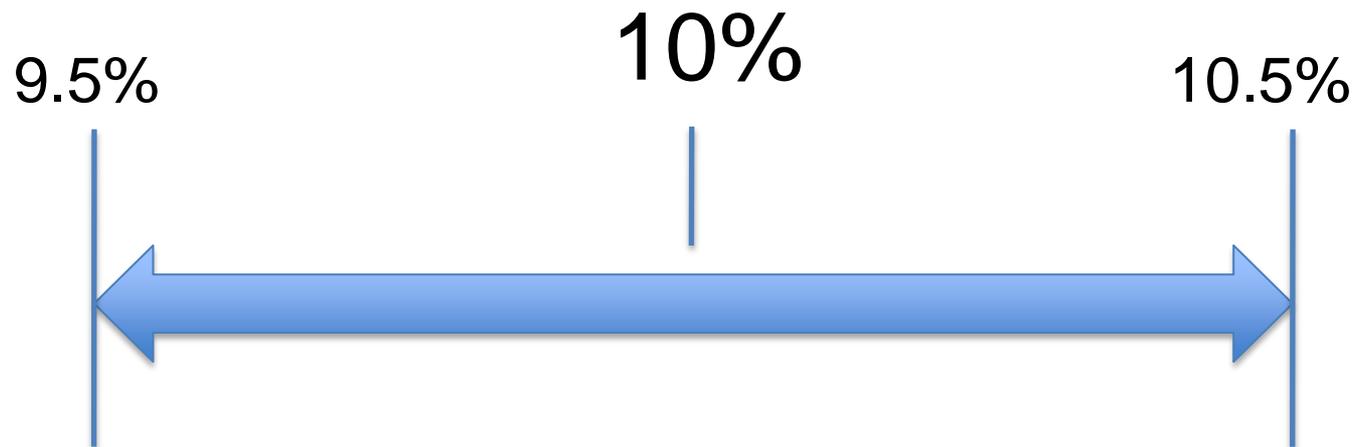
# Concept for Improvement -- Tiered Return Rewarding Publicly-Favored Clean Energy

- ROE calculation in a rate case is based on multiple methods creating a range
  - The range is generally 50 – 150 basis points (0.5 – 1.5 %) (range in example is 100 b.p.)



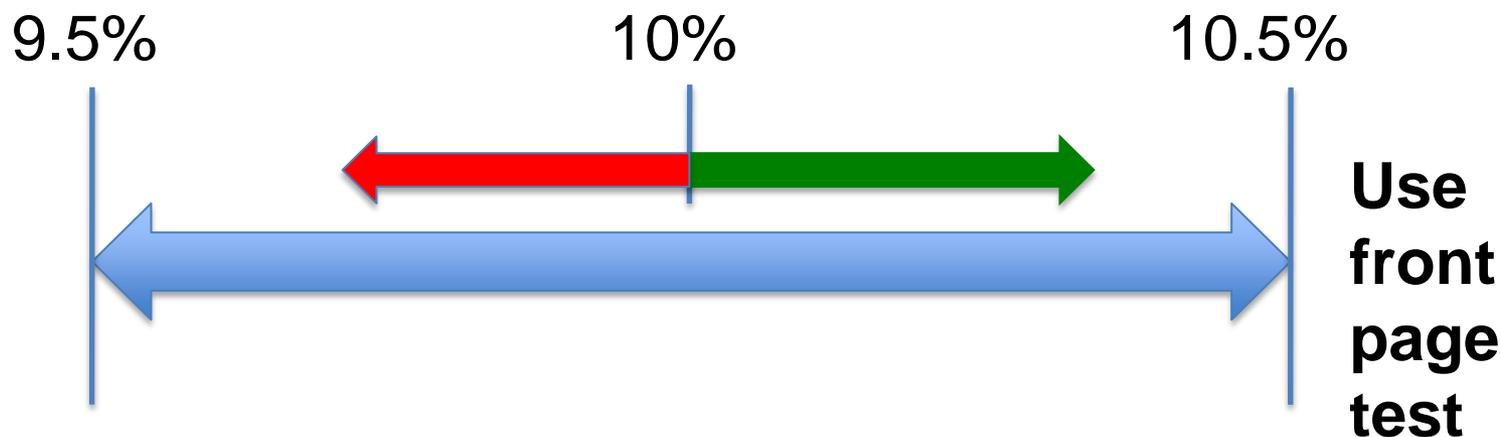
# With a Range How Does the Regulator Decide?

