

New York State Renewable Portfolio Standard

Designed around Competitive Markets?

**NARUC Workshop
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NYSERDA**

New York State Energy Research and Development Authority (NYSERDA)

- **Public Benefit Corporation whose mission is:**

Identify solutions to State's energy challenges in ways that benefit the State's economy and environment

- **Manage statutory funding for traditional product research, development and demonstration**
- **Current administrator of NYS Public Service Commission**
 - **System Benefits Charge Program (New York Energy \$mart)**
 - **Renewable Portfolio Standard (RPS)**
 - **Regional Greenhouse Gas Initiative Allowance Auctions**
 - **Clean Air Interstate Rule NOx Allowance Auctions**

Presentation Outline

- **Renewable Portfolio Standard**
Targets
Design Considerations
- **Key Features of**
Main Tier Program
Customer Sited Tier Program
- **Program Outcomes**
- **Program Evaluation and Funding)**

New York State Renewable Portfolio Standard (RPS)

- Target: 25% of retail sales served by 2013
- Existing resources account for about 19.5%
- Incremental requirement satisfied as follows:
 - Main Tier (NYSERDA).....(9.8 GWh)
 - Customer-Sited Tier (NYSERDA)..... (.2 GWh)
 - **Voluntary Green Retailing**(**1.8 GWh**)
 - State Agency Purchases.....(.3 GWh)
 - Total.....(**12.1 GWh**)



Voluntary Market 15% of target !

Browns Falls Hydro

RPS Design Considerations

- In New York, utilities *not vertically integrated* and not enthusiastic about responsibility for buying generation
 - Stranded cost recovery
 - Poles and wires focus
- Emerging energy service companies too thinly capitalized to effectively support project financing (no long term contracts)
- NYSERDA, as administrator of SBC program considered:
 - ▪ management oversight systems well established (SBC)
 - surcharge collection processes established
 - ratepayer equity/administrative fairness/efficiency achieved
 - market transformation activities in sync with RPS objectives

RPS Main-Tier Features

- **NYSERDA is central buyer on behalf of ratepayers of all IOUs in state**
- **Department of Public Service and NYSERDA share responsibilities to develop/execute RPS program elements**
- **Projects in-service/using new eligible fuels after 1/1/2003 are eligible**
 - **facilities must be certified to participate**
- **NYSERDA pays fixed production incentive (\$/MWh)**
 - **Prices set competitively**
 - **Secure property rights to renewable energy attributes (REC)**
 - **Secure product claims of environmental improvement**

Lyonsdale Biomass



Maple Ridge Wind



Browns Falls



RPS Main-Tier Features

- **PSC accounts for REC in terms of environmental disclosure**
 - **REC accounting /tracking system under development**
- **NYSERDA does not purchase energy;**
 - **energy delivered to New York ISO on hourly - scheduled basis, or sold via bilateral to NYS end-user**
- **Out-of-state resources currently eligible**



Maple Ridge Wind Farm

RPS Procurement Specifics

- **Price weighted at 70 % /economic benefits to NYS weighted at 30%**
- **Term: 10 years ; fuel-based – 3 up to 10 years**
- **Contract security discourages speculation/encourages development**
- **Projects can pay additional security to delay on-line date**
- **Alternate bids per facility encouraged per procurement**
- **Bid quantity per facility limited to 95% of expected output**
- **Bid Quantity per facility can not be less than 30%**
- **Projects can bid in multiple procurements to match merchant market realities**
- **REC's under contract can be diverted to voluntary market in NYS**
- **Payments subject to realization of economic benefit threshold (yrs 4-10)**

REC Characteristics

RPS REC includes everything:

“all environmental characteristics, claims, credits, benefits, emissions reductions offsets, allowances, allocations, howsoever characterized, denominated, measured or entitled, attributable to the generation”

Example: coal plant co-firing with biomass

in absence of RPS contract frees up SO₂ allowances for sale;

With RPS contract, allowances included in the RPS REC and are retired on ratepayer behalf.

