Regional Energy Efficiency Initiative

March 5, 2009

Eric Wilkinson & David Ehrlich
ISO New England

New England's Electric Power System

- 6.5 million electricity customers; population 14 million
- 350+ generators
- 8,000+ miles of high-voltage transmission lines
- 13 interconnections with systems in New York and Canada
- 31,000+ megawatts of total supply (summer)
- 2,029 MW of demand response (12/08)
- Peak demand:
  - Summer: 28,130 megawatts (8/06)
  - Winter: 22,818 M W (1/04)
- 300+ participants in the marketplace
- $10 billion electric energy market

Evolution of the New England Power System

- Shifting from reliance on traditional generation resources to greater reliance on alternative resources
  - Demand Resources, renewable resources, storage devices and other “smart grid” resources
  - State initiatives promote significant growth in these resources, including energy efficiency, over time
  - Understanding the magnitude of these resources is essential

Regional Energy Efficiency Initiative

- **ISO-NE Goals**:
  - Listening
  - Better understand the long-run impact of state-sponsored energy efficiency programs
  - Develop the most complete data set possible to serve as a resource for future analysis

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- **ISO-NE Goals (cont.)**:
  - Inform all stakeholders
  - Aggregate information on a regional basis
  - Provide greater transparency for stakeholders

Regional Energy Efficiency Initiative

- **Process**:
  - Meeting to hear from states today
  - Future meetings to hear from utilities and others on implementation as necessary
  - Summarize findings for 2009 Regional System Plan

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- **Process**:
  - Materials will be posted to our web page
  - Email distribution list will be created for communication

Regional Energy Efficiency Initiative

- **Today's Agenda**:
  - **State Agency Presentations**
    - Mike Sherman, MA DOER
    - Blair Hamilton, Vermont Energy Investment Company
    - Rich Steeves, CT Office of Consumer Counsel
  - **Lunch**
  - **State Agency Presentations (cont.)**
    - Denis Bergeron, ME PUC (via phone)
    - Tom Frantz, NH PUC (via phone)

Regional Energy Efficiency Initiative

- **Useful information for ISO analysis:**
  - Detailed description of the program/initiative
  - Expected program lifetime
  - Who will implement
  - Funding
  - Expected annual energy and seasonal peak savings (weekdays, 6-7pm in the winter, 2-5 pm in the summer**)**
  - Any time of year, time of day, locational or peak differences in energy savings
  - Assessment of risks
  - Potential Impact of Federal Stimulus Package

Regional Energy Efficiency Initiative

- **Contacts**

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Massachusetts Department of Energy Resources

Creating A Greener Energy Future For the Commonwealth

DOER Update :
Regional Energy Efficiency Initiative

Mike Sherman
Director Energy Efficiency Programs
Mike.Sherman@State.MA.US

March 5, 2009

DOER Mission

Creating a Greener Energy Future for the Commonwealth - economically and environmentally, including:

- Achieving all cost-effective energy efficiencies,
- Maximizing development of greener energy resources,
- Creating and leading implementation of energy strategies to assure reliable supplies and improve relative cost, and
- Supporting clean tech companies and spurring clean energy employment.

MA Initiatives

- **Executive**
  - LBE
    - 35% reduction by 2020
  - RGGI
    - Funding efficiency expansion
  - Renewables
    - PV: 250 MW by 2017
    - Wind: 2000 by MW 2020
  - ZNEB
    - Performance based outcomes
    - 5 homes
    - Pilot retrofit super insulation
  - CERT/Energy Leaders
    - competitions
  - MEPA
- **Legislation**
  - Green Jobs
    - Clean Energy Center
    - Energy Efficiency Innovation Institute
  - Ocean Management
  - Clean Energy Biofuel
  - Green Communities
    - Building Codes
    - Inspector Training
    - Least cost procurement
    - Community challenge grants
    - Renewables/net metering
  - Global Warming Solutions
    - 80% GHG reduction by 2050

Commonwealth Solar

- Enable MA PV market to grow ~40% per year to achieve ***250 MW by 2017***
- First installment: $68 million over 4 years – 28MW
- Streamlined non-competitive rolling rebate
- Rebates generally ~40% of PV system up to 500 kW
- First year accomplishments
  - $22 million awarded; 7.2 MW; 539 projects
  - Installers and contractors tripled from 51 to 154

Net Zero Energy Buildings

"Less energy usage isn't enough, We have to set our sights not higher, but lower – all the way to zero." **Governor Patrick**

Task force recommendations that would:

- issue specifications for the first state-owned Zero Net Energy building by January 1, 2010;
- specify an interim standard for state owned construction that is significantly more stringent than current
- point the way toward broad marketability of Zero Net Energy residential and commercial buildings by 2020, and universal adoption of Zero Net Energy buildings for new construction by 2030.

"With integrated planning and design, energy-efficient buildings do not have to cost more to build than the status quo,"
Deborah Rivers, Perkins+Will, a leading sustainable design firm.
In fact, green buildings save money over time."

Green Communities Act on Efficiency

- Procure all demand resources that are less expensive than supply funded by SBC, FCM, RGGI, NOx, other
- Energy Efficiency Spend to increase by 3-4 times
- Energy Efficiency Advisory Counsel
  - 11 members; specified composition
  - 5 year term
- Clear timetable for 3 year plans
  - Submit to Counsel by April 30 and to DPU by Oct 31
  - 90 days for DPU decision
- Adopts IECC for building codes w/ automatic updating w/ inspector training and certification
- Performance commissioning for commercial new buildings (>10,000 sq. ft)
- Home energy audit information provided to buyers

Green Communities

- Provide technical and financial assistance to communities for efficiency and renewables
- Criteria for a Green Community
  - Provide as-of-right siting for renewables
  - Expedited permitting
  - **Reduce energy consumption by 20% w/ in 5 years from established baseline**
  - Purchase only fuel efficient suitable vehicles
  - All construction achieves minimum lifecycle cost via efficiency, water conservation and renewables
- Funded up to $10 million/yr from RGGI and NOx, SBC, ACP and MRET
- Muni Light Plant opt-in provision to MRET

Global Warming Solutions Act

- Requires GHG Emissions reduction of 10 to 25% by 2020
- 80% reduction in greenhouse gases from 1990 levels by 2050
- Interim emissions limits for 2030 and 2040
- Establishes a regional greenhouse gas registry and reporting system for emissions sources
- Requires ongoing records of all greenhouse gas emissions
- Requires addressing adaptation
- EOEEA Secretary to convene an advisory committee and file a report of recommendations no later than December 31, 2009

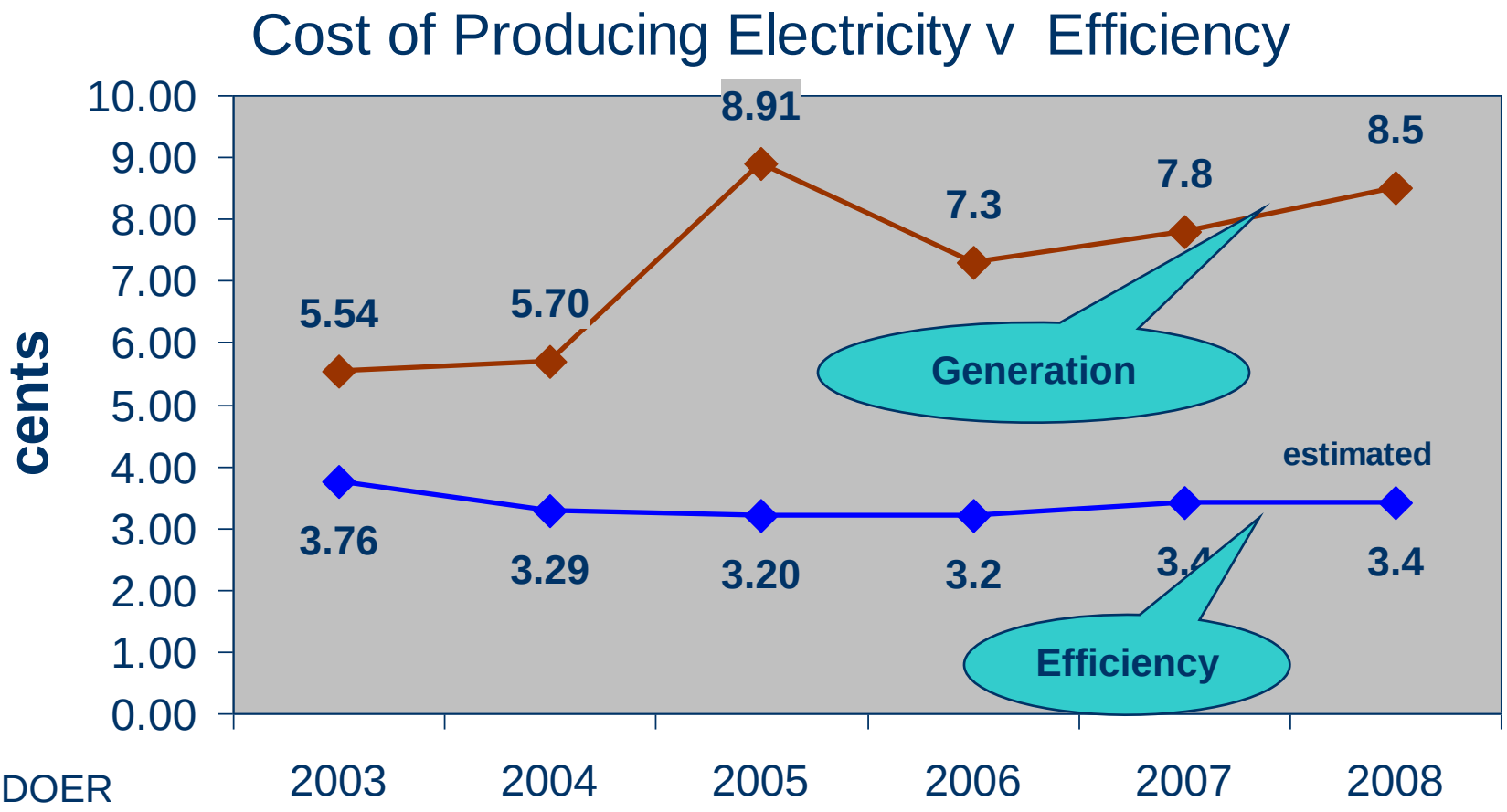
More Resources Under GCA

- 2001-2009 Systems Benefits Charge at 2.5 mils/ kWh sold
  - $125 Million/yr for utility energy efficiency,
  - average of $450 MWh, 60 MW
- GCA keeps the SBC and adds:
  - FCM ~ $10 Million/yr
  - RGGI - $5.9M for 2008 supplement and up to about $50M for 2009
  - Distribution Charges if needed
  - **2009 Total $180 Million**
  - A DPU Order authorizes a decoupling process which will result in rate cases for each of the Investor-Owned Utilities

