Efficiency Vermont



VERMONT—
Perspectives from the Leading Edge

ACEEE National Conference on
Energy Efficiency as a Resource

September 28, 2009

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State Policy Goals for Acquisition of Electric Energy Efficiency Resources

- Vermont statute requires, as a component of utility service, acquisition of all energy efficiency resources that are lower in cost than are generation alternatives
- The pace is determined by utility regulators, considering both near-term rate impact and long-term efficiency policy goals
- Current goals (2009-2011) are to reduce electricity requirements by approximately 2% each year

New State Building Efficiency Goals in Act 92 (§581)

- Reduce fuel use and bills by 25% in 60,000 homes by 2017, and 80,000 homes by 2020
- Reduce fossil fuel use in *all* buildings by 0.5% per year (6% annually by 2017; 10% annually by 2025)
- Save Vermonters $1.5 billion on their fuel bills by 2017
- Increase weatherization services to low-income Vermonters as revenue becomes available in the Home Weatherization Assistance Trust Fund

What Is the Basic Mechanism?

A Contract to Supply Energy Efficiency Resources

- Similar to a power supply contract
- KWh and Peak KW are “purchased” from the competitively selected Efficiency Vermont contractor
- The contract is performance-based, with a significant financial holdback to assure contractor performance

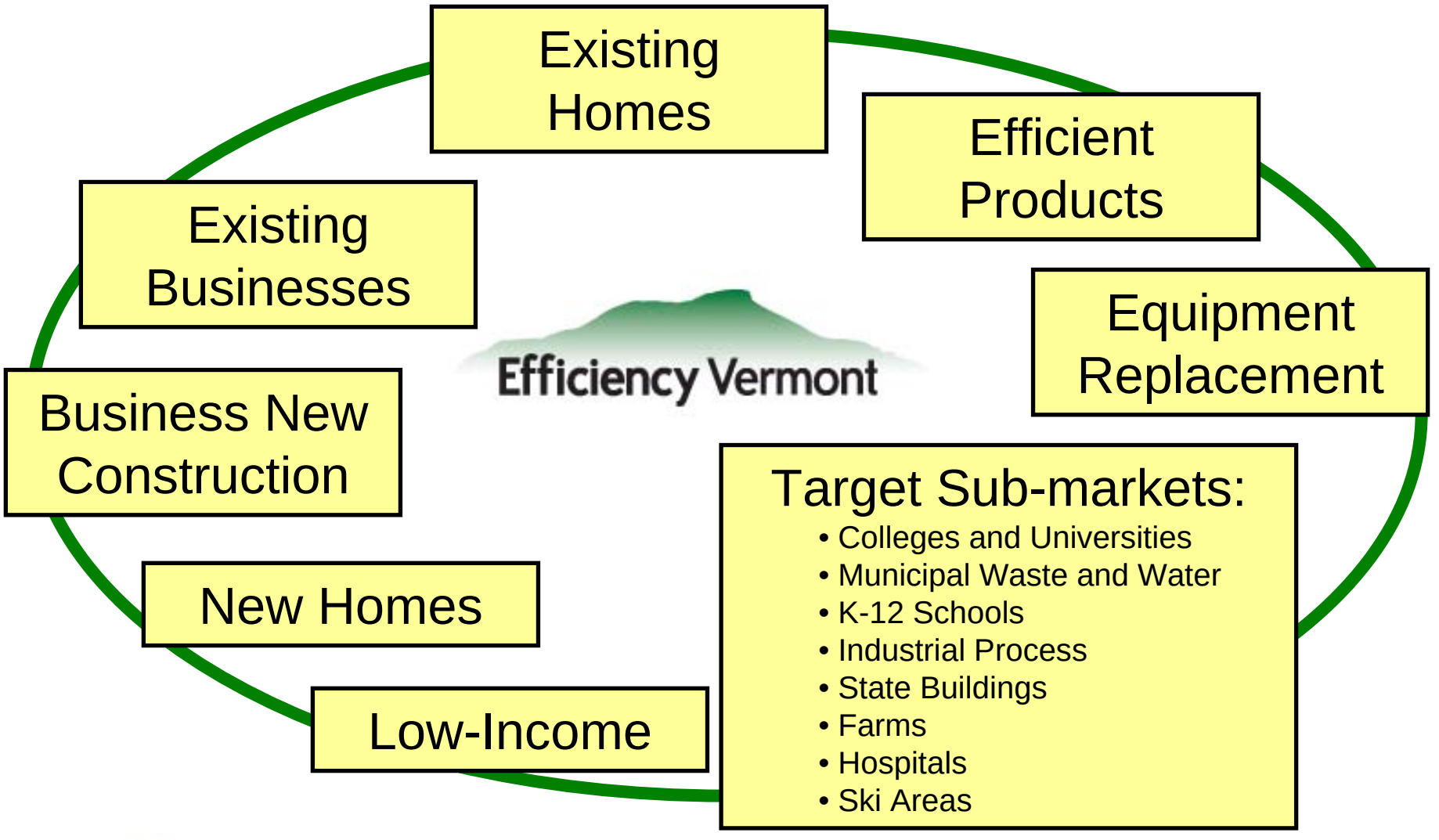
A Contract for *Results*

- Efficiency Vermont's current 3-year contract is for:
  - 360,000 MWh of annual energy savings (262,000 MWh in previous 3-year contract period)
  - 50 MW of Summer and Winter Peak reduction
  - $342 million in economic benefits
  - And other measurable indicators

