



VERMONT ENERGY
INVESTMENT CORPORATION

Energy Efficiency as a Resource: Moving from Inclusion to Front of the Line

ACEEE | September 26, 2011

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Who We Are

- Private, nonprofit corporation founded in 1986
- Mission: “*Reduce the economic and environmental costs of energy use*”
- We “think and do.” Our implementation work informs our consulting services. And vice versa!
- Operate Efficiency Vermont since its inception



- The first statewide, coordinated delivery of EE programs and services in the US
- The first in the nation to turn statewide electrical load growth negative - since 2007.
- “Buying” efficiency for just over 4.1cents/kWh vs. supply at 14.4 cents/kWh
- 718,000 tons of CO₂ emissions avoided

- Provides innovative research & development, and implements projects
 - ✓ Cutting-edge efficiency resource technologies
 - ✓ Innovative market based program strategies & delivery
 - ✓ Trans-utility and targeted efficiency issues at transmission/distribution level
 - ✓ Financing mechanisms at community level
 - ✓ Research on Smart Grid focused on customer interface



Having the Right Policy is Essential - 30 V.S.A. § 202a

It is the general policy of the State of Vermont:

(1) To assure...that Vermont can meet its energy service needs in a manner that is adequate, reliable, secure and sustainable; that assures *the efficient use of energy resources and cost-effective demand side management; and that is environmentally sound.*

(2) To identify and evaluate resources that will meet Vermont's energy service needs in accordance with the principles of *least-cost integrated planning; including efficiency, conservation, and load management alternatives; wise use of renewable resources; and environmentally sound energy supply.*

