NY RPS Program Evaluation Approach and Topics

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Maple Ridge Wind Farm
Renewable Portfolio Standard

- Goal: 30% of the power consumed in the state to come from renewable sources by 2015
  - From the 2003 baseline of ~ 19.3%
- RPS was originally adopted in 2004 as a policy to:
  - Stimulate economic development, improve the environment, and pursue energy independence
- Public Service Commission is responsible for regulations, NYSERDA acts as the “Central Administrator”
- Utilities are not subject to compliance
- Approximately $3 billion in funding from a charge on retail power bills
Program Design

- **Main Tier – Large grid connected power plants**
  - NYSERDA purchases renewable energy attributes (aka RECs) only; in a technology agnostic manner
  - Energy must be delivered to NYISO/used to serve retail load
  - Fixed-price REC contracts of up to 10 years
  - Prices are set competitively via Request for Proposals ("RFPs"); Evaluation based on 70% price 30% expected economic benefits

- **Customer Sited Tier – Smaller behind the meter systems**
  - Combination of upfront grants and performance incentives
Evaluation Approach

- March 2009 program evaluation was managed by NYSERDA’s Energy Analysis group and conducted by independent contractors.
  - KEMA and Summit Blue
- Evaluation scope focused on (1) Impact and Process, and (2) Market Conditions assessment. Elements included:
  - Program implementation and achievements
  - Cost effectiveness and benefit/cost analyses
  - Impacts on the energy system and economy
  - Regulatory/policy structure – new efficiency policy, RGGI, etc.
- Evaluation was limited to program progress and data as of January 31, 2009
- Close interaction with program administrators and Public Service Commission staff
Evaluation Approach

- Primary and secondary data collection was important to gather a diverse set of program perspectives, learn from similar experiences, and to leverage existing data sources.
- Data sources included program regulations, solicitations, contracts, performance reports, and financial data.
- In-depth telephone interviews with 92 key stakeholders:
  - Participating and non-participating developers, financial community, IOUs, NYISO, installers, green marketers, NYSERDA staff, and RPS administrators in other states, etc.
- External data sources such as economic benefits studies, regional REC price data, and RPS program regulations from other states were also used.
Evaluation Topics

- Pre and Post RPS market assessment
  - Renewable supply, presence and level of activity of developers and investors, technology installation and service base
  - Attribution assessment: The degree to which the RPS has been responsible for attracting renewable developers to NY
- Solicitation process and contract mechanisms
  - RFP design, bid scoring and selection
  - Contract security, use of suspensions, 10 year contract term, energy delivery requirement
- Factors affecting REC prices
  - Energy prices, permitting, ISO interconnection, etc.
  - Comparison of REC prices to other states
- Costs/Benefits
**Evaluation Topics – Economic Benefits**

**Data Source:** NYSERDA collects data on direct economic benefits through bid proposals

- Long and short term jobs
- Property taxes and payments to municipalities
- Land leases and in-state biomass fuel purchases
- In-state purchases and consumption of goods

**Analysis Approach:** 2005 through 2034 time period; covered development through 20 year operational period

**Direct Benefits:** KEMA verified data for accuracy and creditability; extrapolated data from 1st three solicitations out to fully achieving the RPS goal

**Total Benefits:** KEMA then ran the direct economic benefits through an IMPLAN model to determine total effects; direct and indirect (multiplier effects)
Evaluation Topics – Economic Benefits

Analysis Outputs:

1) The direct benefits for the 1st three solicitations and two fully achieved RPS scenarios (25% by 2013 and 30% by 2015):
   • Total benefits; total per MW and MWh produced, total by resource type and county, job years, job impacts by industry, etc.

2) Total benefits from the program (direct and indirect) for two program scenarios: (25% by 2013 and 30% by 2015)
   • By resource type, job impacts by industry, short term vs. long term impacts, etc.

3) Other:
   • Cost/benefit ratio including price suppression and environmental benefits
   • Comparison of findings with similar studies and data
   • Recommendations on how to improve data acquisition and use
Evaluation Topics – Energy Price Effects

**Objective:** Summit Blue analyzed the impacts of the 1\textsuperscript{st} three solicitations on electricity prices

**Two stages:** 1) historical regression analysis for 2005-2007 to establish relationship between electric prices and market drivers such as load and gas prices. 2) Forecast of market prices and market drivers in the year 2010

**Drivers:**
- Gas prices
- Load
- Reserve margin
- Renewable energy generation (has the effect of reducing load)

**Findings:** Compared the assumptions and results to two studies conducted by the NYS Department of Public Service (2004 and 2008 studies)
Program details can be found at:
http://www.nyserda.org/rps/index.asp

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