DOER
Massachusetts Department of Energy Resources

Efficiency is the low cost option

Creating A Greener Energy Future For the Commonwealth

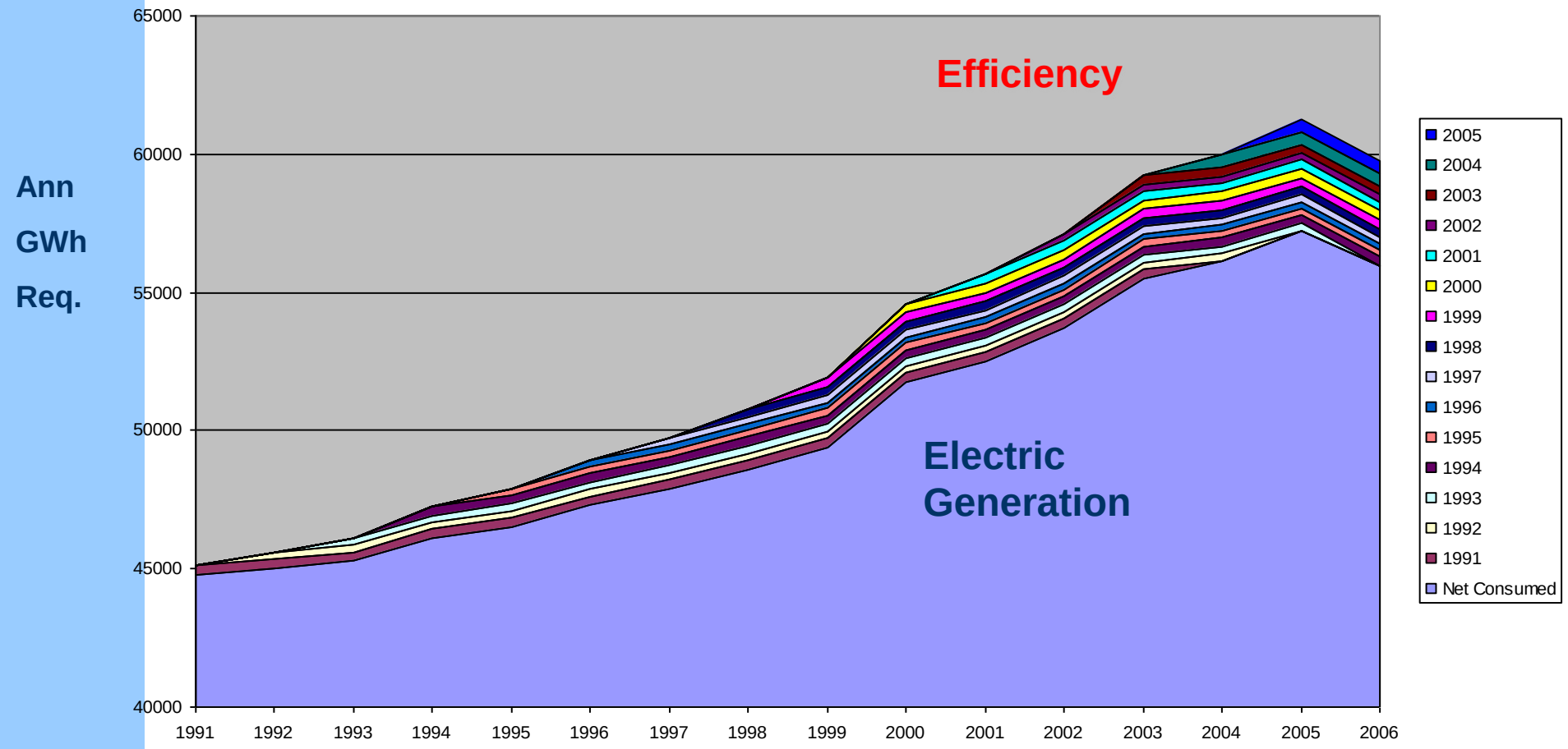


Source: DOER

DOER
Massachusetts Department of Energy Resources

Creating A Greener Energy Future For the Commonwealth

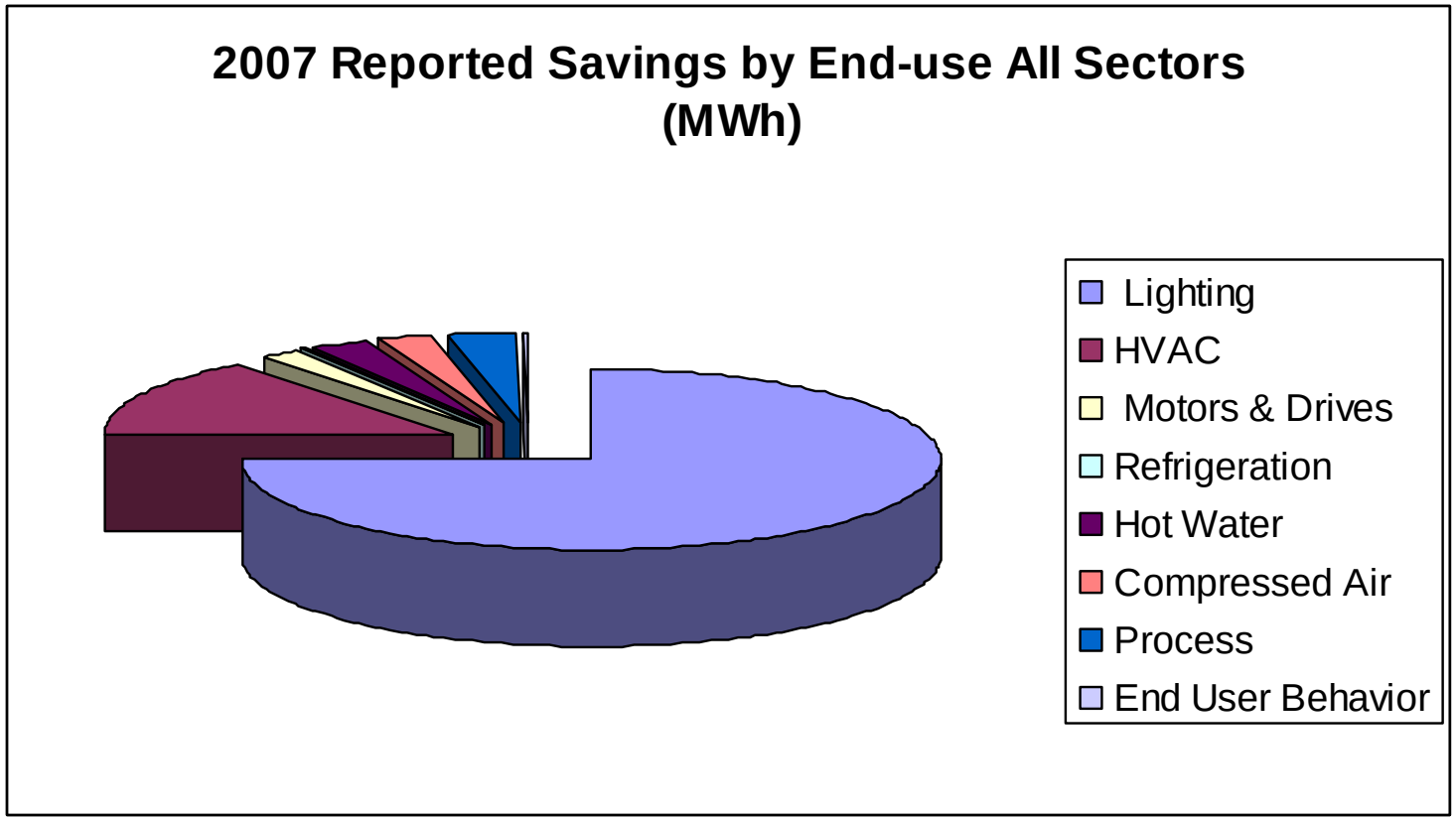
Historically Efficiency provides 8% of our total electricity needs



Program Priorities

- Emphasis is on energy savings rather than capacity
- Programs in all customer sectors
  - Retrofit and new construction
  - Emphasis on market transformation but increasing emphasis on resource acquisition
  - Increasing emphasis on
    - Plug loads
    - Increased Residential in new construction and existing homes
    - Revamping all programs to get broader and deeper savings
- Lighting and HVAC continue to dominate savings

Where do we get our savings?