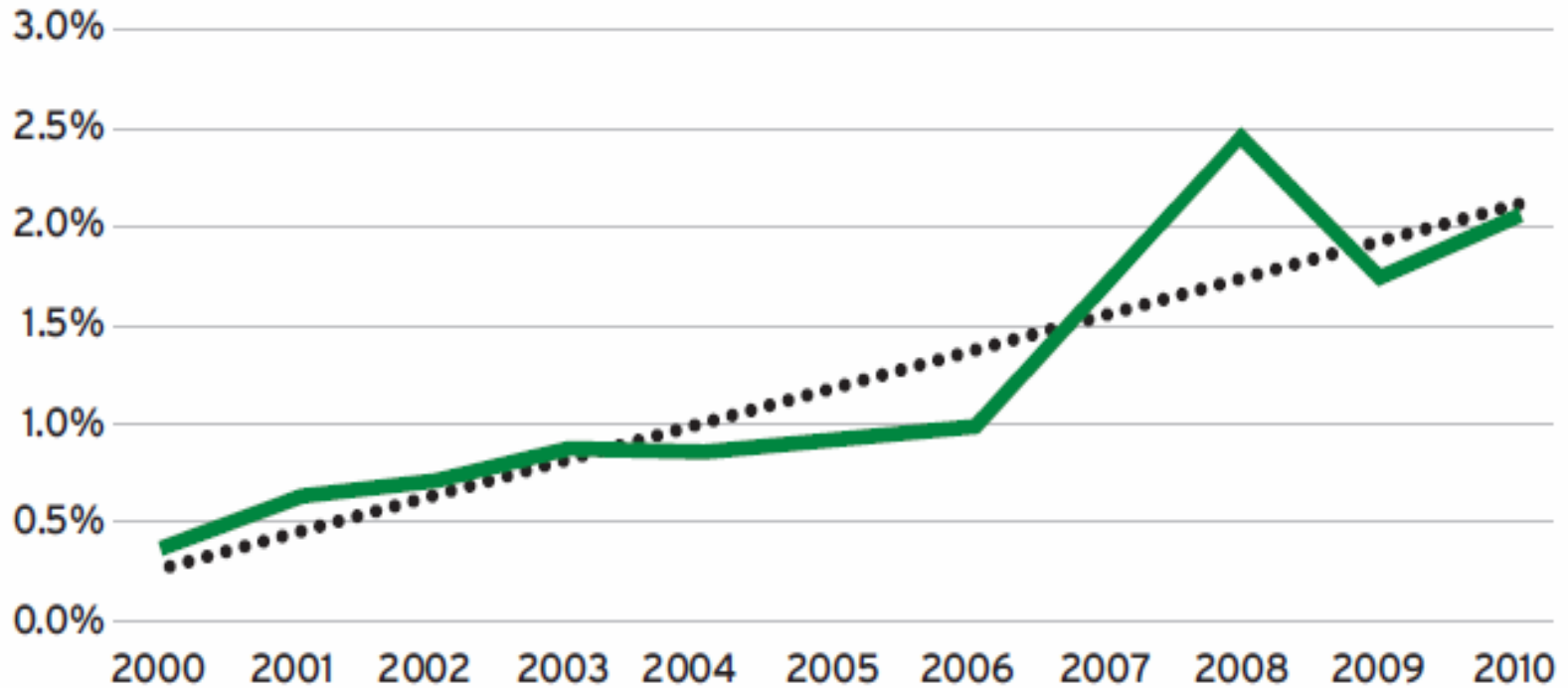


What is the Basic Mechanism?

- A contract to supply energy efficiency resources
 - Model similar to a power supply contract
 - kWh and peak KW are “purchased” from Efficiency Vermont contractor
 - Implementation flexibility in exchange for tough performance requirements
 - Contract contains
 - ✓ Minimum performance requirements
 - ✓ Measurable performance indicators
 - ✓ A significant financial hold-back to assure contractor performance

Leads to Excellent Results!