A New Structure Is Being Considered

- “Order of Appointment,” similar to a utility franchise, for up to 12 years
- Longer term allows for more effective engagement in areas such as market transformation, forecasting, and pursuit of more comprehensive savings
- Performance-based mechanisms for evaluation and compensation are retained
- Relationship with regulators is made consistent with that of other utilities
- Hearings held September 2009 – decision to come by year’s end

What Markets Do We Work in?



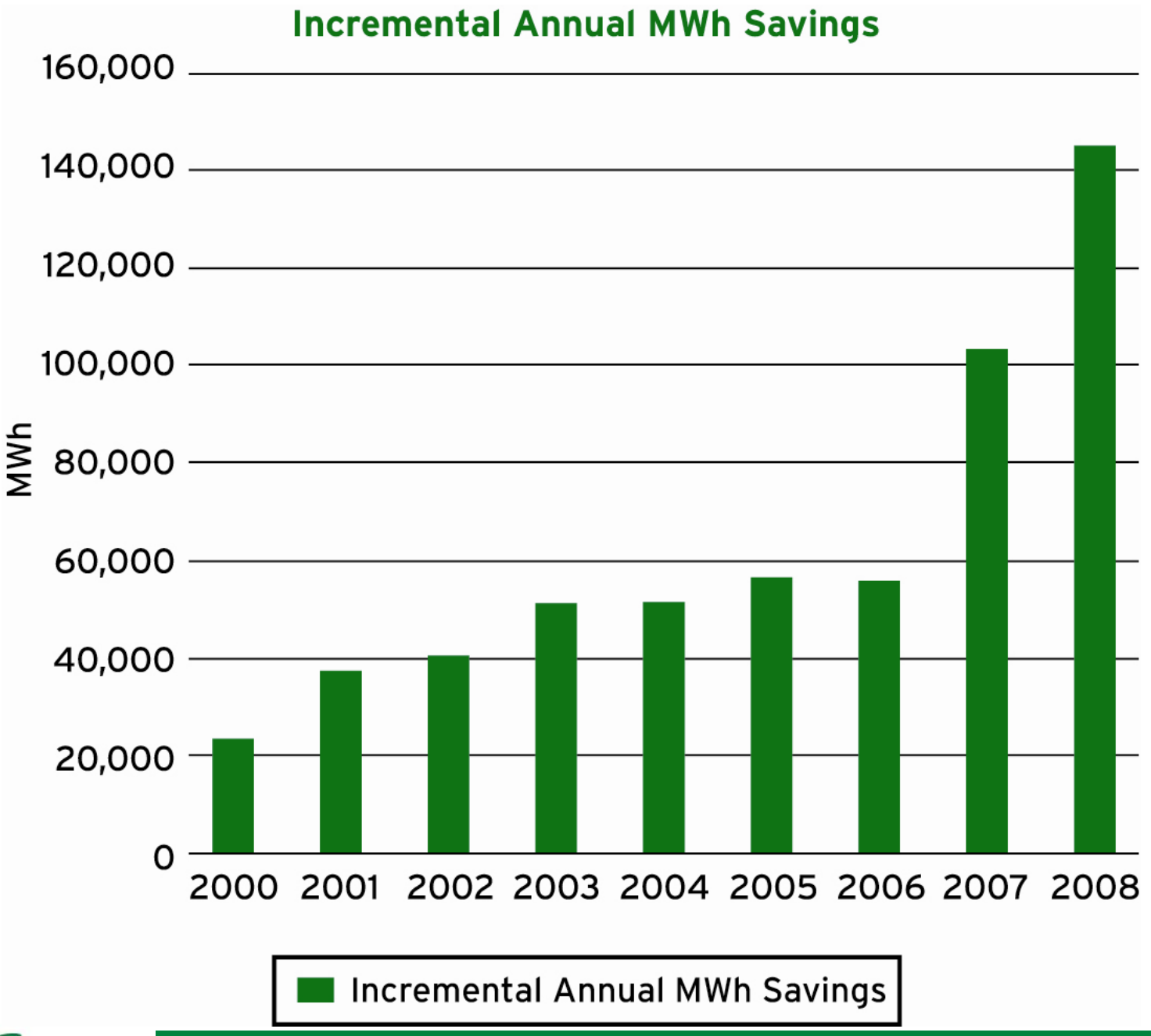
What Does Efficiency Vermont Do to Obtain Energy Savings?