Lighting comprised 75% of all savings in all sectors

Savings 2003-2007, planned 2008-09

	Annual MWh	Summer kW
2003	317,571	55,696
2004	442,164	67,228
2005	454,726	58,277
2006	417,031	58,690
2007	489,622	59,719
2008 plan	390,625	63,788
2009 plan	519,347	83,996

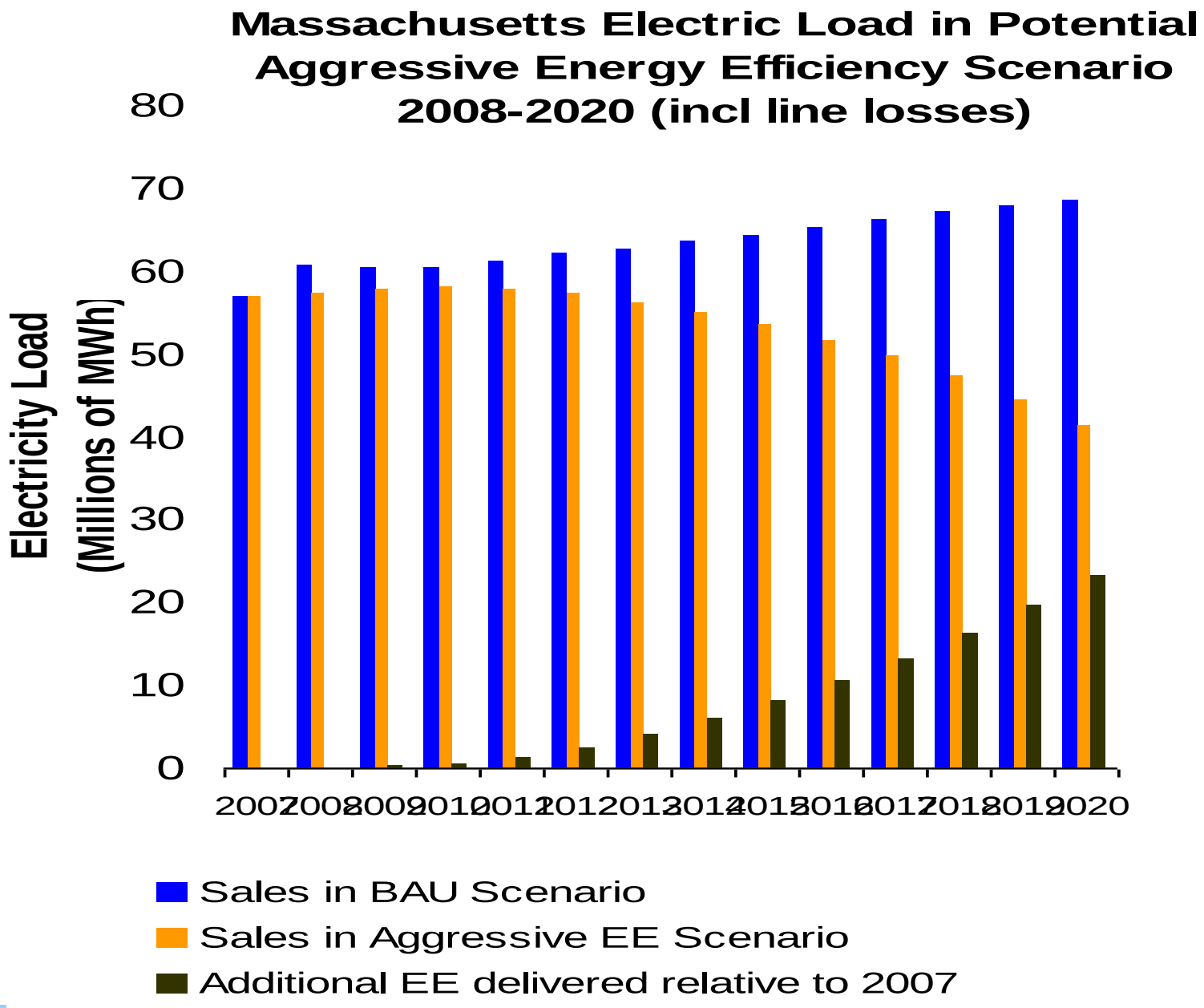
Where do we intend to go?

- The Green Communities Act requires utilities to first acquire “all available cost-effective energy efficiency that is less than the cost of supply.
- The Global Warming Solutions Act requires reductions of 10 to 25% by 2020 and 80% by 2050.
- DOER goal: meet electric load growth needs through energy efficiency

Utility efficiency is the largest part

Goals include:

- Ramping up programs starting with 2010-2012 programs
- Re- conceptualizing delivery to comprehensively capture customer opportunities
- Deployment of CHP, Geothermal, other new technologies
- Adoption of IECC codes and automatic updates including 2009


Massachusetts Electric Load in Potential Aggressive Energy Efficiency Scenario 2008-2020 (incl line losses)
Electricity Load (Millions of MWh)
80
70
60
50
40
30
20
10
0
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
Sales in BAU Scenario
Sales in Aggressive EE Scenario
Additional EE delivered relative to 2007

MUCH More to be done

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Vermont's State-Sponsored Efficiency Resource Acquisition

Regional Energy Efficiency Meeting at ISO-NE

Blair Hamilton

March 5, 2009

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Since 2000, All Ratepayer-Funded Acquisition of Efficiency Resources has been Implemented Through a Statewide "Energy Efficiency Utility"

Efficiency Vermont

your resource for energy savings

Efficiency Vermont
your resource for energy savings

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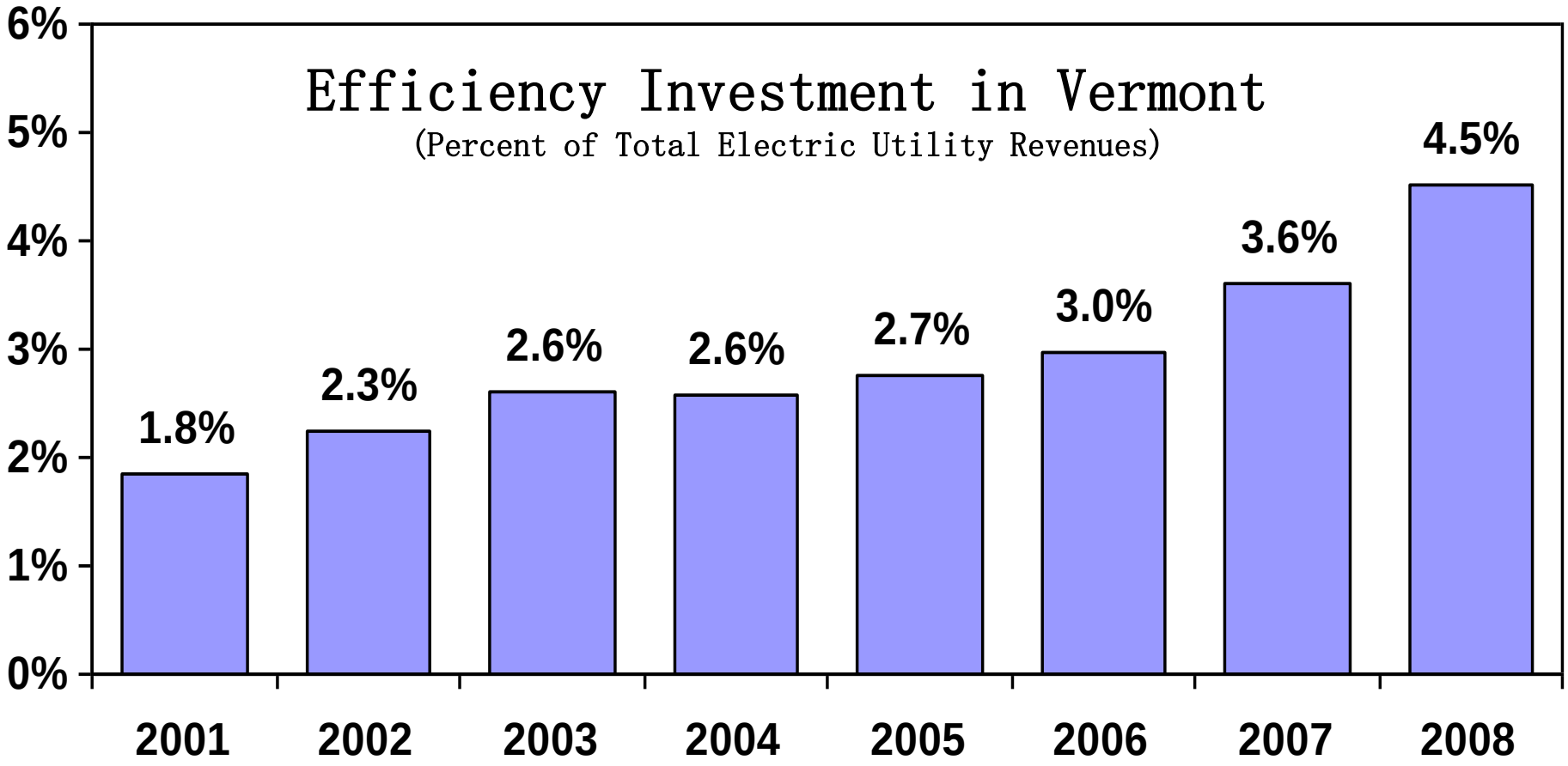
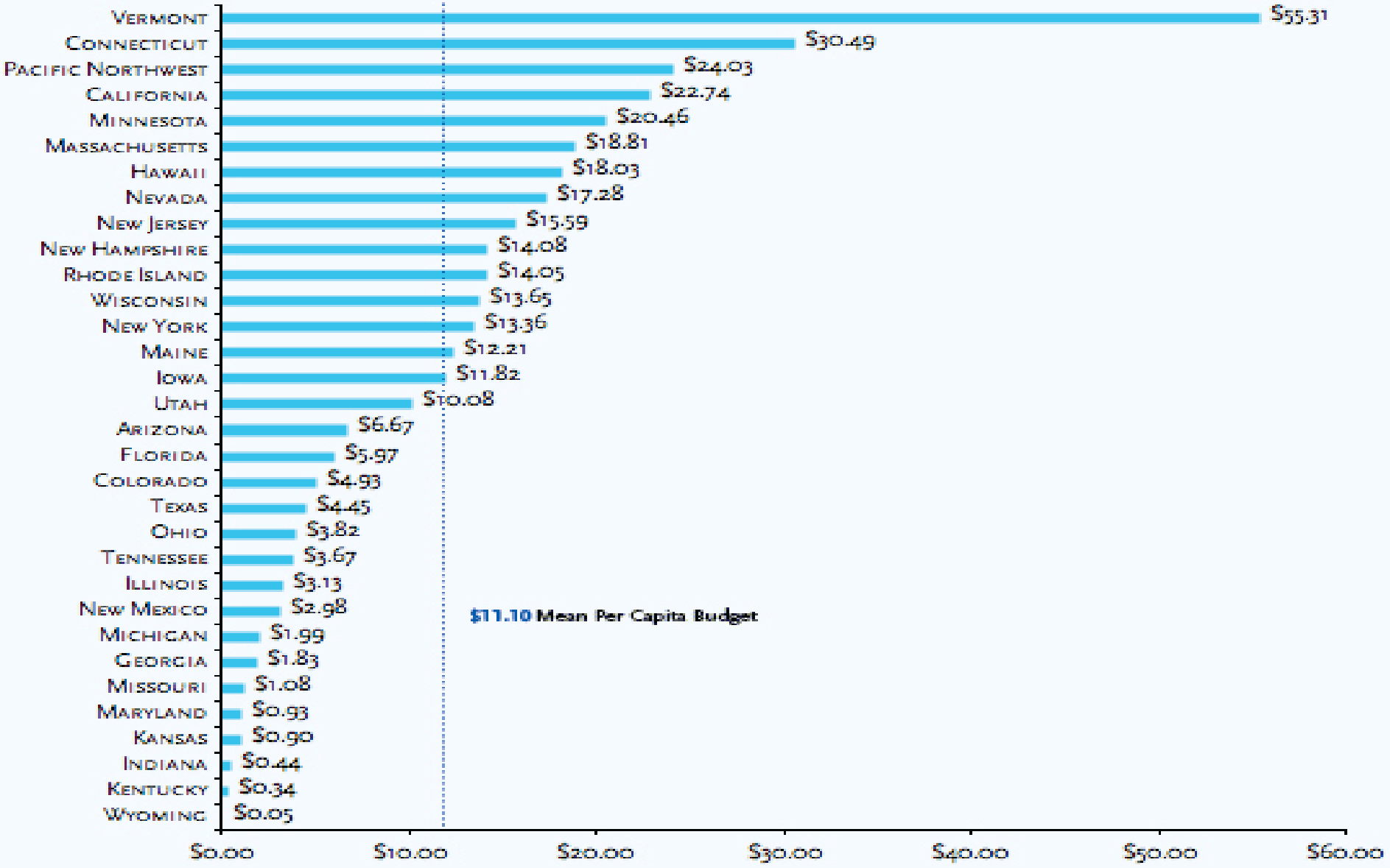
Funded, at a level determined by Vermont Regulators, through a volumetric charge paid by all retail electric customers in the State



