RAP | Energy solutions for a changing world

Better Outcomes for All:

Efficient Utility Regulation Responsive to Societal Priorities

Missouri Senate Interim Committee on
Utility Regulation and Infrastructure Investment

Presented by Richard Sedano

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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. RAP technical assistance to states is supported by US DOE, US EPA and foundations.
  - Richard Sedano directs RAP's US Program. He was commissioner of the Vermont Department of Public Service from 1991-2001 and is an engineer.

Let’s calibrate with a few Givens

Givens

- **Technology** on both sides of the meter and the meter itself is creating new opportunities to deliver more and better service to individual customers and to society
- **Customers** will learn and adopt new services that save them money or meet other objectives (how fast???)

Givens

- **Decarbonization** will increasingly animate the priorities of utility regulators and utility managers (is it in policy?)
- Most priorities will remain strong
  - Reliability
  - Customer Service
  - Cost control
  - Fairness
  - Care for Vulnerable customers
- Some priorities may adapt
  - "Equitable" may apply quite differently as customer classes and service areas are parsed in search of value

Givens

- **Alignment** of policy and regulation is a good idea
- The twinned **regulator / utility** relationship tends not to be well-adapted to alignment in practice
  - Mixed messages
  - Insular regulator, Cautious utility, skeptics
  - Compliance, yes, innovation??
  - Long memories

Givens

- Some think this set of technology trends is all **hype**
  - Customers just want cheap electricity. Period.
  - And that somehow the utility will come out better off whether or not customers do
    - "AMI just a way to inflate rate base"
  - Alignment is seen as a **mirage**

Givens

- Some think the utility is **vulnerable** in the midst of these changes
  - Declining revenues
  - Misaligned expectations and compensation
    - Reputational risk
  - Uncompensated risk
- Despite the utility being "**affected with the public interest**"

Givens

- Energy Efficiency is a system resource
- Distributed Solar PV is a system resource
- Demand Response is a system resource
  - Its flexibility is especially valuable with lots of wind and solar on the system
- Distributed Storage is a system resource
  - Thermal, Electric, Water, Air

My Task Today

- Offer a framework
  - My focus is on aligning policy and regulation
- Offer paths, constructive, examples, inferences
- Advice
- Prompt Discussion
- Observations in progress are fine

Elements of Alignment: Realizing Value

- End the throughput incentive
- End **capital bias**
- **Compensation** reflecting public policy
- Rates (**customer prices**) consistent with utility investment screen
- Use market forces, rebalancing markets and regulation
- **Goodwill** through process and structure

Managing Change

- Recognize irresistible trends
  - Promote a **common vision**
- Prioritizing (early wins, most important, vanity)
  - **Realistic flow** of work
- Defensive vs. Collaborative
  - What tells us that stakeholders can engage with respect, honesty and comprehensiveness?
    - Break with “safest path this year is what we did last”

Who Can Convene?

- The government generally has to make it safe for utility to engage fully
  - Provide a sense of inevitability that change is coming, is welcome, and presents opportunities
  - Assure utility that its role in society is respected, will be compensated even as it may be changed
  - Government may lack vision without help

Grid Turned Upside Down

- Driven by decarbonization and distributed technology
  - Customer resources >> dominant increment

Risk and Innovation

- Risk of Actions being wrong
  - "how wrong?"
  - attitudes of stakeholders
  - What does "**fail forward**" mean to you?
- Risk of inaction
  - How does disruption work?
- Can we reduce total risk?

Limitation in Pace of Transition: Speed of Decision-makers

- PUC has speed limits based on its process requirements
  - It can push harder and be more innovative, but its decisions need evidence
  - Decision-makers and staff can add friction to the process by being closed to new
  - Stakeholders can add friction by being defensive, demanding and parochial

  A PUC can move effectively with **leadership**

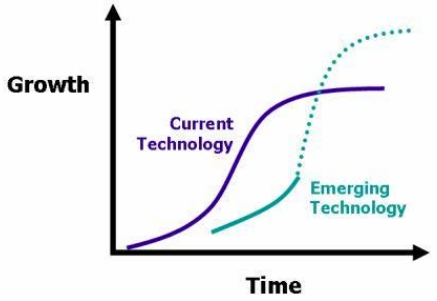
Capacity of the Decision-maker

- Is the decision-maker up for this challenge?
  - How can decision-maker leverage others to gain **confidence**?
    - Some commissions look over their shoulders at their state house
  - Do you **trust** your PUC, your city council, your board to manage these decisions?
    - And what can stakeholders do to raise trust?