Credits associated with biomass co-firing under RGGI program belong to ratepayers under RPS program contract (already claimed)

Steel Winds- Buffalo Waterfront



REC Diversion to Voluntary Market

- **Holder of contract for sale of REC to NYSERDA has options:**
 - **sell REC to NYSERDA through term, or**
 - **suspend obligations to NYSERDA with conditions:**
 - **suspended REC must be sold to in-state voluntary market or pursuant to other mandated governmental procurement**
 - **suspended REC must be accountable for in-state use and documented via environmental disclosure**
 - **suspended REC will count as satisfying contract quantity obligations**
 - **energy delivery obligations must be satisfied**

Revenue Implications for Project

- **Project must secure balance of revenue stream from sale of energy commodity or capacity**
- **Project can establish account at NY Independent System Operator (ISO)**
 - **requires financial security**
 - **requires capability for scheduling and market settlement**
 - **revenue is function of day-ahead/hourly prices**
 - **investment required to forecast project output (in real time/15 minutes/day ahead)**
- **Project can secure scheduling /billing services from third party for management of project energy and capacity**

RPS Customer-Sited Tier Program

Operating Plan: 2007-2009

Resource Type	Total Approved Funding (millions) ¹	Expected Production (MW)	Expected Production (MWh)
Photovoltaics	16.7	3.5	4,533
Fuel Cells	11.2	2.7	18,700
Anaerobic Digesters	12.5	3.7	25,700
Small Wind	3.1	1.8	3,945
Discretionary ²	1.5		
Total	45.0 ³	11.7	52,878

- 1 funding spread evenly across 3 years**
- 2 discretionary funding (a) can be used to address over-subscribed programs; (b) unused program funds can be added to pool for use by other programs; (c) funds can be used to support new eligible technologies**
- 3 Approx 40% of as-ordered funding through 2013**

RPS Customer-Sited Tier Features

- **Extension of existing system benefit programs**
 - PV, ADG, Fuel cells and small wind

- **Program structure:**
 - **Standard offer, open enrollment/subscription**
 - **Capacity and/or performance based incentive payments**
 - capacity ratings typically limited by customer site load
 - where net metering applicable ; greater of net metering cap or connected load
 - **Rights to attributes reserved during performance payment period (3 years)**
 - **Emphasis on monitoring/verifying/recording operation**
 - periodic reporting of operating data required after commissioning

Cumulative Main Tier Program Outcomes

effective May 31, 2008

New capacity (at end program year 2009) -	approx. 1,340 MW
Total Available REC produced annually -	nearly 4,200,000
Facilities involved -	31 projects/30 in New York
Resource type -	15 hydro/3 biomass/13 wind
New capacity under NYSERDA contract -	1,103 MW
Expected NYS economic benefits -	approx. \$ 1.5 billion
REC under contract to NYSERDA annually -	approx. 3,500,000
Weighted REC price -	\$ 17/MWh
% of 2009 program goal achieved -	approx. 73 %
% of 2013 program goal achieved -	approx. 35 %

Results pending execution of contracts under 3 rd procurement cycle

Exclude progress in Customer Sited Tier programs

RPS Program Economic Benefits

- **Economic benefits in New York:**
 - **short/long-term jobs**
 - **fuel acquisition/control/rights**
 - **purchases of local goods/services**
 - **host community payments/taxes**
- **Expected economic benefits to New York:**
 - **\$ 1.5+ billion for contracted/in-service resources**

¹ Over 20 year project life; excludes RFP 1168 results

Note: estimates above exclude roll-over/multiplier effects, energy price suppression benefits

Clinton Wind Farm



RPS Customer-Sited Tier Outcomes

effective May 31, 2008

CST Program	Pending Contracts***	Expected Production from Pending Contracts	Expected Production from Pending Contracts
	(in MW)	(in MWh)	(% of target)
Solar Photovoltaics	2.519	3,266	72%
Fuel Cells	0.605	4,994	27 %
Anaerobic Digester	6.769	49,946	194%
Small Wind	0.063	96	2%
Program Total	9.956	58,302	110%