UNITED STATES

2008 Per Capita Budgets, Electric Programs

Excluding Load Management



Nevius M, Krouk J, Griffith S, Lasky C, "Reaching Higher: Annual Industry Report 2008," Consortium for Energy Efficiency, 2008.

Efficiency Vermont
your resource for energy savings

VERMONT ENERGY INVESTMENT CORPORATION

Delivered by:

1. Burlington Electric Department in Burlington
2. A competitively-solicited contractor for the rest of the State:

VERMONT ENERGY INVESTMENT CORPORATION

- A non-profit energy services firm founded in 1996
- Nationally-recognized experts on energy efficiency program design and implementation

Efficiency Vermont
your resource for energy savings

VERMONT ENERGY INVESTMENT CORPORATION

An Infrastructure to serve 340,000 electric customers in Vermont:

- A legislative and regulatory framework
- Systems to assure accountability and performance
- Over 150 staff
- Over 40 subcontractors
- Hundreds of partners that provide energy efficiency products and services

What is the Basic Mechanism?

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A Contract to Supply Energy Efficiency Resources

- Model is similar to a power supply contract
- KWh and Peak KW are "purchased" from the Efficiency Vermont contractor
- Efficiency Vermont is a competitively-bid three-year contract with Regulators that includes:
    - Minimum Performance Requirements
    - Measurable Performance Indicators
    - A significant financial holdback to assure contactor performance

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A Contract for *Results*

2009-2011 contract is for $100 million of energy efficiency resources:

- 360,000 MWh of incremental annual energy savings
- 50 MW of incremental summer and winter peak reduction
- $342 million in net economic benefits
- And other measurable indicators

What Markets Does Efficiency Vermont Work In?

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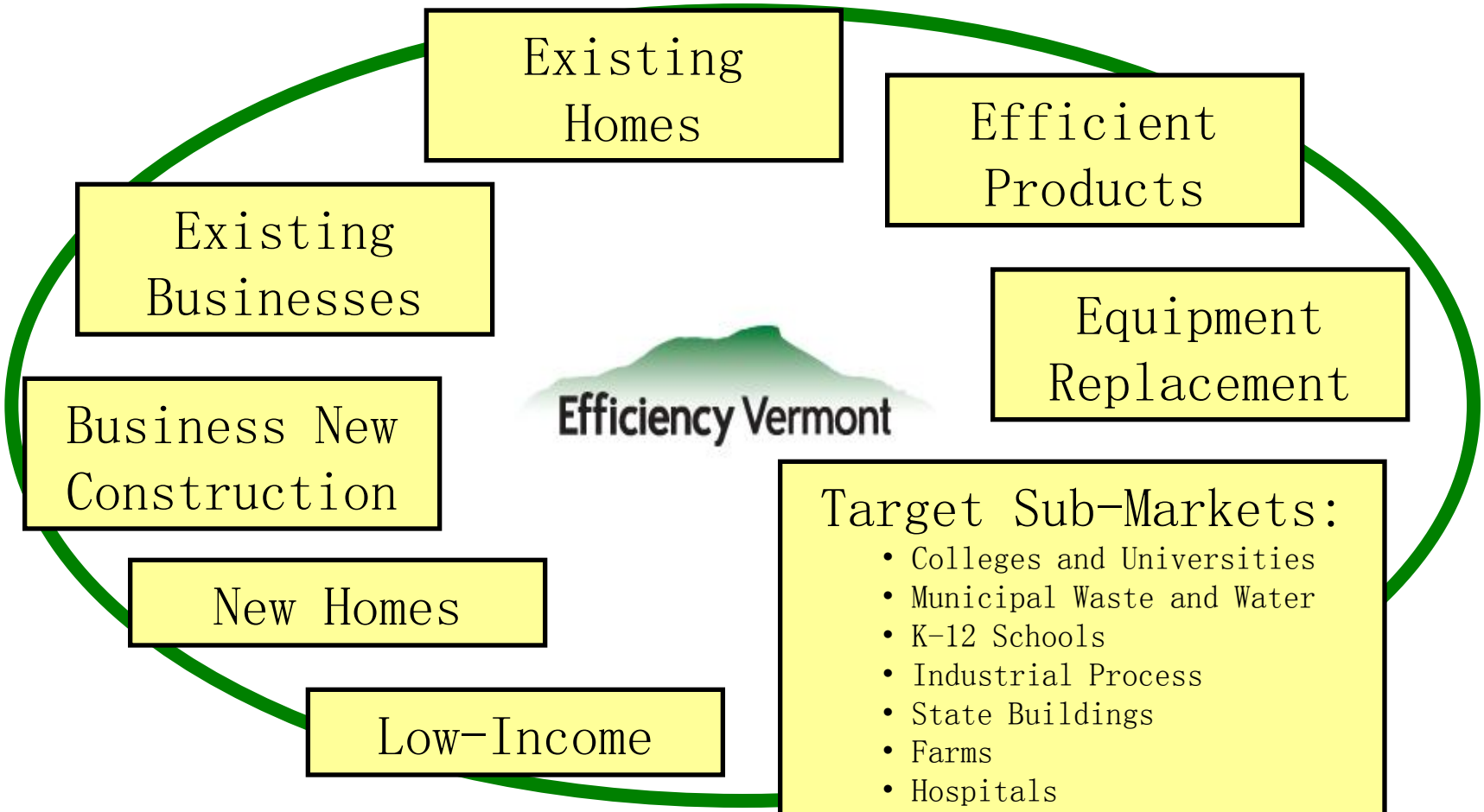

What Does Efficiency Vermont Do to Obtain Energy Savings?

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1. Work with Vermont energy users to help them make cost-effective improvements to their homes, businesses and institutions
   - Residential, business and industrial customers

2. Work with a broad network of Vermont product and service providers so that the market will increase the design, specification, sale and installation of energy-efficient products, equipment and buildings
   - Architects, engineers, retailers, builders, suppliers, developers, designers, wholesalers

What Does Efficiency Vermont Do to Obtain Energy Savings?

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- Technical Assistance
  - Public Energy Information and Education
  - 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 Advice
- Financial Incentives
  - Cash Incentives & Rebates
  - Financing Assistance
  - Buy-downs

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- 200,000 sq. ft. battery manufacturing facility in St. Albans
- 250 employees
- High energy costs
- Efficiency Vermont provided technical support to help identify energy savings opportunities

- Over $150,000 in electrical and gas cost savings identified including:
  - Compressed air leak repair and system optimization
  - New injection molding machines
  - Fire tower heating control
  - Lighting retrofit
  - Commissioning of chilled water system
  - Energy management system

An Example…..a Tale of Cheese from Farm to Market to Table

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- Cabot Cooperative's dairy farmers reduce their costs with energy-efficient refrigeration, lighting and process equipment.
- Efficiency Vermont provides expert technical assistance, cash incentives, loan subsidies and loan guarantees to farmers
- First-Year Savings: 3,300,000 kWh - $290,000

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INVESTMENT CORPORATION

- Since 2000, Cabot Creamery has worked with Efficiency Vermont to install efficient lighting, motors and controls in its cheese processing plant to reduce energy use.
- Efficiency Vermont provided expert technical analysis, financial analysis and cash incentives
- First-Year Energy Savings: 740,000 kWh - $54,000

VERMONT ENERGY INVESTMENT CORPORATION

- The retailer selling Cabot's dairy products uses energy-efficient lighting, refrigeration and air conditioning.
- Efficiency Vermont provided engineering, technical analysis, financial analysis and cash incentives
- First-Year Energy Savings: 120,000 kWh and $10,400