- Regulators often find sense in the middle



# Use the Range to Reward Performance for Energy Efficiency (and other Clean Energy)

- Using the middle as a starting point
  - Regulators can create a range of opportunity for rewards and penalties
  - In the proper magnitude (10-30 b.p., here)



# Calibrating Performance and Reward

Performance level relative to targets	ROE bump (basis points)	ROE Result
Less than 80%	-10	9.9%
80% to 100%	0	10%
100% to 110%	+10	10.1%
110% to 120%	+20	10.2%

Adjustment can be implemented with a **true-up of the ROE** without the need for a new rate case for instant effect after performance period results are available

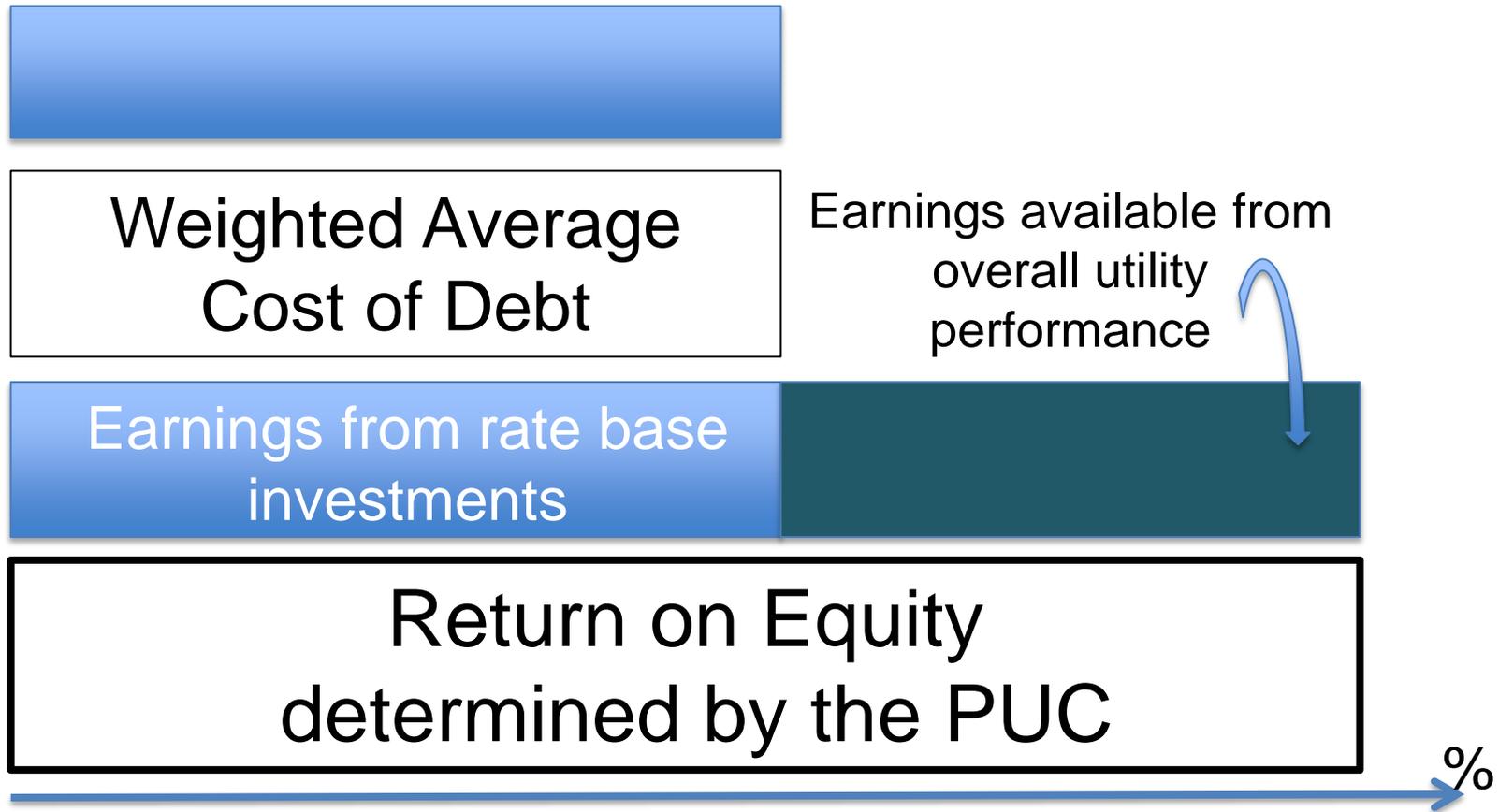
# Justifying an ROE Bump

- The public wants the utilities to do a good job and will pay something for that
- Encourage the PUC to manage expectations