Energy Efficiency Savings as a Percentage of Vermont's Electricity Needs

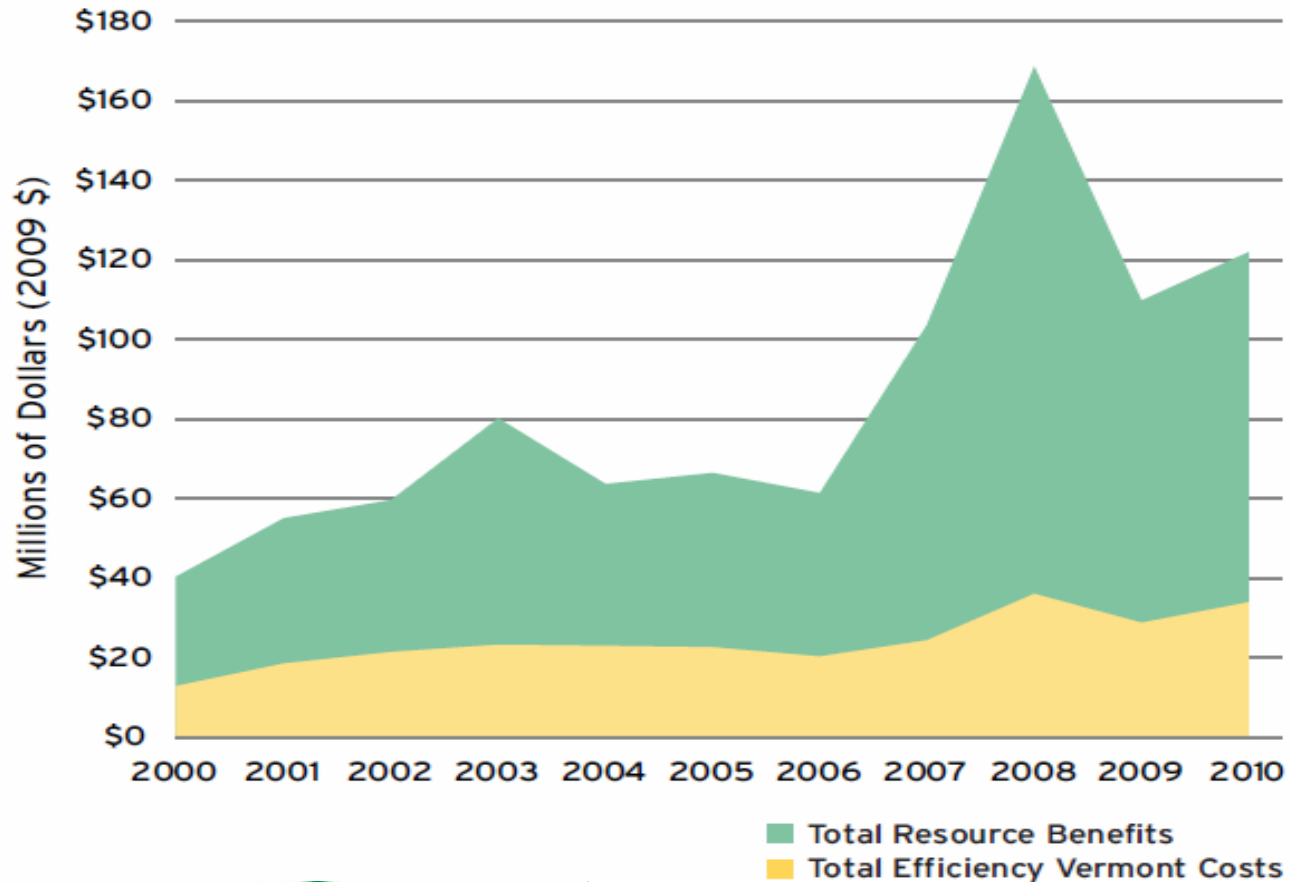


 Annual Depth of Efficiency Savings
 2000-2010 Trend





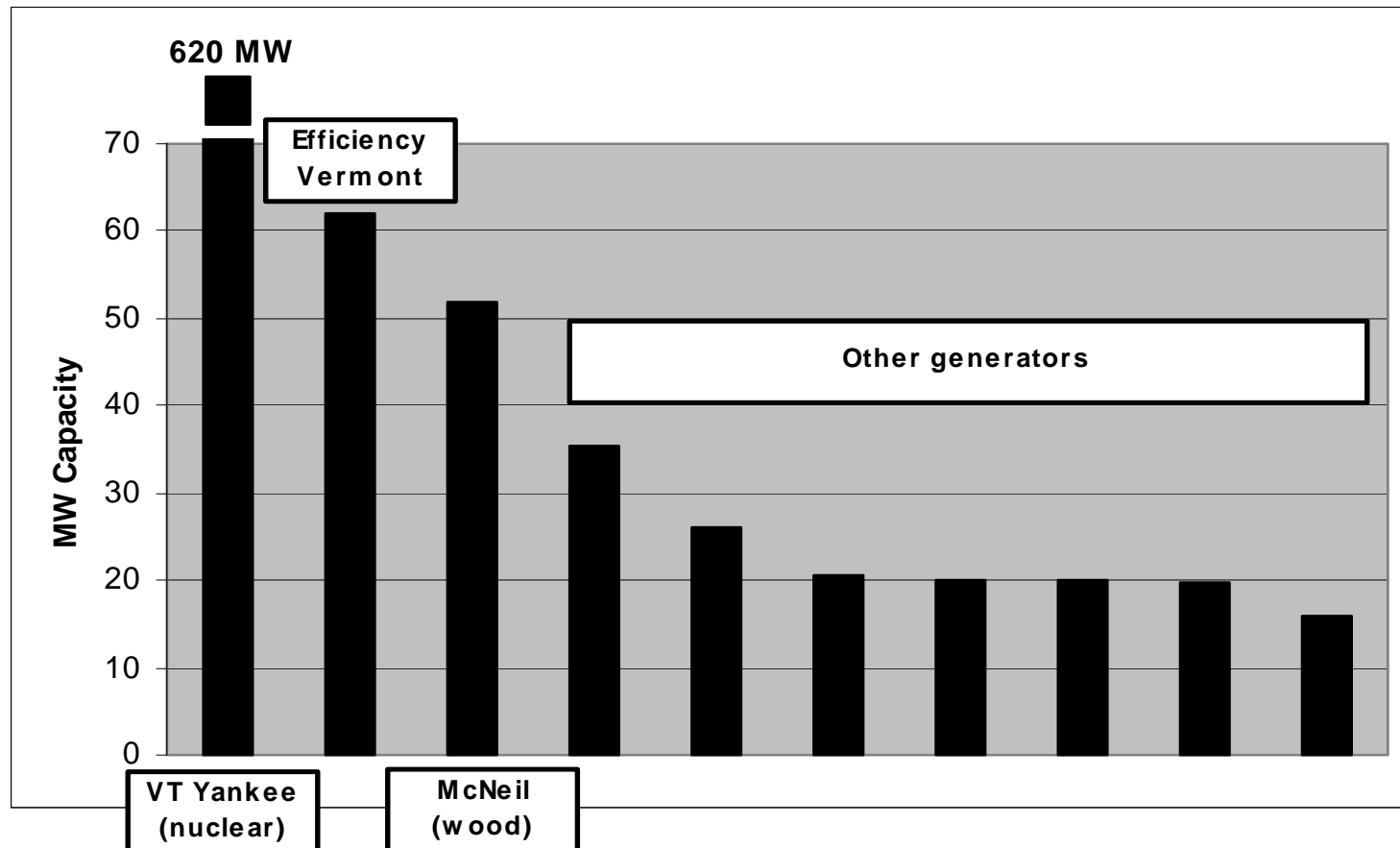
Total Resource Benefits vs. Efficiency Vermont Costs



