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Renewable Energy Programs in Vermont

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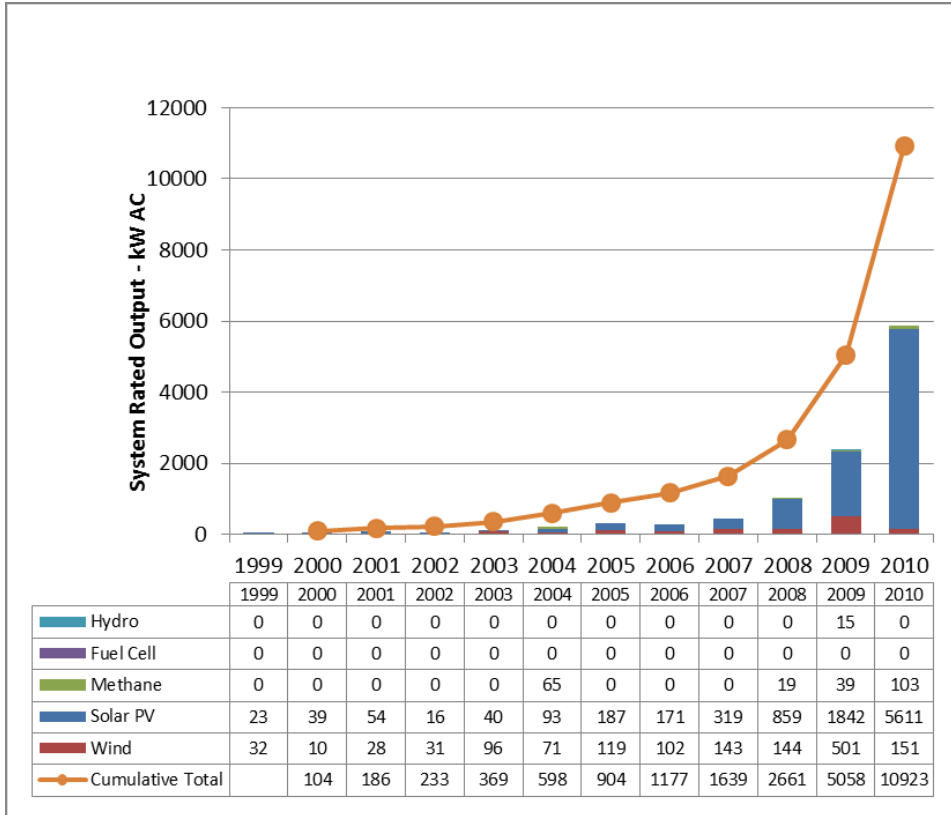
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Net Metering

- Net metering law (30 V.S.A. § 219a) enacted in 1998
- Allows customers to offset their use of utility-supplied power with power generated on the customer side of meter
- In 2011, Vermont expanded program:
 - Size limit from 250 kW to 500 kW
 - Registration process for small residential systems
 - Increased net metering capacity to 4% of VT peak load
 - Created a PV adder to allow customers to receive 20 cents per kWh

Net metering in Vermont

Approved Net Metering kW Capacity by Year and Technology



Vermont Renewable Programs

- Sustainably Priced Energy Development (SPEED) Program was enacted in June 2005, contained in 30 V.S.A. § 8001, § 8005, § 8005a, and § 8009.
- The goal of the SPEED program is to promote the development of in-state energy sources which use renewable fuels (SPEED resources) to ensure that to the greatest extent possible the economic benefits of these new energy sources flow to the Vermont economy in general and to the rate paying citizens of the state in particular.

Vermont Renewable Programs

- **SPEED Goal:** 20% of total statewide electric retail sales during year commencing January 1, 2017 must be generated by SPEED resources that constitute new renewable energy.
- **Total Renewables Goal:** 55% of each retail electricity provider's annual electric sales during the year beginning January 1, 2017, increasing by an additional 4% each third January thereafter, until reaching 75% on January 1, 2032, must consist of total renewable energy.

Vermont Standard Offer (FIT) Program

- In 2009, and updated in 2012, 30 V.S.A. § 8005 was significantly amended to create the feed-in tariff Standard-Offer Program
- Obligates a utilities to purchase electricity from an eligible generator at a specified price for a specified period of time.
- Price is established to encourage development of renewable resources rather than to meet utility's resource needs at least cost

Vermont Standard-Offer (FIT) Program

- 50 MW initial program cap, annual increases until 127.5 MW is reached
- 2.2 MW project cap
- Six technologies eligible
- Avoided Cost-based prices
- Standard-Offer Contract
- Administered by statewide entity, not utilities
- Guaranteed rate recovery for utilities
- Requires rapid deployment