Technical Assistance

- Public energy information, education and promotion
- Expert advice on design, equipment and technology selection
- On-site consultation and custom Analysis for large users
- Cash flow and investment analysis
- Training – suppliers, architects, builders, operators, contractors
- Commissioning assistance

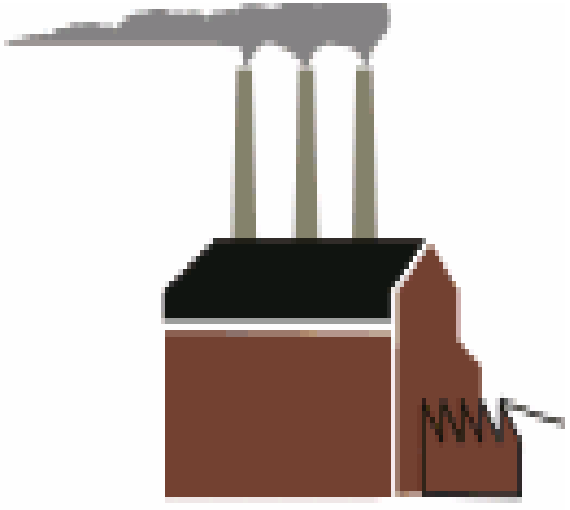
Financial Incentives

- Cash incentives, rebates and buy-downs
- Financing assistance – low-interest loans, loan guarantees
- Direct installation at no cost to targeted customer groups


Incremental Annual MWh Savings
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
MWh
2000
2001
2002
2003
2004
2005
2006
2007
2008
Incremental Annual MWh Savings

