



**RAP**<sup>®</sup>

Energy solutions  
for a changing world

# Trends in Clean Energy Affecting State Utility Regulation

Keystone Energy Board

Presented by Richard Sedano

February 11, 2016

The Regulatory Assistance Project

50 State Street, Suite 3  
Montpelier, VT 05602

Phone: 802-223-8199  
[www.raponline.org](http://www.raponline.org)

# 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.

# Lenses to Look at Clean Energy Trends

- Technology
- Policy
- Markets
- Politics

# Clean Energy Ascendant

- Technology improving in quality and cost
- Broad (not universal) policy support
- Market innovation
- Popular (subsidies, not so much)

# “Clean” is associated with... What?

- Distributed?
- Democratized?
- Libertarian? “I believe solar equals freedom” - Debbie Dooley
- Economic?
- Least risk?
- Local economic growth?
- Resilient?
- Innovation?

Con Edison's  
BQDM in NYC:  
trend or  
anomaly?

# Clean Power Plan

- For many, CPP represents what will happen by 2030 anyway
  - But provides leverage about **how** to get there with **certainty**
- Flexibility allows clean resources to count in compliance
  - And motivates sister agencies to cooperate to give credit and remove barriers to least cost solutions

# Large Scale Renewable Integration

- Trends are supportive
  - More utility procurement of wind
  - Technical challenges found solvable
  - Inter-state transmission projects a wildcard
    - If too hard, DG and local utility-scale projects will be more important
    - Coastal states will be addressing offshore wind
  - Networks as competitive advantage

# Large Scale Renewable Integration



- Critical role of flexible resources
  - Notably demand response (24 x 7 x 365)
  - Road now clear for FERC jurisdiction over market rules to monetize DR value
    - States have unfinished work on DR
  - Ancillary services for ramping and cycling would motivate investment in best flexible resources (demand and supply)
    - Capacity markets: how all MWs are not the same

# Distribution Scale

- States continue to support energy efficiency
  - Further growth to come
- Net metering a success at nurturing a new technology into the market
  - Most states use it
- Demand response runs into anxiety about curtailment

# Distribution Scale Action

- New market models promote new services
  - PACE and third party leasing for solar PV
  - Multi-customer microgrids
  - Reassessing stand by rates for CHP
  - Grid scale PV
  - Storage
  - How will new products and services fare?
  - How will DER integrate with utility system?
- Reassessing rate design and net metering
  - Side-taking
  - What does “grid parity” mean?
  - Effects of low cost natural gas and oil?

# Effects on Utilities and Regulators

- Considering changes to balance between Markets and Regulation
- How will progress be motivated?
  - Or stifled?
  - Defining progress
    - In legacy terms
    - In objective terms (including all societal goals?)
      - Losers – probably will not go quietly
      - Need to protect monopoly service customers remains

# States looking at Power Sector Transformation

- Hawaii
- California
- New York

# States looking at Power Sector Transformation

- HI – HCEI and 4 orders of the apocalypse
- CA – More than Smart, a host of dockets
- NY -- REV
- MA – Grid Mod
- MI – Roadmap
- MN – e21, Grid Mod
- RI – SIRI, staff questions
- VT??
- ??
- ??

# How do utilities earn net income?

## How will utilities earn net income?

- Today: Earnings on rate based investments plus margins bet. rate cases, modest EE perf.
- Concerns
  - Bias toward capital when expenses may be least cost and bias toward throughput
  - Disconnect between what utility earns and societal priorities
  - Lack of imagination, will, or skill to adapt to changed circumstances

# How do utilities earn net income?

## How will utilities earn net income?

- Forward looking options:
  - Status quo (danger, trouble ahead)
  - Protect (utility initiatives address own concerns)
  - Adapt (clean is a given, now what?)
    - Grid access (“resellers” for solar, car charging)
    - Planning (enhance, transparent)
    - Procurement (look to customers for resources)
    - Price signals (rate design)
    - Performance (what does Wall St think?)

# How do utilities earn net income?

## How will utilities earn net income?

- Forward Looking:
  - Electrify
    - Transportation
    - Space and water
  - Enable
    - Platforms
    - Enhanced Services
  - Keeping customers on the system

# Common Thread? **Value**

- If, all of a sudden, every **choice** that a utility or a customer or a market-maker has could be accurately **monetized**,
- so the investor/spender could realize a reasonably accurate **value** and **evaluate** the choice with this accurate information,
- **what would happen that is different from today?**

# Accurately Monetizing Value

- Benefit/Cost regime to guide utility
- Wholesale market rules and distribution planning that signal value
- Tariffs to guide consumption
  - Or to guide markets, aggregators and products
  - $f(\text{time, location})$
- Clarity on role of utility, aggregators, others

# Politics: Important Motivators

- Progress
- Fear
- Cynicism
- Stall
- Rise of new influences

# What is a Regulator to Do?

- Be educated, critical, open
- Talk with other regulators
- Stay true to bedrock principles
  - Be flexible on how principles are executed
- Consolidate support for anything hard
  - Or anything that requires vision
- Amass courage through collaboration
- Try stuff



## 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 sector. 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)

[rседano@raonline.org](mailto:rседano@raonline.org)



**The Regulatory Assistance Project (RAP)<sup>®</sup>**

Beijing, China • Berlin, Germany • Brussels, Belgium • Montpelier, Vermont USA • New Delhi, India

[www.raonline.org](http://www.raonline.org)

# Large Answers to Clean Problematic

- Market system not supporting scalable investments in nuclear and especially in carbon capture
  - Can any but a utility in a state willing to put risk on customers or the federal government support?