Changes to FIT Program in 2012

- Increasing the available capacity of the program
- Allocating available program capacity among different technology categories
- Expand program capacity for projects in transmission constrained areas
- Allowing market-based pricing methodology such as an auction or other procurement tool
- Modifying the requirements to enter into the standard-offer program

Calculating avoided cost-based prices

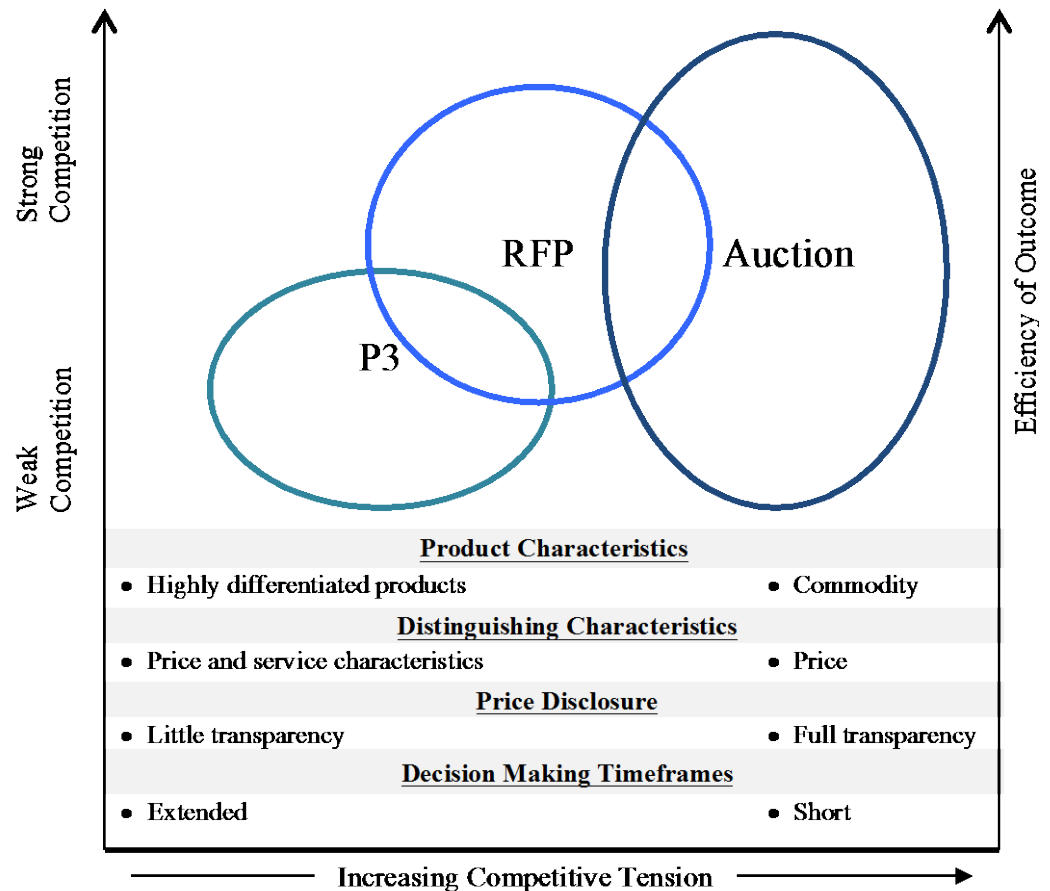
- Avoided costs re-examined every two years
- Difficult to obtain reliable data on project cost
- Significant variations in parties' assumptions
- Very little granularity and differentiation
- Art as well as science
 - As with any rate design, large degree of judgment is required

Current Avoided Costs Under FIT Program

- **LEVELIZED PRICE (\$/kWh)**
 - SOLAR PV 0.257
 - HYDRO 0.123
 - LANDFILL GAS 0.090
 - FARM METHANE 0.141
 - WIND OVER 100kW 0.118
 - WIND 100kW OR LESS 0.253
 - BIOMASS 0.125

Market-Based Options Considered

- Auctions require numerous participants to produce favorable results
- RFPs can provide more successful results if there is an *expectation* of strong competition among participants



Implementation of FIT Program

- October 2009 – Board begins implementation of the program (initial 50 MW)
- 200 MW of resources apply the first day
 - Majority of applications for solar
 - 24 plants online (@ 20 MW)
- April 2013 – RFP issued for expanded capacity
 - 35 solar projects apply, 3 projects accepted
 - Bid price between \$0.14 and 0.15 per kWh

More Information

- Vermont Statutes – Title 30: Public Service
 - <http://www.leg.state.vt.us/statutesMain.cfm>
- Board Orders for Standard-Offer program
 - <http://vermontspeed.com/board-orders/>
- Board Rules on SPEED and Interconnection
 - <http://psb.vermont.gov/statutesrulesandguidelines/currentrules>