Efficiency Vermont's approximate cost of electric efficiency 3.1¢ / kWh

Approximate cost of comparable electric supply 14¢ / kWh



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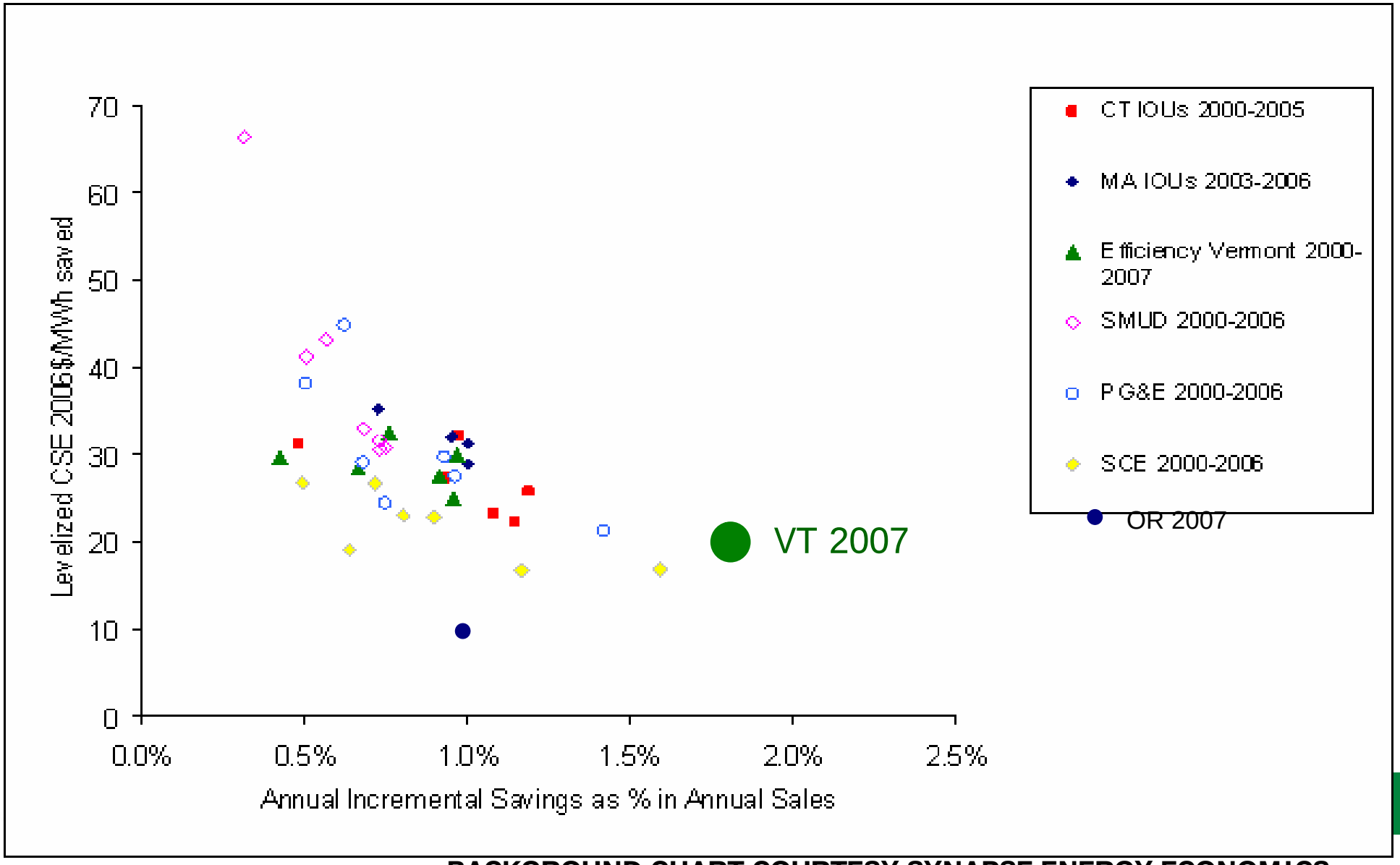
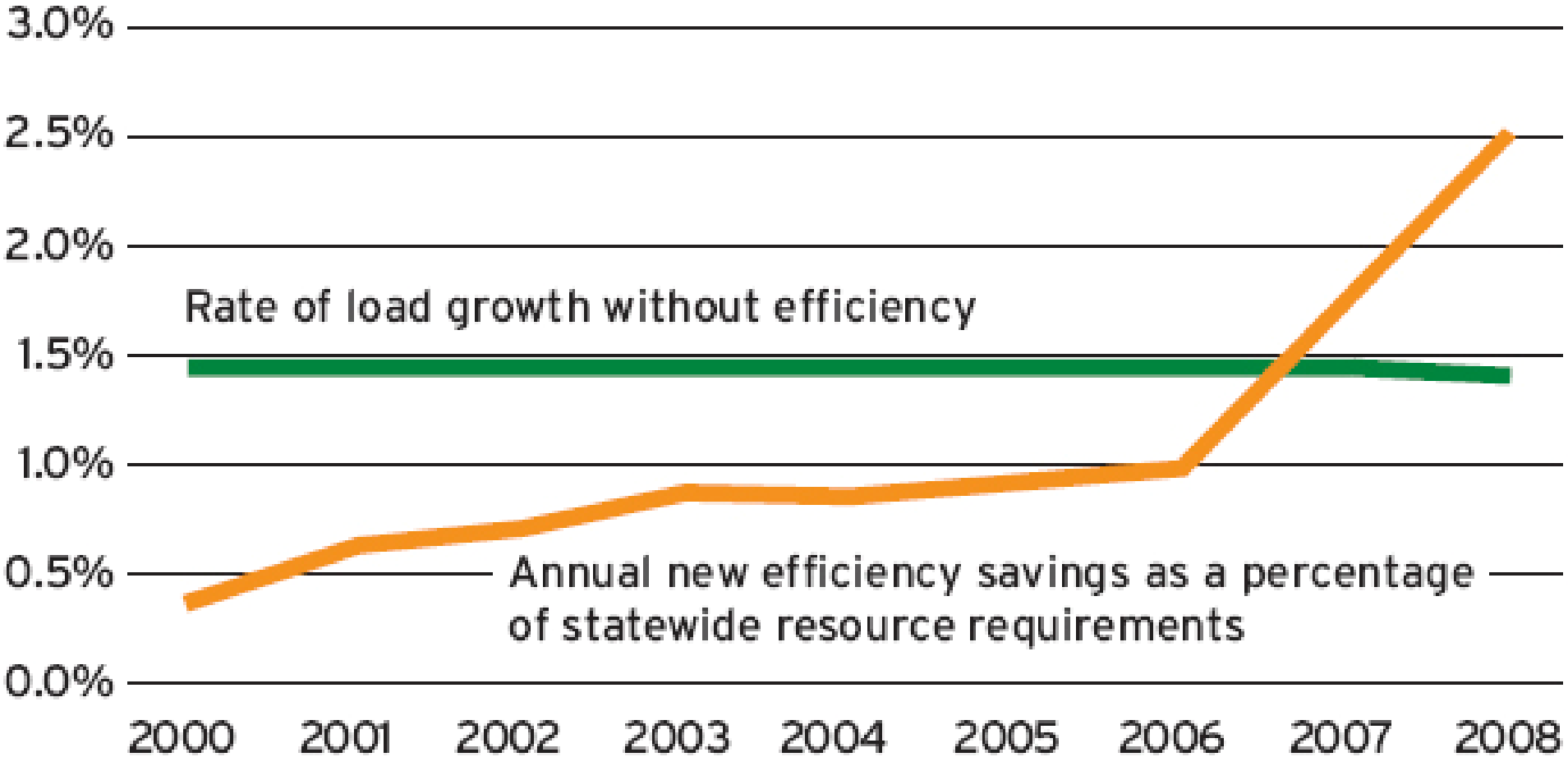
Cost and Savings Performance