Efficiency Vermont

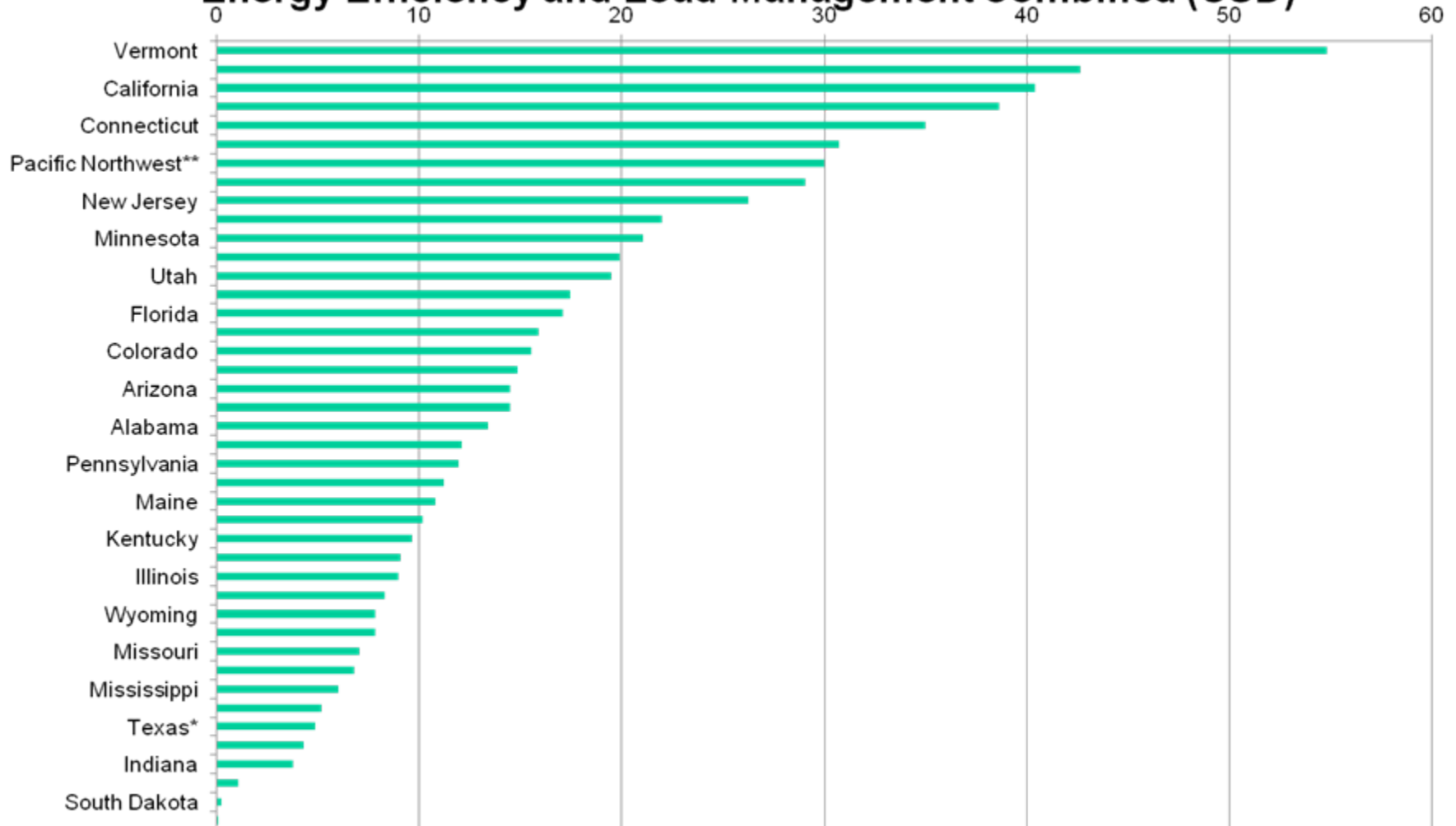
EVT is Second-Largest FCM Participant – A Real Resource!

