Steps to Implementing the Act 95 Direction for a Renewable Portfolio Standard

Jim Lazar RAP Associate

Hawaii PUC Workshop

November 22, 2004

The Regulatory Assistance Project

50 State Street, Suite 3
Montpelier, Vermont USA 05602
Tel: 802.223.8199
Fax: 802.223.8172

177 Water St.
Gardiner, Maine USA 04345
Tel: 207.582.1135
Fax: 207.582.1176

Website:
http://www.raponline.org

What is the Regulatory Assistance Project (RAP)

- **Formed 15 years ago by former commissioners from Maine and New York.**
- **RAP Principals include five former regulators.**
- **Funded by NARUC, USDOE, USEPA, Energy Foundation, and other sources.**
- **Assists regulatory bodies throughout the world.**
- **Recent major projects in New England, the Western U.S., plus China, India, Indonesia, Philippines, Brazil, Namibia, Mozambique, Zambia**

Overview

- Step 1: Decide WHAT goals the state wants to achieve.
- Step 2: Decide HOW those goals can best be achieved.
- Step 3: Implement methodologies to achieve the goals.
- Step 4: Evaluate the achievement.
- Return to Step 1 if necessary

Act 95 Is Vague and Should Be Clarified

- The RPS % Targets are unclear:
  - Are existing resources included or excluded?
  - Are measures implemented without utility participation counted?
- Inclusion of non-renewables, including waste heat recovery, energy efficiency, and energy storage systems makes it impossible to know if the RPS goal is being met.

Example of Clarification 1

- Did the legislature intend to include existing renewable resources? If so, it appears that HELCO needs to do nothing.
- Did the legislature intend to include federal appliance efficiency standards, energy code savings, or customer-funded measures?
- Did the legislature intend to include 100% of the avoided utility load from CHP, or only the net fossil fuel savings?

Example of Clarification 2

- What is meant by "avoided cost?"
  - Suggest it be defined to include:
    - Only fully hedged or hedgable fuel costs; no forecasts for periods where futures are available in the market.
    - All quantifiable environmental costs, including carbon dioxide mitigation
    - Recognition that generation is a higher-risk utility investment, that should be measured at higher cost of capital than is applicable for delivery service.

Example of Clarification 3

- Divide the 20% target between generating renewables, customer-side renewables, and energy efficiency
- Limit the customer-side renewables "counted" to those "caused" by Commission actions.
- Limit the efficiency "counted" to that "caused" by Commission actions.

Example of Clarification 4

- Remove the final sentence from the definition of "renewable resource."

"Renewable energy" means electrical energy produced by wind, solar energy, hydropower, landfill gas, waste to energy, geothermal resources, ocean thermal energy conversion, wave energy, biomass, including municipal solid waste, biofuels, or fuels derived from organic sources, hydrogen fuels derived from renewable energy, or fuel cells where the fuel is derived from renewable sources. Where biofuels, hydrogen, or fuel cell fuels are produced by a combination of renewable and nonrenewable means, the proportion attributable to the renewable means shall be credited as renewable energy. Where fossil and renewable fuels are co-fired in the same generating unit, the unit shall be considered to produce renewable electricity in direct proportion to the percentage of the total heat value represented by the heat value of the renewable fuels. ***"Renewable energy" also means electrical energy savings brought about by the use of solar and heat pump water heating, seawater air-conditioning district cooling systems, solar air-conditioning and ice storage, quantifiable energy conservation measures, use of rejected heat from co-generation and combined heat and power systems excluding fossil-fueled qualifying facilities that sell electricity to electric utility companies, and central station power projects.***

How To Achieve RPS

- Use the IRP Framework
- Social Cost Perspective
- Recognize volatility as a cost (discussed under modeling)
- Set well-understood targets, and stick to them.
- Set a rigid timetable and stick to it
- Define a well-understood evaluation framework and stick to it (or change it if needed).

Key Elements from the IRP Framework

- Life-cycle costing perspective
- Long-run planning
- Wide range of resources examined
- Commission review of final product
- Funding for collaborative participation
  - Consulting budget needs to be collaboratively controlled; utility autonomy must be limited.

Implementation of RPS

- Set unambiguous standards and deadlines
- Assure adequate support for non-utility participants
- Implement balanced incentives and penalties (discuss under PBR)
- Implement incentives and penalties mercilessly.

Evaluation of RPS Performance

- Annual performance evaluation through collaborative input
- Prompt commission review and decision
- Incentives and penalties flowed through revenue requirement promptly.
- Appeal process should not delay implementation.

Don't Be Afraid To Admit You Goofed

- If multiple parties tell you there is a problem, there probably is.
- If a measurement technique is not working, don't hesitate to change it.
- If an incentive is producing perverse results, change it.
- If a penalty is too little to be effective, or so great it causes severe utility strain, change it.