VERMONT ENERGY INVESTMENT CORPORATION

- Efficiency Vermont promotes and rebates the sale of ENERGY STAR® labeled refrigerators to reduce home energy use.
- Efficiency Vermont has provided over 7,000 refrigerator rebates through over 100 retail partners (all the dealers in the state)
- First-Year Energy Savings: 2,400,000 kWh and $250,000

Pursuing Even Deeper Savings in Targeted Areas

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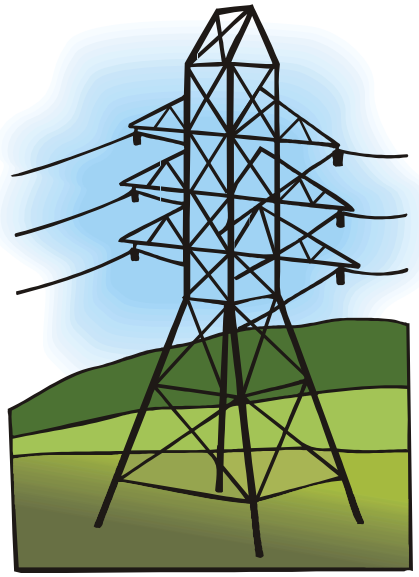
- A least-cost alternative designed to get deep, fast savings in targeted areas
- Avoid or defer major capital investments in transmission and distribution system that would otherwise be required to address system reliability
- Load reduction goals require efficiency resource acquisition at over 5 times historic rates



Data Tracking

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- Efficiency Vermont maintains a central data base system with customer billing determinants for the past ten years for all customers in the State
- The system contains records on all interactions with all customers and other market actors
- The system contains data on all measures installed, including measure/project costs, savings by costing period, measure lifetimes, operating conditions, savings adjustment factors, etc.
- Reports of aggregate costs and savings are developed by querying the data base

Accountability and Oversight

- The Public Service Board establishes the budget, goals, and terms of the Efficiency Vermont contract
- The Department of Public Service, on behalf of Vermont ratepayers, conducts an annual verification of the Efficiency Vermont savings claim
- An Advisory Committee, appointed by the PSB, provides additional review and oversight
- Rigorous, independent financial audit – OMB A-133
- 3rd-party performance audit conducted every 3 years and reported to Legislature

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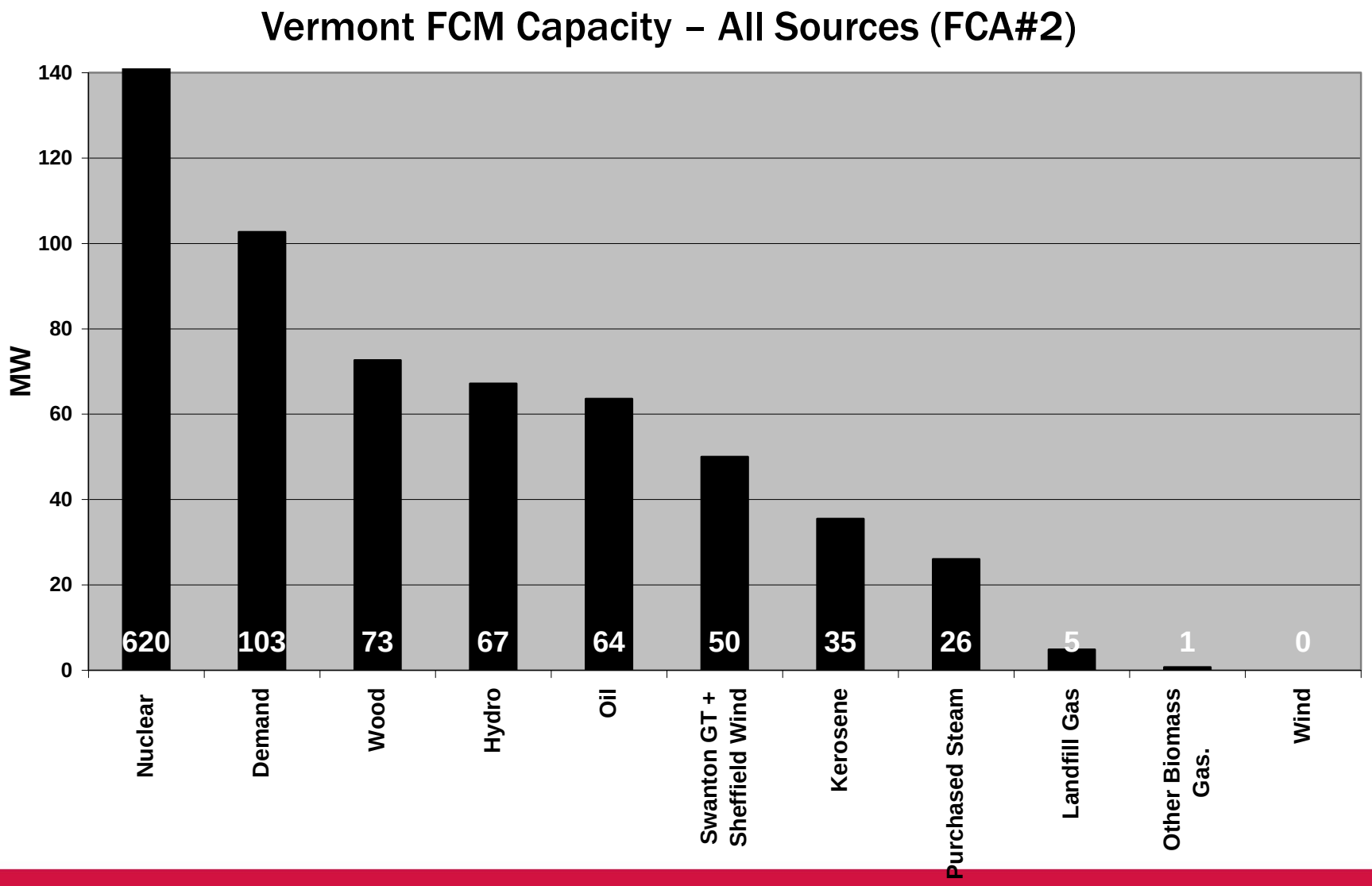
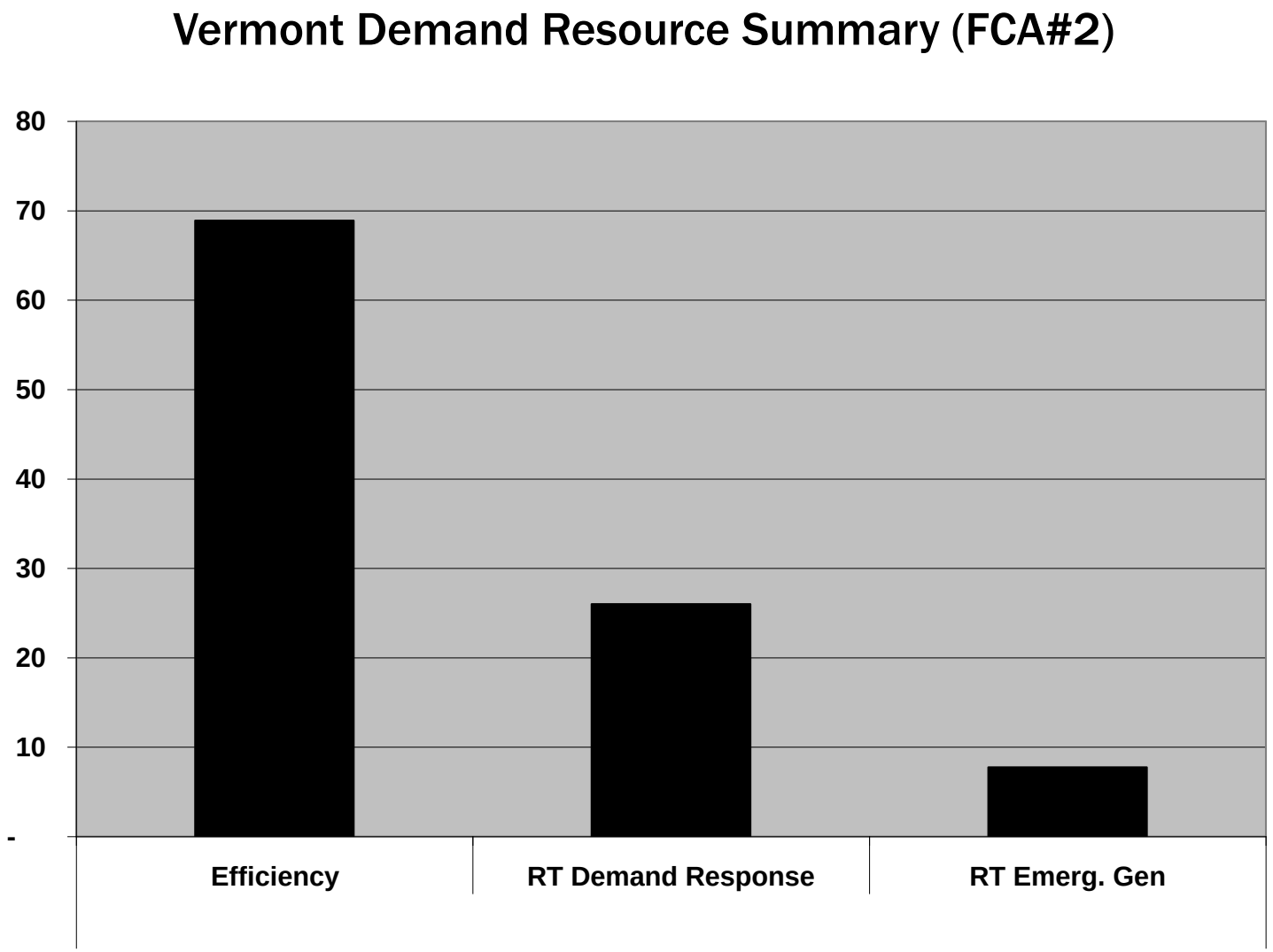
Review of Capacity in Vermont