Top ten FCM capacity providers (as of Auction #2)



Spending Level In Vermont

2010 Electric Program Budgets per Capita, Energy Efficiency and Load Management Combined (USD)



"State of the Efficiency Program Industry," Consortium for Energy Efficiency, 2011

* Information from at least one known electric program administrator is missing from this state.

Positive Impact on Vermont's Economy



Table 1: Total Economic Impacts of Vermont Energy Efficiency Programs (2011\$)

Impact Type	2012			All Years		
	Elec.	HPF	Total	Elec.	HPF	Total
Jobs (job-years)	333	70	403	1,794	85	1,879
Personal Income (million)	\$12.3	\$2.4	\$15	\$93	\$4.1	\$97
Gross State Product (million)	\$12.5	\$3.2	\$16	\$213	\$4.6	\$218
Output (million)	\$20.2	\$5.1	\$25	\$340	\$7.9	\$348

(HPF = Heating & Process fuels)

Optimal Energy analysis (Aug. 2011):



But Even So, the Model Had its Shortcomings

- Contractor to Public Service Board
 - No ability to intervene as a peer with distribution utilities and other parties

- 3-year contract
 - lack of alignment with long-term state planning goals
 - lack of alignment with long-term customer goals

- Limited ability to engage in R & D

“Order of Appointment” / Franchise

- ✓ Efficiency Vermont is now a regulated utility
- ✓ EVT has ability to intervene in dockets and advocate with policy-makers
- ✓ 12-year appointment allows participation in long-term transmission planning, customer planning, utility IRP
- ✓ Includes “demand resources plan”, a 20-year plan for DSM spending and savings, including unconstrained
- ✓ Includes Non-Resource Allocation category