BACKGROUND CHART COURTESY SYNAPSE ENERGY ECONOMICS

Energy Savings vs. Projected Load Growth



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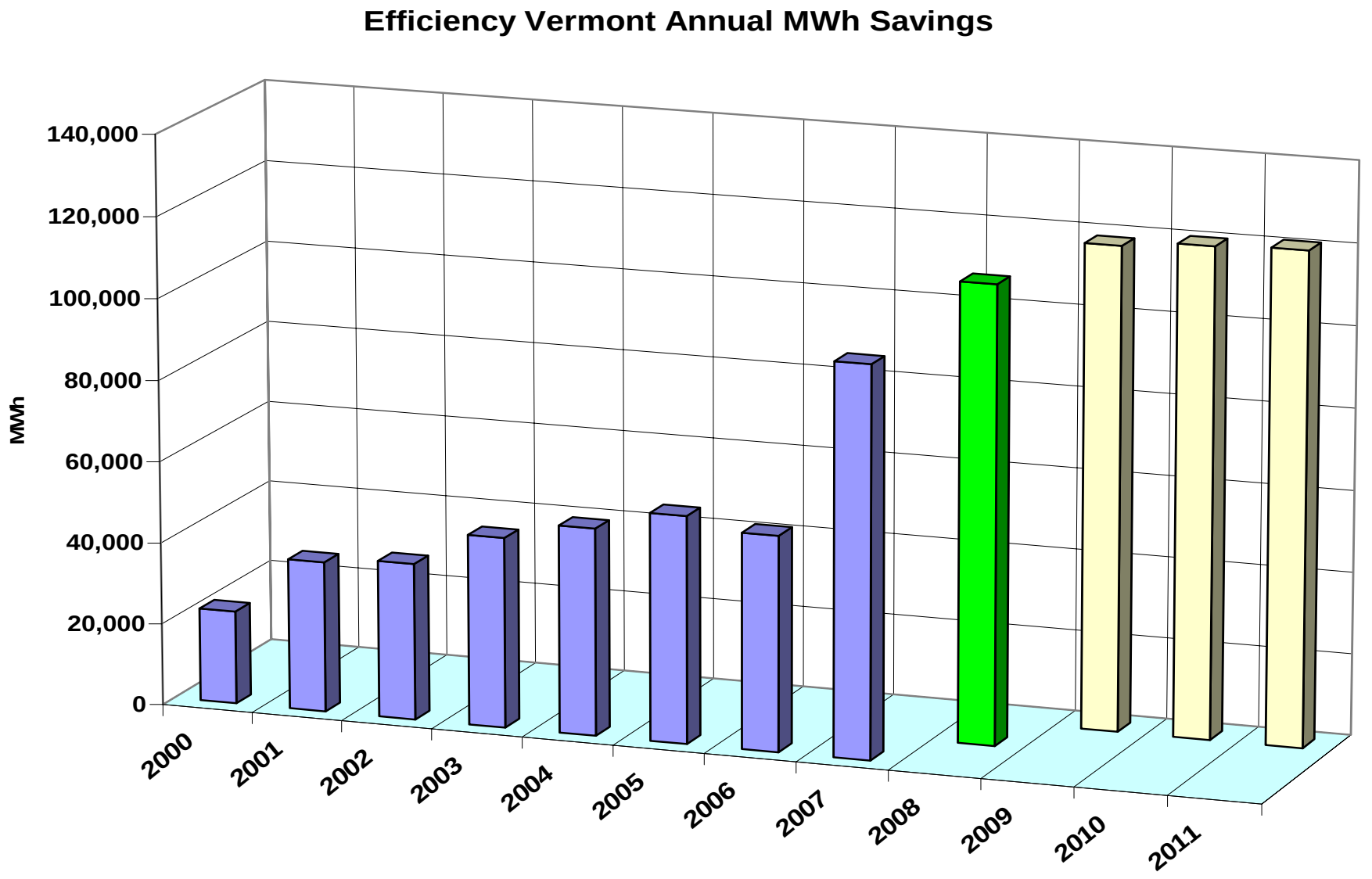
your resource for energy savings