Review of Capacity in Vermont

VERMONT ENERGY INVESTMENT CORPORATION



Review of Capacity in Vermont

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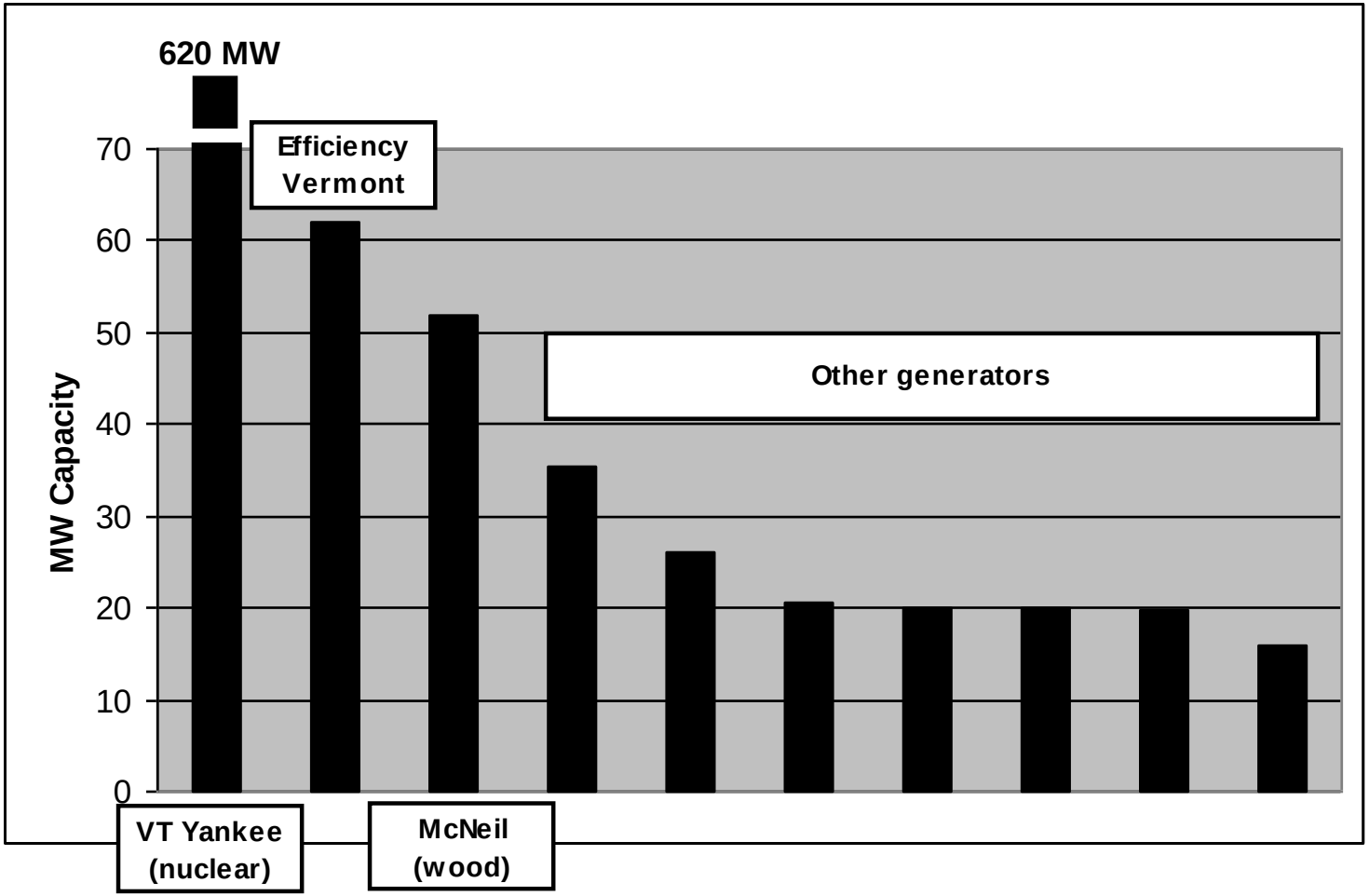
Top Ten FCM Capacity Providers (as of FCA#2)



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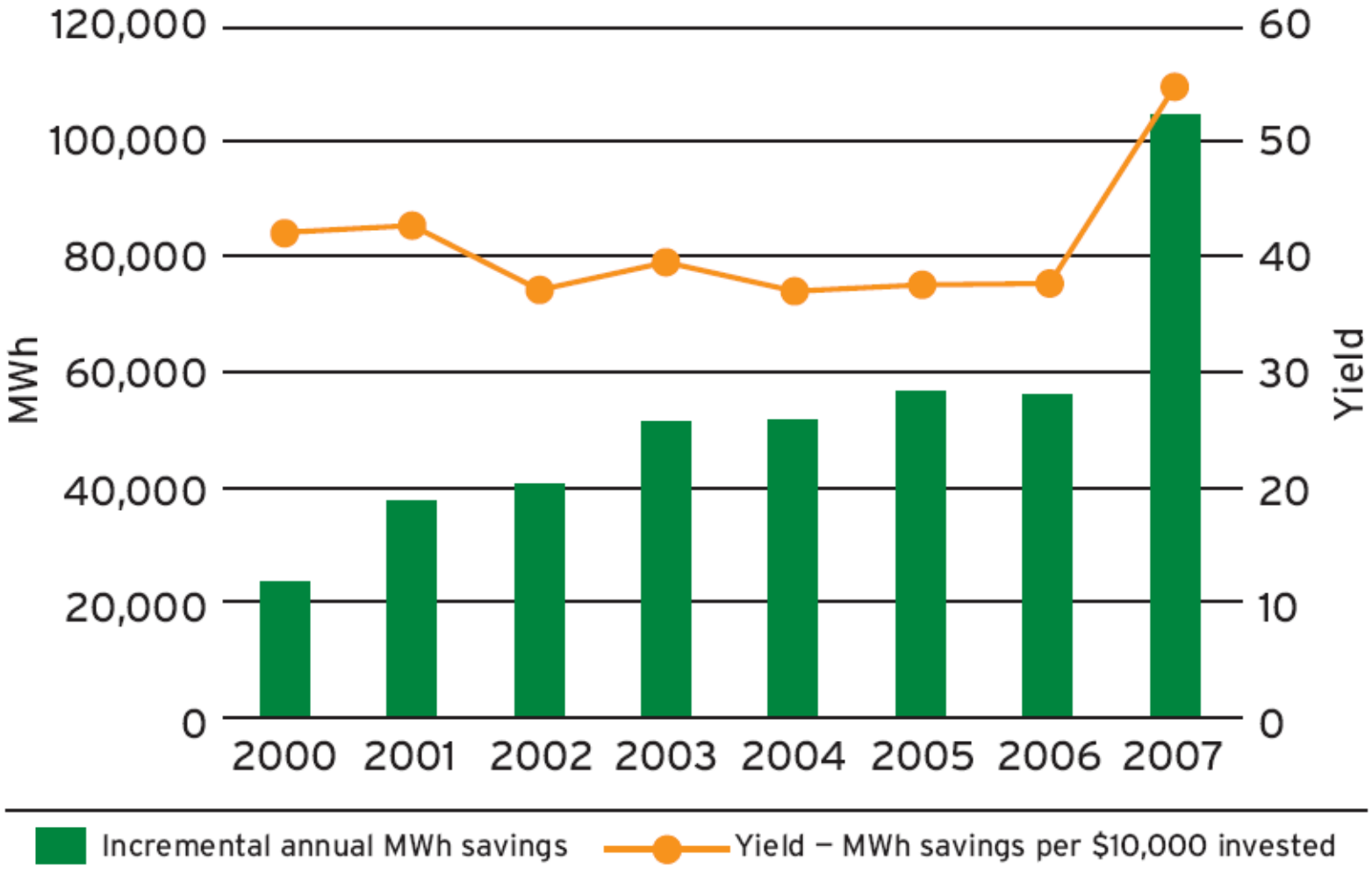
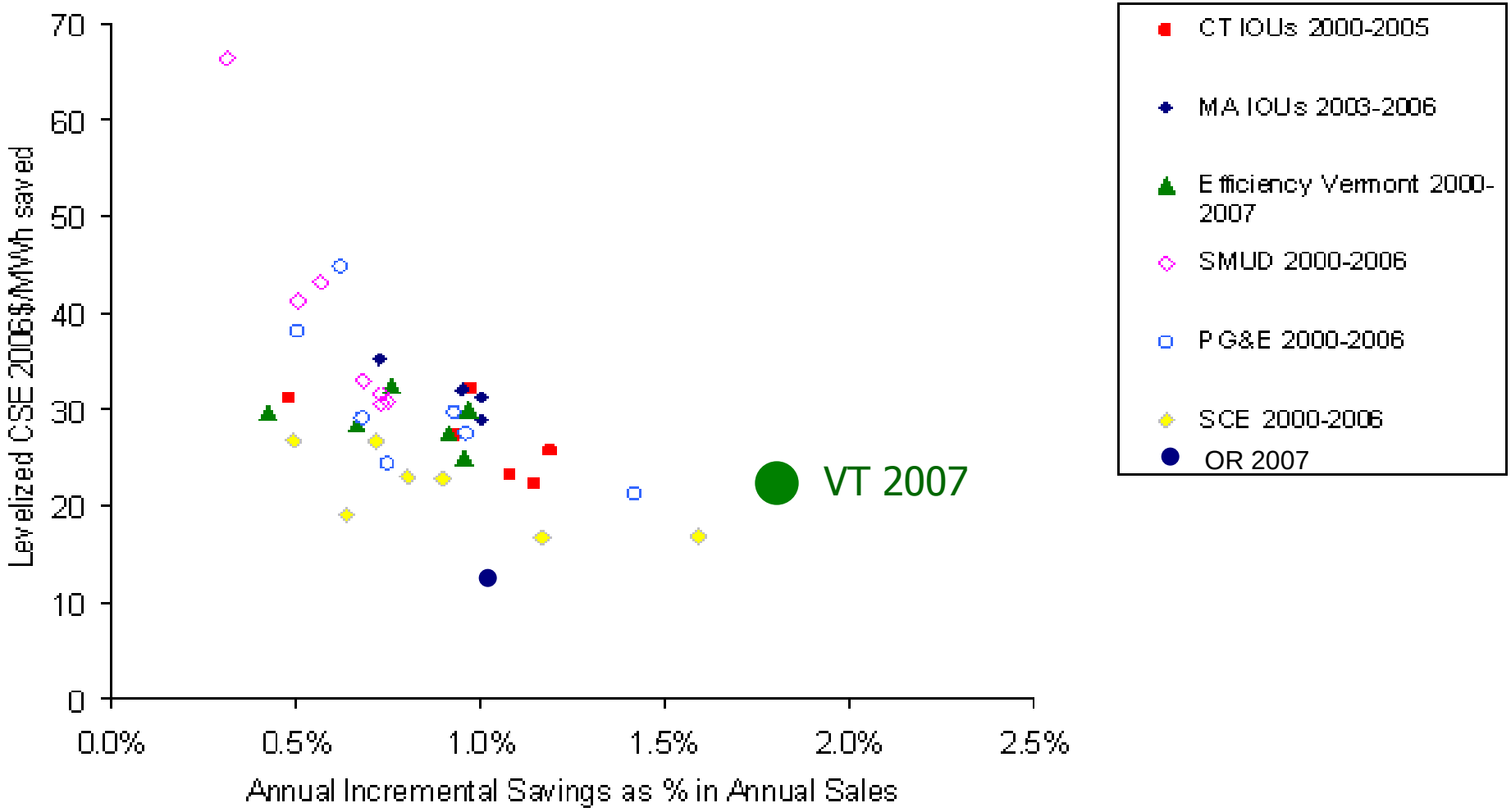
INVESTMENT CORPORATION