The EEU and Planning

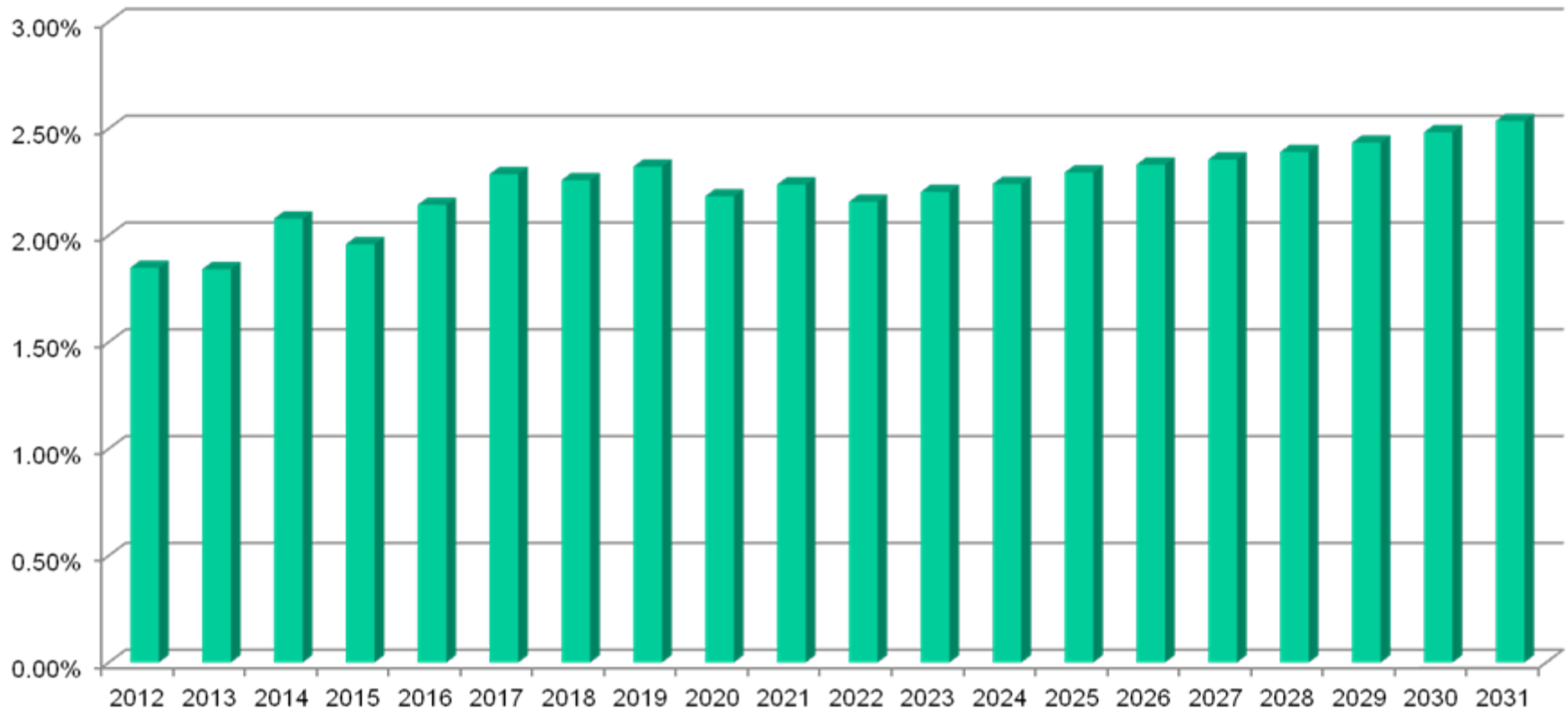
- ✓ 12-year appointment allows participation in long-term transmission planning, customer planning, utility IRP
- ✓ Includes “demand resources plan”, a 20-year plan for DSM spending and savings, including unconstrained
 - ✓ Was based on 3% savings scenario

“...we found that better alignment between the EEU's role in long-term planning and forecasting by Vermont utilities is one of the benefits provided by the new EEU structure.”