Plans for 2009-2011

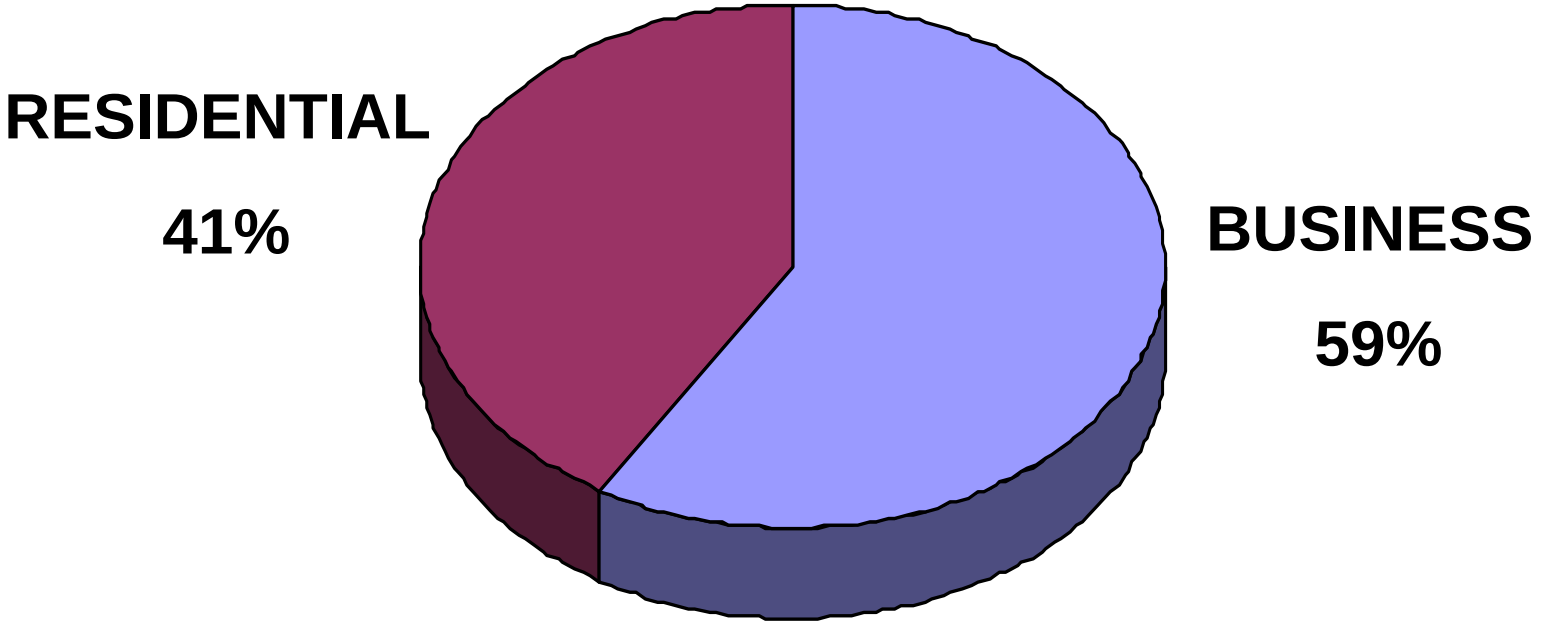
Historic and Projected Savings



Efficiency Vermont Budgets for 2009 - 2011

Year	Electric Services and Initiatives	Unregulated Fossil Fuel Services and Initiatives	TOTAL
2009	$25.5 M	$1.0 M	$26.5 M
2010	$28.9 M	$1.9 M	$30.8 M
2011	$33.1 M	$1.6 M	$34.7 M

Efficiency Vermont Budget Allocation by Sector, for 2009-2011



2009-2011 Performance Goals

Performance Indicator	Contract Goals
Total annual MWh savings	360,000
Total resource benefits	$342,400,000
Summer peak MW savings	51.2
Winter peak MW savings	54.0
Target area summer peak MW	8.1
Target area winter peak MW	2.4

What's New for 2009 – 2011?

- New technology
- New financing options
- New initiatives for unregulated fossil fuels
- Expand on the success of Account Management for large business customers
- Changes in geographically targeted initiatives
- Higher-tier efficiency in new construction
- Focus on deeper and more comprehensive savings

Technology Innovations

- Higher-efficiency fluorescent lamps with lower mercury and more specialty applications
- Transition to LED technology in all lighting applications
- Compressed air system efficiency innovations
- Smart power strips
- In-home displays of consumption and cost
- New initiatives on efficient consumer electronics, including TVs
- Higher-tier efficiency in appliances
- Net-zero and micro-load buildings
- High-efficiency water heaters

New Financing Options

- Enhanced, custom financial analysis for business customers
- State Treasurer / TD Banknorth & VHFA low-interest loans
- More participating lenders with loans for comprehensive, all-fuels home energy improvements
- VEDA loans for major business energy efficiency
- Developing other new business loan partnerships with Vermont banks and credit unions
- Development of new, innovative financing mechanism:

  " PROPERTY ASSESSED CLEAN ENERGY" (PACE)

Property Assessed Clean Energy (PACE)

- Authorized by the Vermont Energy Act of 2009
- Voluntary mechanism allowing individuals to opt in to a special assessment district created by their municipality
- Eligible energy efficiency and / or renewable energy improvements are funded by taxable municipal bonds or other municipal debt
- Repayment period up to 20 years — may not exceed projected life of improvements
- Special assessment fees transfer to the new owner when the property is sold, or assessment obligation can be paid in full at time of transfer.

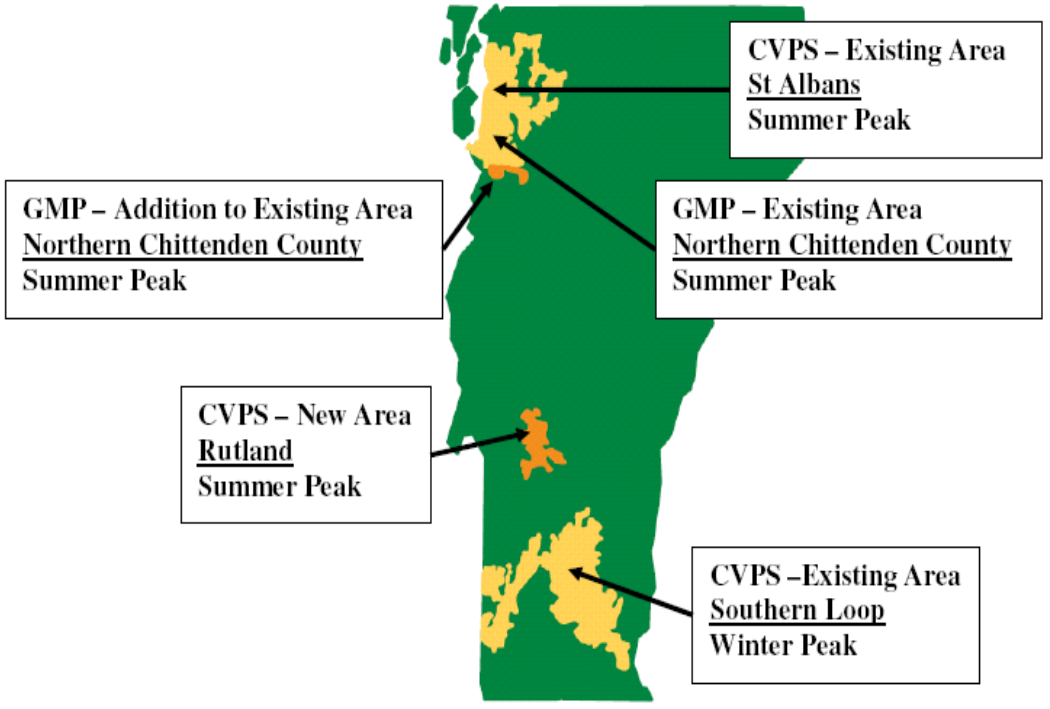
New Initiatives for Unregulated Fossil Fuels