Efficiency Vermont MWh Savings and Yield: 2000-2007



Cost and Savings Performance

VERMONT ENERGY INVESTMENT CORPORATION



BACKGROUND CHART COURTESY SYNAPSE ENERGY ECONOMICS

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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**

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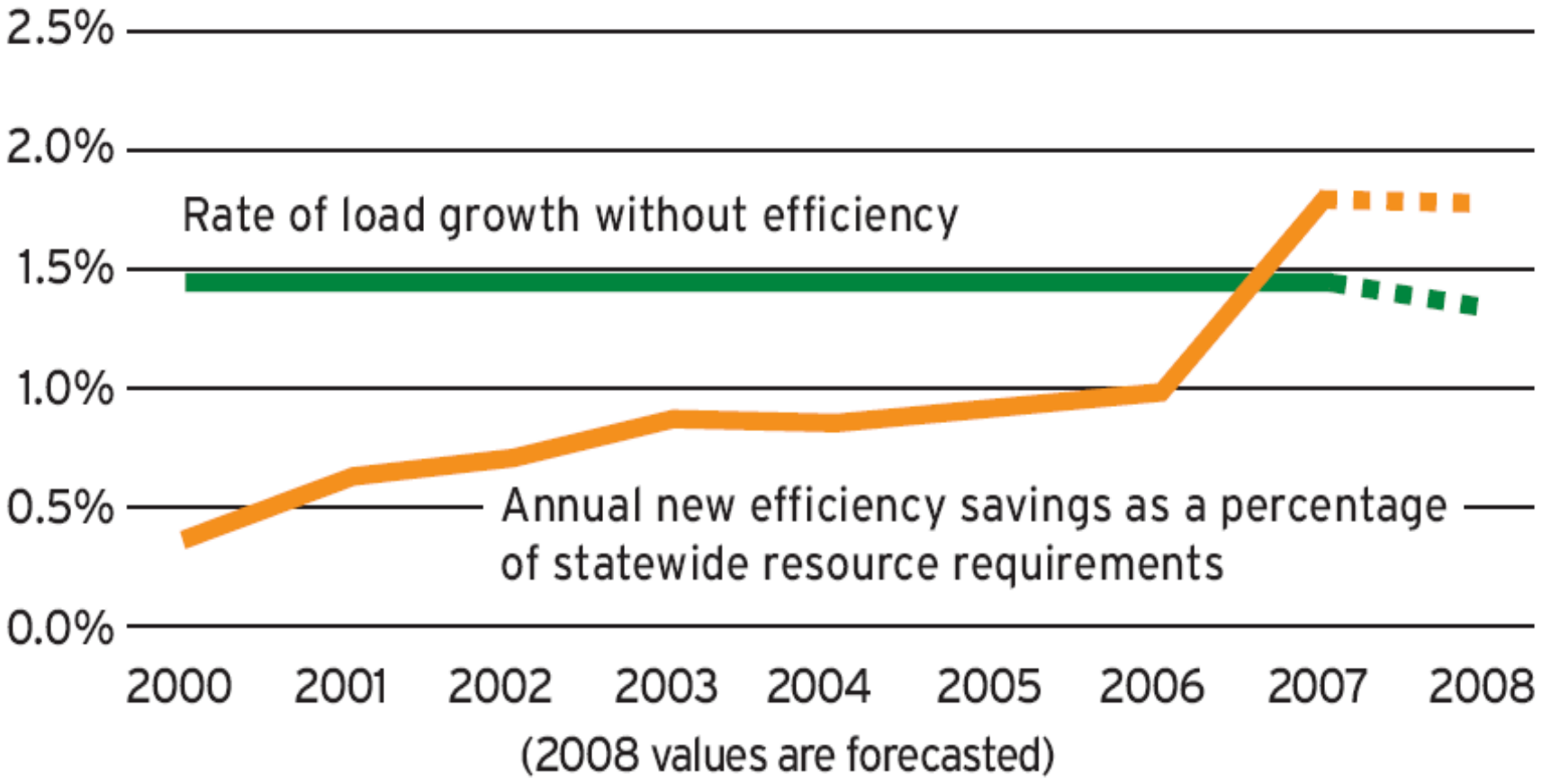
Energy Savings vs. Load Growth



Potential Impact of Energy Efficiency in Vermont

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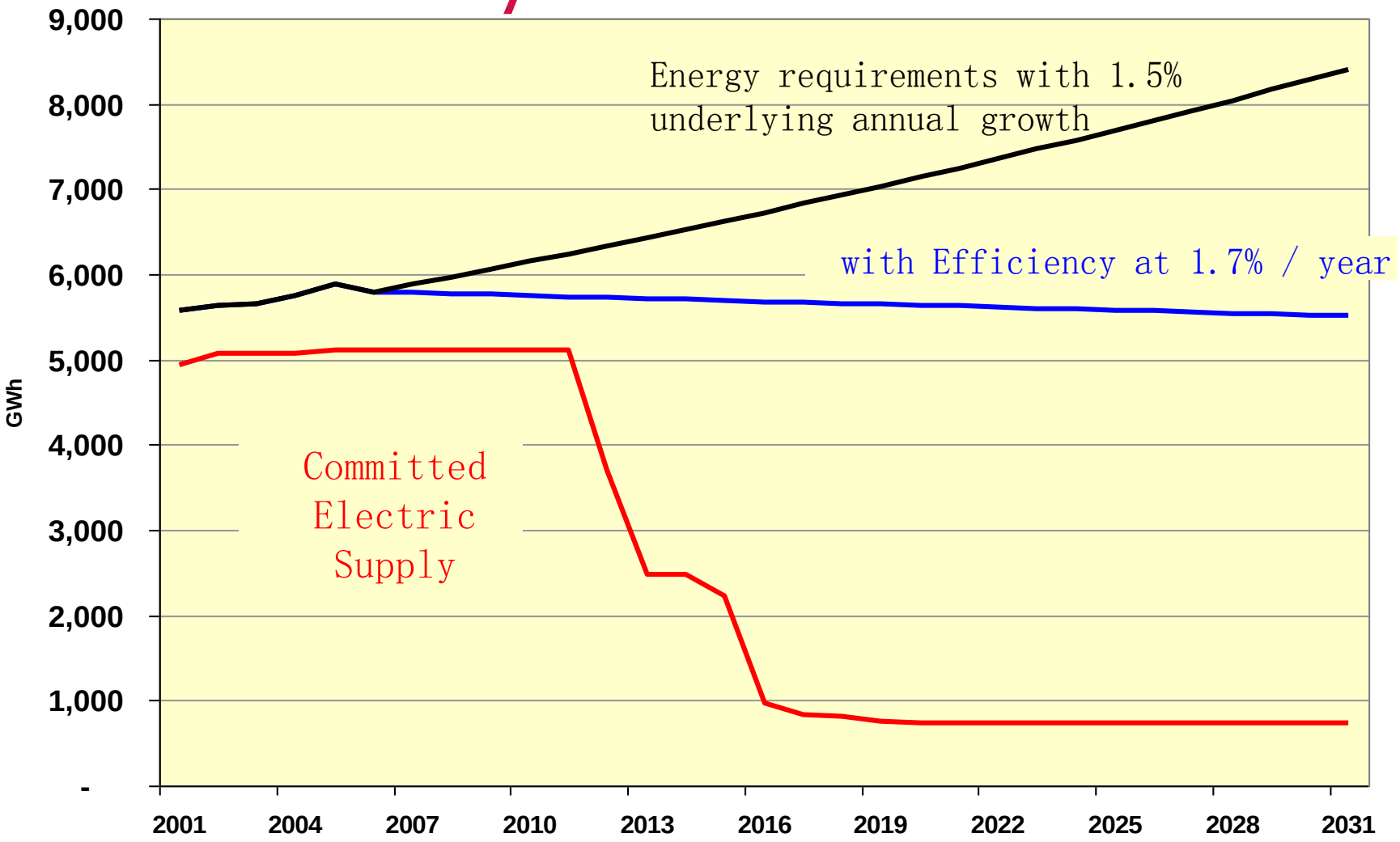


ISO New England

Regional Energy Efficiency Initiative

March 5, 2009

Connecticut's Energy Efficiency Programs 2008-2009

CONNECTICUT ENERGY EFFICIENCY FUND
www.CTEnergyInfo.com

Connecticut Light & Power
The Northeast Utilities System

The United Illuminating Company

Southern Connecticut Gas
Service First!