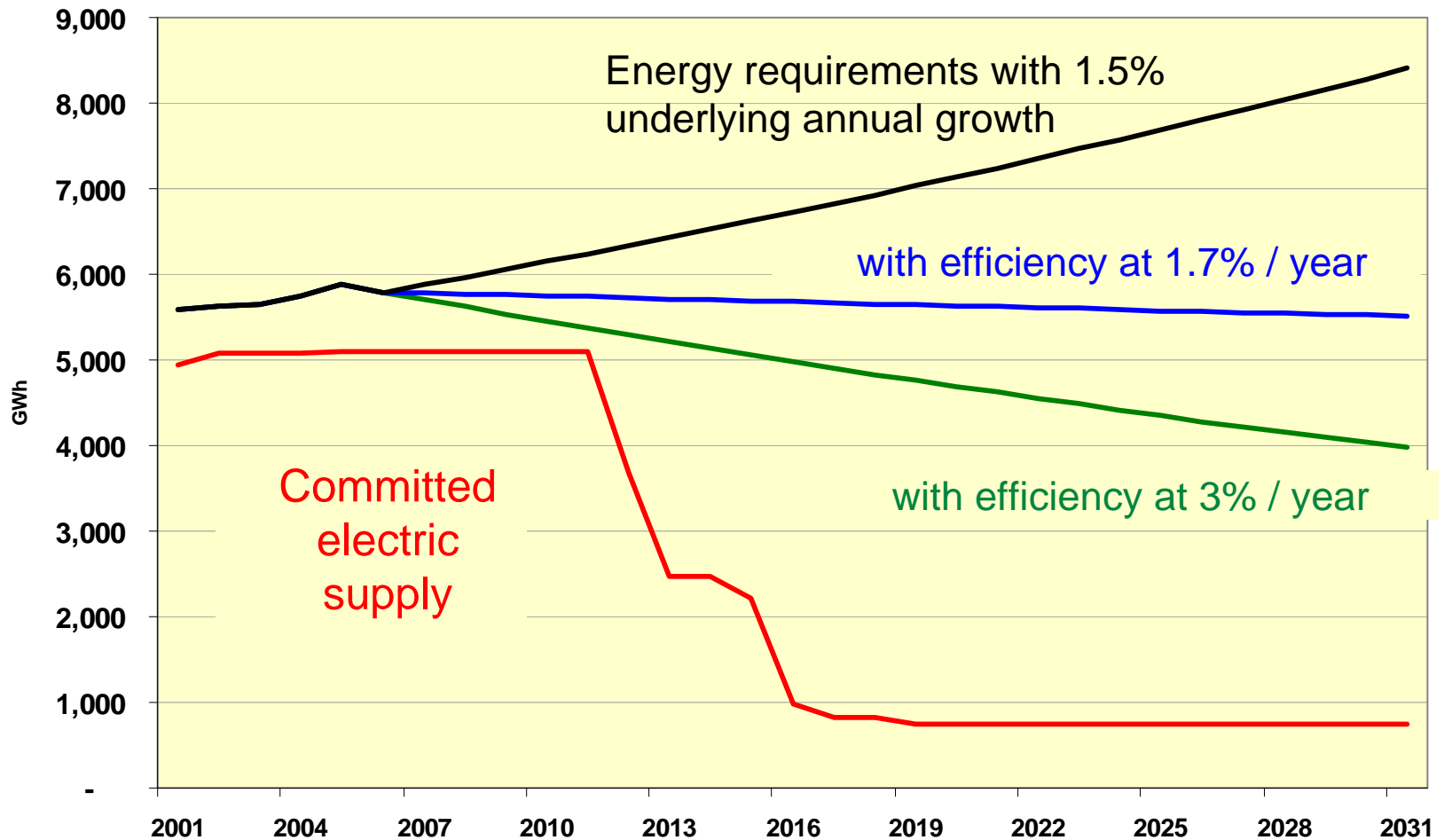
Vermont Public Service Board – August 2011

Demand Resources Plan 2012-2031

Energy Savings (MWh) as a Percent of Statewide Sales



Potential Impact of Energy Efficiency



Non-Resource Allocation

- ✓ Education & Training
- ✓ Applied R&D (including 'grid modernization' / Smart Grid, could include electric car impacts)
- ✓ Planning and Reporting (includes our VSPC and DRP)
- ✓ Evaluation (includes Forward Capacity Market evaluation)
- ✓ Policy and Public Affairs
- ✓ Information Technology
- ✓ General Administration

Clear Recognition of EE as a Benefit by Customers

- Programs deep into markets; high name recognition.
- Programs do (and must) work with unprecedented effectiveness and customer focus.
- As System Benefit Charge is recognized as path to lower bills, political resistance to cost of services diminishes.
- “If I am not using Efficiency Vermont, I am missing my chance to save energy and \$.”

EEU – Allowing Efficiency Full Standing as a Resource

- A voice in regulatory proceedings
- A voice in the political arena
- Direct involvement in the planning of the electric grid
- Funding for non-resource allocation
- The ability to integrate with thermal, renewable, and transportation
- Let least cost rule – Let's acquire the best energy solution available – today and for a long time to come – that's efficiency



Exporting the Model

With Performance-based Model and Customer Service Approach as key to efficiency savings:



Launched January 2011

Currently serves 47 Municipal utilities (OH +)



Launched April, 2011
Integrating efficiency and renewables

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