RAP | Energy solutions for a changing world

CHP Power Sector Policy:
How government action enables CHP

Georgia Tech Energy Series

Presented by Richard Sedano

December 4, 2013

The Regulatory Assistance Project
50 State Street, Suite 3
Montpelier, VT 05602
Phone: 802-223-8199
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.
  - Richard Sedano directs RAP's US Program. He was commissioner of the Vermont Department of Public Service from 1991-2001 and is an engineer.

CHP development inevitable, can be nurtured

- Inevitable because customers are being empowered
  - Technology
  - Use of markets in regulation
- Valuable to the Electric Grid
- Nurtured how? And how well?
  - By State Government?
  - By Utilities?

CHP as a program

How a utility would encourage CHP rather than be passive?

- Programs are about customers
  - Can CHP fit into utility program practice?
- Screening
  - Distinctions with Industrial Energy Efficiency?
- Managing Electric / Gas Savings
  - Compare with Geothermal Heating
- Counting against requirements

From SEE Action CHP Guide (2013)

Table A.1. Costs and Benefits of CHP Programs under the TRC and PAC Tests

	PAC: Electric	PAC: Gas	PAC: Electric & Gas	TRC: Electric	TRC: Gas	TRC: Electric & Gas
Benefits						
Avoided Electric Energy	Yes	---	Yes	Yes	---	Yes
Avoided Electric Capacity	Yes	---	Yes	Yes	---	Yes
Avoided T&D	Yes	---	Yes	Yes	---	Yes
Increased Revenues (gas)	---	Yes	Yes	---	Yes	Yes
Reduced Bills (electric)	---	---	---	---	---	---
Reduced Emissions (electric)	---	---	---	---	---	---
Costs						
Utility Program Administration	Yes	Yes	Yes	Yes	Yes	Yes
Utility Incentive to Customer	Yes	Yes	Yes	Yes	Yes	Yes
Customer Install Costs	---	---	---	Yes	Yes	Yes
Customer Annual O&M	---	---	---	Yes	Yes	Yes
Increased Bills (gas)	---	---	---	---	Yes	Yes
Increased Emissions (gas)	---	---	---	---	---	---
Reduced Revenues (electric)	---	---	---	---	---	---

Regulatory Issues

- Mechanics of counting (and EM&V)
- Sharing electric and gas responsibility
- Motivating performance by customer
- Motivating performance by utility
- Enabling customer
- Costs

Regulatory Issues

- Mechanics of counting (and EM&V)
  - Routine EM&V methods apply
- Sharing electric and gas responsibility
- Motivating performance by customer
- Motivating performance by utility
- Enabling customer
- Costs

Regulatory Issues

- Mechanics of counting (and EM&V)
- Sharing electric and gas responsibility
  - Methods are fine, companies often don't agree
- Motivating performance by customer
- Motivating performance by utility
- Enabling customer
- Costs

Regulatory Issues

- Mechanics of counting (and EM&V)
- Sharing electric and gas responsibility
- Motivating performance by customer
- Motivating performance by utility
  - Incentives (financial, performance)
- Enabling customer
- Costs

Regulatory Issues

- Mechanics of counting (and EM&V)
- Sharing electric and gas responsibility
- Motivating performance by customer
- Motivating performance by utility
- Enabling customer
  - Fair Interconnection, stand by rates, …
- Costs

Regulatory Issues

- Mechanics of counting (and EM&V)
- Sharing electric and gas responsibility
- Motivating performance by customer
- Motivating performance by utility
- Enabling customer
- Costs
  - ?

Advanced program elements: planning and market rules

- Geo-target
  - Motivate CHP where most needed by grid conditions
- Acquire ancillary services with capacity and energy
- Responsive customers
  - motivated especially by high amounts of wind and solar, enabled by tech)
  - what does that mean for CHP?

Policy Barriers to CHP

- Rate design
  - Presumptions in Stand by Rates about reliability of CHP tend to be too cautious
- Planning
  - Credit for reliability benefits from CHP
- Operations
  - Purchase terms and valuation of products
- REC issues where applicable

Policy Barriers to CHP

- Loss of sales in traditional regulation is a disadvantage to utilities
  - This can be addressed, some utilities don't want to
- Control of utility operation by the utility may not be compatible with customer-sited generation

A Resource Standard is a political act to value preferred resources

- CHP can qualify for any standard
  - Assure no double counting
  - Carve out / tier for CHP?
  - All or just new/ recent?
- Make it easy – utility acquires tags with power
- Make it market – allow marketing of tags
- Adding CHP means standard amounts should be reassessed


FEDERAL RESERVE NOTE
THE UNITED STATES OF AMERICA
THIS NOTE IS LEGAL TENDER
FOR ALL DEBTS, PUBLIC AND PRIVATE
L 11180916 G
WASHINGTON, D.C.
H 3 12
L
12
L 11180916 G
12
SERIES
2003
A
12
WASHINGTON
ONE DOLLAR

Resource Standard is a political act to value preferred resources

- Policy first
  - Resource standard should be designed to meet policy goals so best to be clear about them
- Then create market rules that work and don't interfere with other markets created
- Try to give the created market stability, but remember that government has created the market to serve policy

http://www1.eere.energy.gov/seeaction/pdfs/see_action_chp_policies_guide.pdf

SEE Action

STATE & LOCAL ENERGY EFFICIENCY ACTION NETWORK

Guide to the Successful Implementation of State Combined Heat and Power Policies

Industrial Energy Efficiency and Combined Heat and Power Working Group

Driving Ratepayer-Funded Efficiency through Regulatory Policies Working Group

March 2013

RAP Energy solutions for a changing world

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

rsedano@raponline.org

The Regulatory Assistance Project
Beijing, China • Berlin, Germany • Brussels, Belgium • **Montpelier, Vermont USA** • New Delhi, India
50 State Street, Suite 3 • Montpelier, VT 05602 • *phone:* +1 802-223-8199 • *fax:* +1 802-223-8172
www.raponline.org