Transitioned IOU Business Models

- For regulated company
  - Return on throughput – ***none***
  - Return on assets – ***less*** (debt rate?)
  - Return on performance – ***more*** (front page test)
  - Return on "platform services" – ***new***
  - Return on innovation thru mkt services – ***new***
    - Challenge regulation to oversee markets
    - Allow utility to dominate due to economy of scope
    - Or not, keep utility in pure monopoly enabling role
    - Recognize financial market anxiety – stand pat?

Decentralized decision-making



- Change the focus of utility regulation: **outcomes**
- Change the role of the utility
  - Keep what is needed, the rest subject to change
  - Manage expectations
  - Manage transition
  - **Control**: Less, **Predictive**: Yes, populations, data
- Focus on **VALUE**
  - Regulated rates
  - Utility Planning
  - Utility Investment
  - Utility Compensation

Value to whom?

Decision-makers

Society

Changing the Balance of Markets and Regulation

- Define "Markets" to include:
  - **Customers** making decisions based on electricity prices that mean something about future investment
  - **Utilities** making decisions about future investment that reflect economic and public value
    - Utility **compensation** drives choices

Importance of Process

- Innovation supported by Collaboration
- Attention to **opinion leaders**
- Attention to consolidating progress and continuous improvement
- Avoid “no good deed goes unpunished”
- Evidentiary process may be needed, but can be minimized in change context

Examples

- New York REV
- California docket set
- Other states in US

NY REV

- Customer at the center
- Fearless raising of full set of challenges
  - Reality indicates some easier to tackle
- Culture change on role of utility
- Culture change on role of regulator
  - Outputs, performance, markets
- Energy efficiency is bellwether topic

NY PSC has set out six policy objectives for the future of NY's electricity system

- Enhanced customer knowledge and tools to support bill management
- Market animation and leverage of customer contributions
- System wide efficiency
- Fuel and resource diversity
- System reliability and resiliency
- Reduction of carbon emissions

All REV orders are meant to support these

California

- Inexorable policy progress
  - Centered around climate and customers
- A series of dockets, may appear chaotic
  - One by one creating a picture like a jig saw puzzle
  - The picture is about climate
    - About value of DER
    - New regulated activities

Several Other States

- Most places can manage much slower rate
  - Choose your adventure
    - Focus on distribution planning/valuation (RI, CA)
    - Introduce performance regulation
    - Introduce regulated rate changes
      - Value-based changes improve outcomes (MA)
      - Defensive changes reveal lack of confidence
    - Improve access, customer acquisition
    - Reform utility resource procurement (CA)
    - Friction in the face of intention (IL)
    - Respond to crisis (NV)

Directions in Utility Performance Metrics Motivating Energy Efficiency

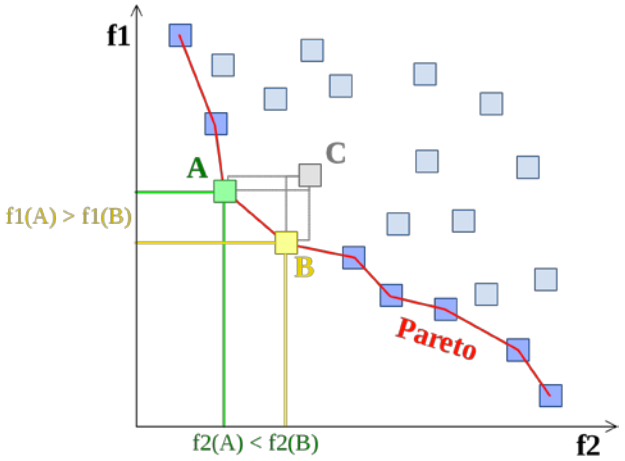
- **Parsing targets**, perhaps by customers class, smaller group, or location
- **Multi-year** targets
- Targets for **utility outputs** achieved through energy efficiency (i.e. Line Losses)
- Include **electrification** in targets
- **Societal** targets (beyond utility control)

Directions in Utility Compensation Aligned with Current Trends

- Value Distributed Resources through **enhanced distribution planning**
- Offer **capitalization** for expenses superior to utility asset-based solution
- Clarify and Permit beneficial **services** utility can offer using economies of scope
- **Enterprise wide performance** metrics calibrated so compliance means no change

Aligning Policy and Regulation: Trade offs and Challenges

- Pace of change
- Stimulate innovation
- Legacy interests
- Vulnerable and Vital interests
- Market and Regulation Balance
- Expectations of and for customers



Government can lead, give steady, reasonable charge to regulated companies, fair competition

Look back from 2030

- How will all this potential be realized?

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.raponline.org

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