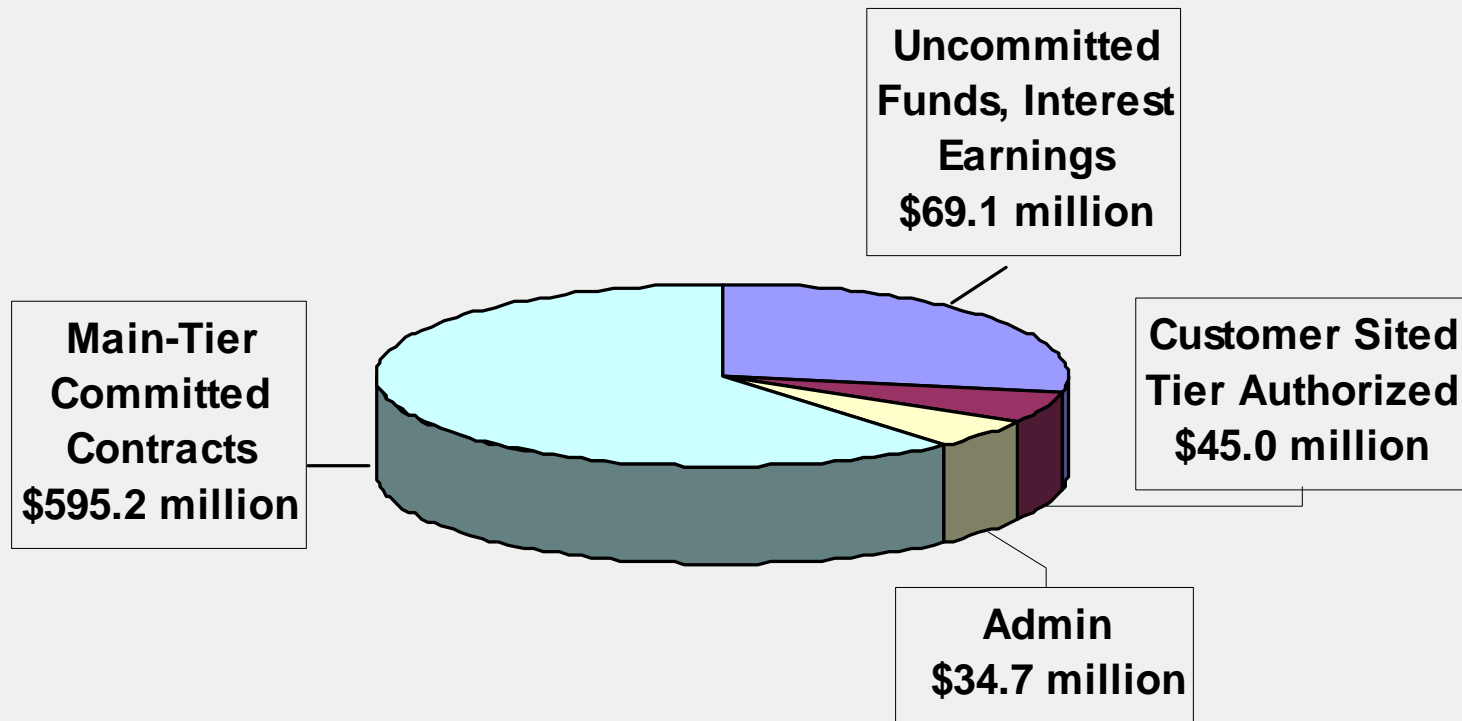
* per CST Plan ; total authorized funding is \$45 million

** \$1.5 million of discretionary fund remain

*** Applications received but not yet approved (encumbered)

RPS Program Funding

➤ \$741 million in collections specified to fund program through 2013 (before interest)



RPS Program Funding and Planning

- **PSC provided it would specify added collections at such time projected costs to meet the targets become better known**
- **Updated cost/analysis of incremental funding requirements completed**
- **Several formal filings/proceedings before PSC planned:**
 - **Near term re-allocation of funds to Customer Sited Tier**
 - **Increased RPS target (30%)**
 - **Funding of aggressive PV Program (100 MW target)**
 - **Total new funding /timing/structure of program procurements**
- **PSC decisions possible/expected by end of 2008**
- **Program mid-term evaluation filed before PSC 1st Qtr 2009**
 - **program effectiveness and efficiency ; B/C analyses**
 - **market trends and market maturation (voluntary retail)**

Some Key Market and Policy Influences

- **PV and ADG development out-pacing authorized funding**
- **Competition for REC from other markets (compliance and voluntary) increasing**
- **Transmission limitations on deliverability emerging**
- **Upward pressure on certificate prices is possible**
 - **associated with compliance market structure**
 - **supply/demand imbalances**
 - **wind turbine cost escalation**
- **Wind turbine performance expectations not being realized**
- **REC-only transactions in voluntary market not yet supported by NYS Environmental Disclosure Program**
 - **REC tracking system under active consideration**

Thank you for your attention

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