- Funded by ISO New England Forward Capacity Market revenues
  - Projected net revenues of $1.3 million in 2009 ($5.2 million total for 2009-2011)
- Allows more integrated, comprehensive (electric and non-electric) energy efficiency services and initiatives, by funding efficiency in oil, propane, and kerosene heating
- Focused on achieving Vermont's statutory building energy efficiency goals
- Should complement RGGI-funded unregulated fuels initiatives

Expanded Account Management
Custom Technical and Financial Assistance for Large Business Energy Users

- Enhanced account management services to all **65** largest business accounts
- Expand account management services to **300** additional businesses during 2009-2011
- Expected 2009-2011 savings from managed accounts of **81,500** MWh, or **23%** of total expected savings

Geographic Targeting in 2009-2011



- Continue energy efficiency efforts targeted to customers where T&D systems are at or near peak load capacities
- Small changes to areas to be served
- Expand target groups for direct installation services
- Seek greater depth of savings
- Adjust incentive offers and increase use of financing

Direct Installation in Geographic Targeting Areas

More than 1,500 participants expected

- Projected savings of 16,000 MWh for 2009-2011
- Targeted to commercial customers
- Moving to cost sharing and expanded eligibility criteria
- Estimated delivery of $9.5 million in products and services
- Involves dozens of Vermont service and installation companies

Higher-tier Efficiency in New Construction

- Introduction of new higher-tier home efficiency standard tied to LEED and other green rating systems
- New computer tools and guidelines to support advanced commercial building energy design
- Support development of next code updates
- Demonstration of “net zero” and micro-load buildings
- Support technical information exchange through Efficiency Vermont website

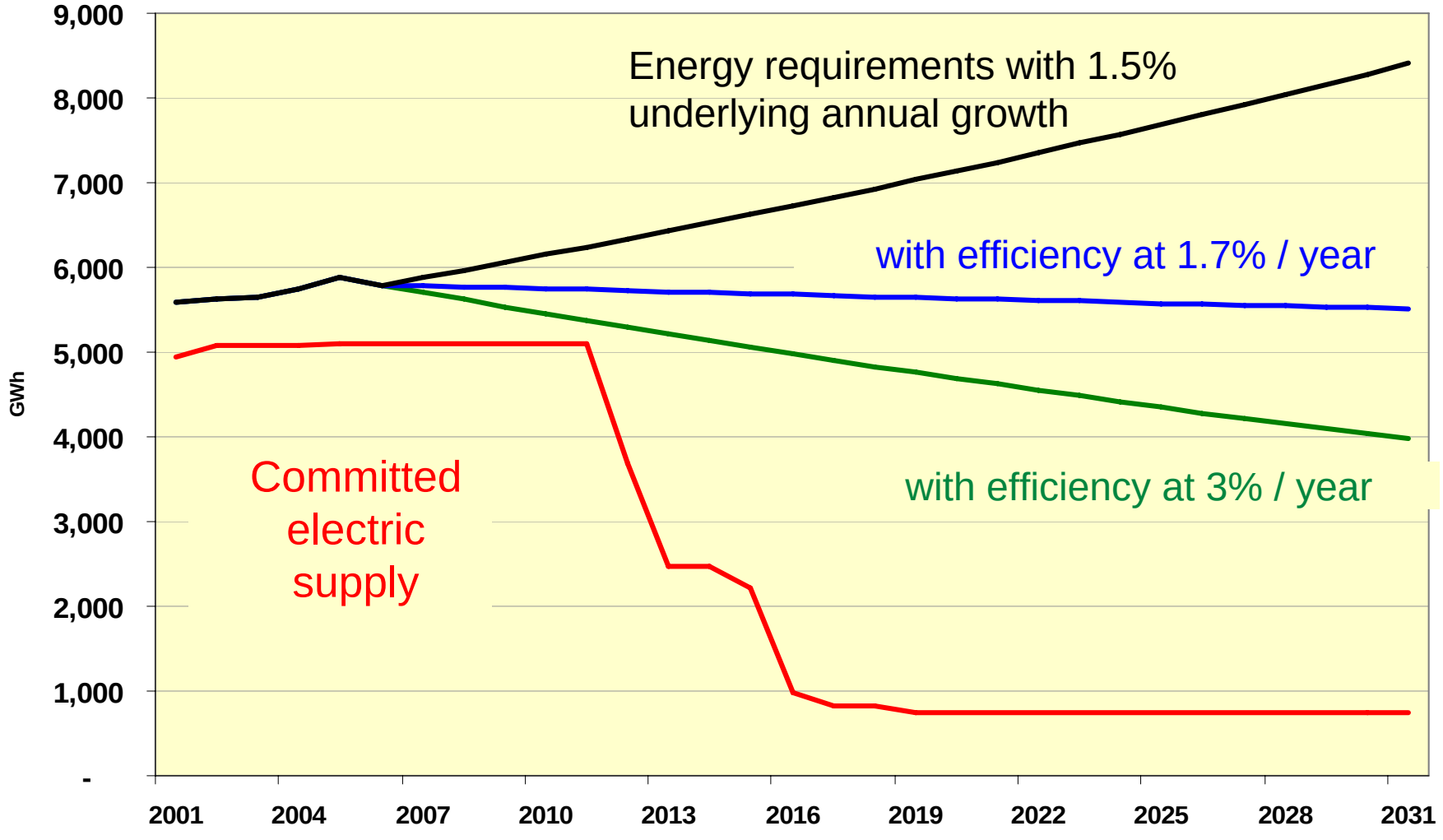
Focus on
Deeper and More Comprehensive Savings