- Motivate, but be judicious and coherent
- Performance follows the cheese

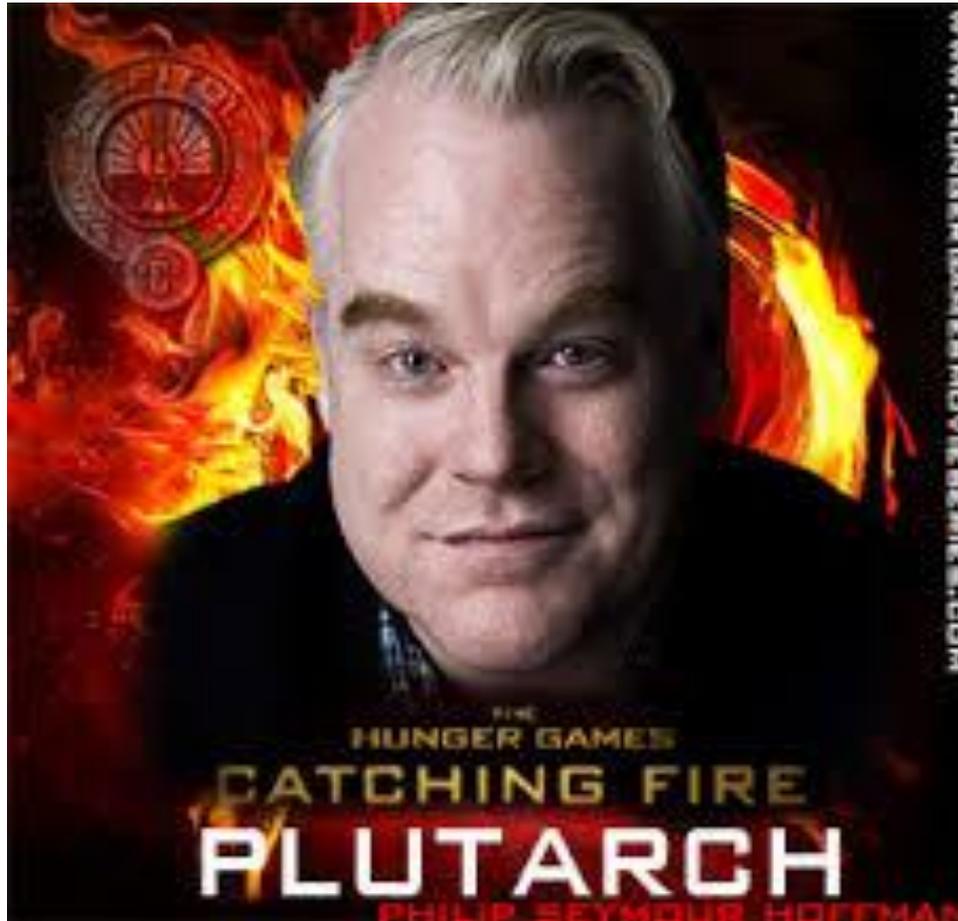
# A new formula for utility earnings

- Investment
- Performance
- Upside (and downside) potential

# Performance-Oriented Earnings



# Regulators are the Game Maker



**What is  
their  
motivation  
?????**

## About RAP

The Regulatory Assistance Project (RAP) is a global, non-profit team of experts that focuses on the long-term economic and environmental sustainability of the power and natural gas sectors. RAP has deep expertise in regulatory and market policies that:

- Promote economic efficiency
- Protect the environment
- Ensure system reliability
- Allocate system benefits fairly among all consumers

Learn more about RAP at [www.raonline.org](http://www.raonline.org)

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