- Refinement of services and initiatives to achieve savings levels consistent with statutory building efficiency goals
- Pursuit of more comprehensive savings: all cost-effective measures for all fuels
- Development of indices to measure depth and comprehensiveness of savings
- Adoption of performance indicators and goals for depth and comprehensiveness of savings

Savings Verification

- Foundation is Efficiency Vermont data system and internal quality assurance systems
- Established, documented process for savings assumptions and calculations (*Efficiency Vermont Technical Reference Manual*)
- Annual savings verification performed by Vermont Department of Public Service
- Monitoring and Verification Plan is formally approved by Vermont Public Service Board
- Savings accepted for capacity payments from ISO New England in Forward Capacity Market (from December 2006 onward)

Potential Impact of Energy Efficiency on Vermont's Future Electric Needs



Efficiency Vermont

Thank you!

Efficiency Vermont

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Questions or Comments

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Minimum Performance Requirements for 2009-2011

Minimum Performance Requirement	Standard to Be Met
Ratio of gross electric benefits to spending	1.2
2009-2011 spending for residential customers	$19.7 million
2009-2011 spending for low-income customers	$6.3 million
Number of small business customers served	700
Minimum of total resource benefits received by each county	Proportional to Energy Efficiency Charge payments

Accountability and Oversight

- Public Service Board establishes the budget, goals, and terms of the Efficiency Vermont contract
- Vermont Department of Public Service, on behalf of Vermont ratepayers, provides critical review and oversight of Efficiency Vermont, including program evaluation
- Energy Efficiency Utility Advisory Committee, established by the PSB, provides additional review and oversight
- Rigorous, independent financial audit – OMB A-133
- 3rd-party audit conducted every 3 years and reported to Legislature

Property Assessed Clean Energy (PACE)

The Vermont Energy Act of 2009 authorized the creation of "Clean Energy Assessment Districts" (CEADs)

- Voluntary mechanism allowing individuals to opt in to a special assessment district created by their municipality.
- Eligible energy efficiency and / or renewable energy improvements are funded by taxable municipal bonds or other municipal debt
- Repayment period up to 20 years--may not exceed projected life of improvements
- Special assessment fees transfer to the new owner when the property is sold, or assessment obligation can be paid in full at time of transfer.

Property Assessed Clean Energy (PACE) program

Benefits for Vermont Property Owners

- Overcomes a key financial hurdle for EE & RE investments
- Incremental special assessment payments are low and fixed for up to 20 years, with no upfront cost
- No costs to property owners who do not participate.
- Electricity and fuel bills are lower than they would be without the improvements
- The implementation of PACE in each municipality requires a public vote
- Each municipality will have to make decisions about the parameters of their particular program.

Property Assessed Clean Energy (PACE) program

Benefits to Vermont's Cities and Towns

- Can use PACE to become more self-reliant and energy efficient
- Contribute to meeting community sustainability, climate, and energy goals
- Provides a valuable public service to the members of their community.

Property Assessed Clean Energy (PACE) program

Benefits to Vermont's Economy

- Could inject millions of dollars directly into the Vermont economy to make lasting energy and building infrastructure improvements
- Would provide a steady and growing demand for energy efficiency installers, as well as installers of small-scale renewable energy systems
- Helps to establish a steady and predictable demand for energy efficiency and renewable energy products, helping suppliers and retailers expand their businesses