Yankeegas
The Northeast Utilities System

Connecticut's Energy Efficiency Programs are funded by a Charge on Customer energy bills.
The Programs are designed to help customers manage their energy usage and cost.

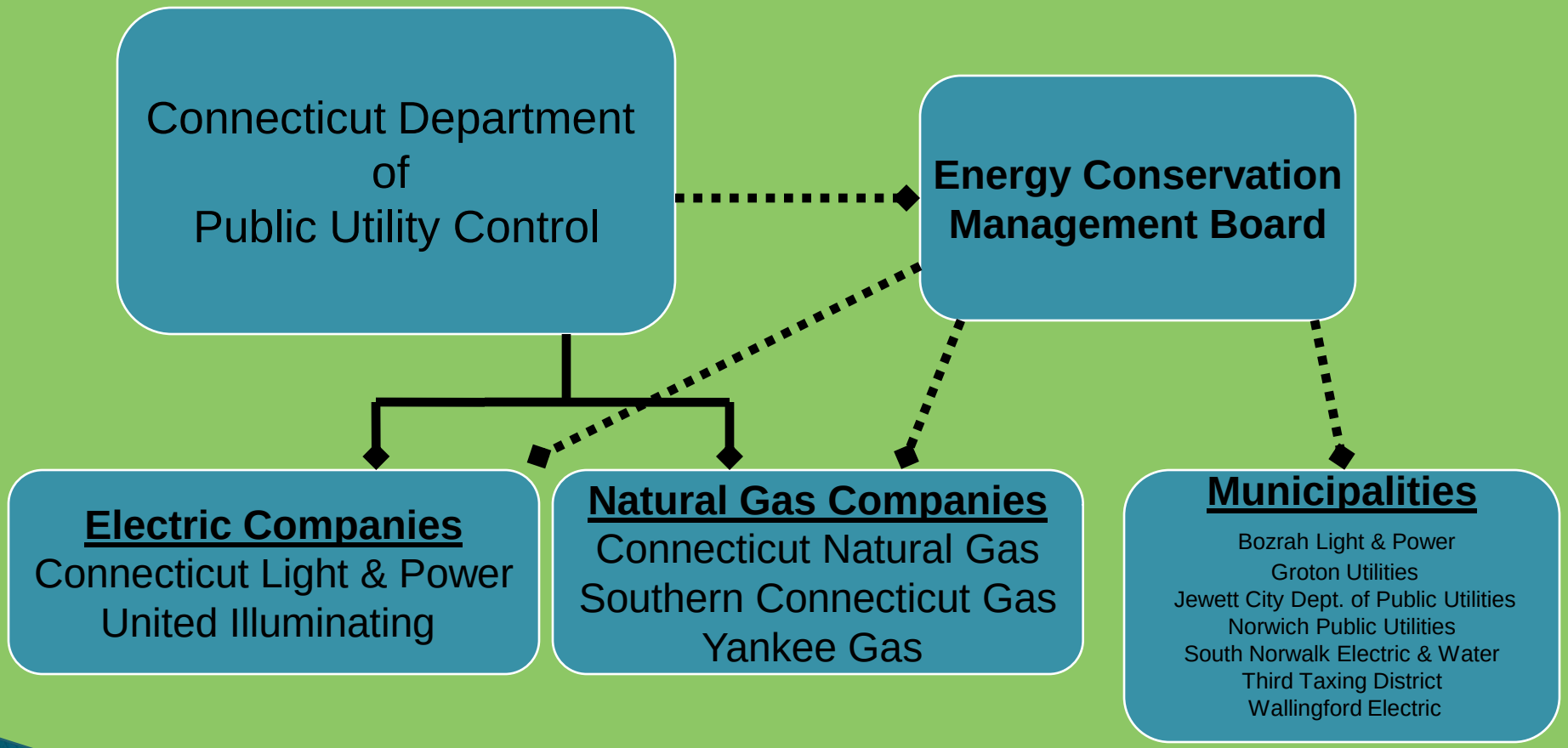
Agenda

- Background and Structure
- Energy Legislation
- Program Offerings
- Funding Levels and Savings Impact
- Integrated Resource Plan
- Budget Impacts

Energy Efficiency Background

- Connecticut Energy Efficiency Fund was created in 1998 by CT State Legislature
- Energy efficiency is a valuable resource for Connecticut, it:
  - Reduces air pollutants and greenhouse gases
  - Creates monetary savings for customers
  - Reduces need for more energy generation
  - Creates jobs
- Money for programs comes from electric and natural gas utility customers
  - Electric customers pay 3 mills per kilowatt-hour
  - Natural gas programs are funded through gas utility bills and approved by the Department of Public Utility Control
    - Programs are for firm gas customers only

CT Energy Efficiency Program Structure



Connecticut Energy Legislation

- 2005 Energy Independence Act
  - Connecticut was first state to pass legislation on reducing Federally Mandated Congestion Charges (FMCCs) exacerbated by Locational Installed Capacity (LICAP) expectations
  - CT DPUC responsible to reduce FMCCs
    - Estimated $0.5-$1 billion/year for Connecticut customers
  - CT DPUC regulatory dockets addressed peak demand through:
    - Additional energy-efficiency and load management programs
    - Customer incentives to install generation or reduce demand
    - Long-term financing for distributed resources
    - Distributed Resource Portfolio Standard (Class III)

Connecticut Energy Legislation

- 2007 Act Concerning Electricity and Energy Efficiency
  - Established initiatives/programs to reduce Connecticut's electric and power supply costs:
    - Energy efficiency
    - New generation
    - Renewable energy
  - Develop integrated resource plan (IRP) implement all cost-effective conservation first
  - Restored full funding to Connecticut energy funds – done
  - ECMB & DPUC to review and approve technologies for a Electric Energy Efficiency Partnership program

CEEF Programs

- Offer technical assistance to commercial & industrial customers who want to improve energy efficiency
- Offer financial incentives to help implement energy-efficient measures
- Provide $4 in electric system benefits for every $1 spent on programs
- Are ranked No. 3 in the 2008 American Council for an Energy-Efficient Economy's State Scorecard
- Are included by ISO-NE as a capacity resource

2009 Commercial & Industrial Programs

New Construction, Major Renovation & Equipment Replacement

Retrofit Projects & Small Business

Operations & Maintenance Projects

Retro Commissioning

PRIME

Loans & Financing

Load Management

2009 Residential Programs

- New Construction
- Home Energy Solutions
- Low-Income
- Retail Products
- Multifamily Initiative




2009 Revenues

CL&P/UI C&LM 2009 Revenues			
	2009 Base Budget		
CL&P/UI C&LM REVENUES	2009 CL&P Revenues	2009 UI Revenues	2009 CL&P/UI Total
Collections (Mil Rate)	$ 70,122,000	$ 17,388,000	$ 87,510,000
ISO-NE Other Demand Resources (ODRs)	$ 3,300,000	$ 1,500,000	$ 4,800,000
Class III Renewable Energy Credits	$ 2,061,171	$ 2,000,000	$ 4,061,171
Borrowing from 2008 Spending - Docket No. 07-10-03	$ (15,000,000)		$ (15,000,000)
Borrowing from 2008 Spending - Docket No. 07-10-03RE01	$ (10,000,000)		$ (10,000,000)
RGGI & IRP Revenues*			$ -
Sub-Total - C&LM Revenues	**$ 50,483,171**	**$ 20,888,000**	**$ 71,371,171**
FMCC Revenues	$ 7,558,907	$ 3,241,385	$ 10,800,292
Sub-Total - EIA Revenues	**$ 7,558,907**	**$ 3,241,385**	**$ 10,800,292**
Total - C&LM and EIA Revenues	**$ 58,042,078**	**$ 24,129,385**	**$ 82,171,463**

2008 Program Savings

	CL&P & UI Combined Data 2008 Data				
	Program	**Participants**	**Annual kWh**	**Lifetime KWh**	**Annual kW (Summer)**
Residential	Residential Retail Products	434,933	83,361,675	677,969,324	7,869
	AC Turn-in	2,493	145,497	1,014,547	248
	WRAP (Low Income)	11,213	15,006,187	135,686,907	1,500
	Home Energy Solutions	13,884	12,698,378	140,587,688	4,194
	Residential New Construction	938	2,337,593	32,537,621	788
Commercial, Industrial, & Municipal	Energy Conscious Blueprint	983	64,241,087	968,216,123	10,616
	Energy Opportunities	779	115,467,004	1,500,066,430	18,389
	Operations & Maintenance	65	9,264,937	86,718,708	711
	Small Business	1,999	46,734,459	557,060,249	10,437
	Load Response Program	40	0	0	18,681
	Totals	**467,327**	**349,256,817**	**4,099,857,597**	**73,434**

2009 Program Savings

CL&P & UI Combined Data
2009 Plan Data

	Program	Participants	Annual kWh	Lifetime KWh	Annual kW (Summer)
Residential	Residential Retail Products	475,265	89,264,923	553,618,791	8,316
	WRAP (Low Income)	19,025	18,844,304	156,443,839	1,654
	Home Energy Solutions	15,929	19,987,076	198,699,115	4,667
	Residential New Construction	952	1,862,954	32,464,976	722
Commercial, Industrial, & Municipal	Energy Conscious Blueprint	628	36,283,213	554,200,636	7,057
	Energy Opportunities	424	56,154,639	780,903,575	8,058
	Operations & Maintenance	61	16,364,975	122,282,805	305
	Small Business	1,506	36,760,089	450,647,964	8,512
	Load Response Program	30			10,000
	Totals	**513,820**	**275,522,173**	**2,849,261,702**	**49,291**

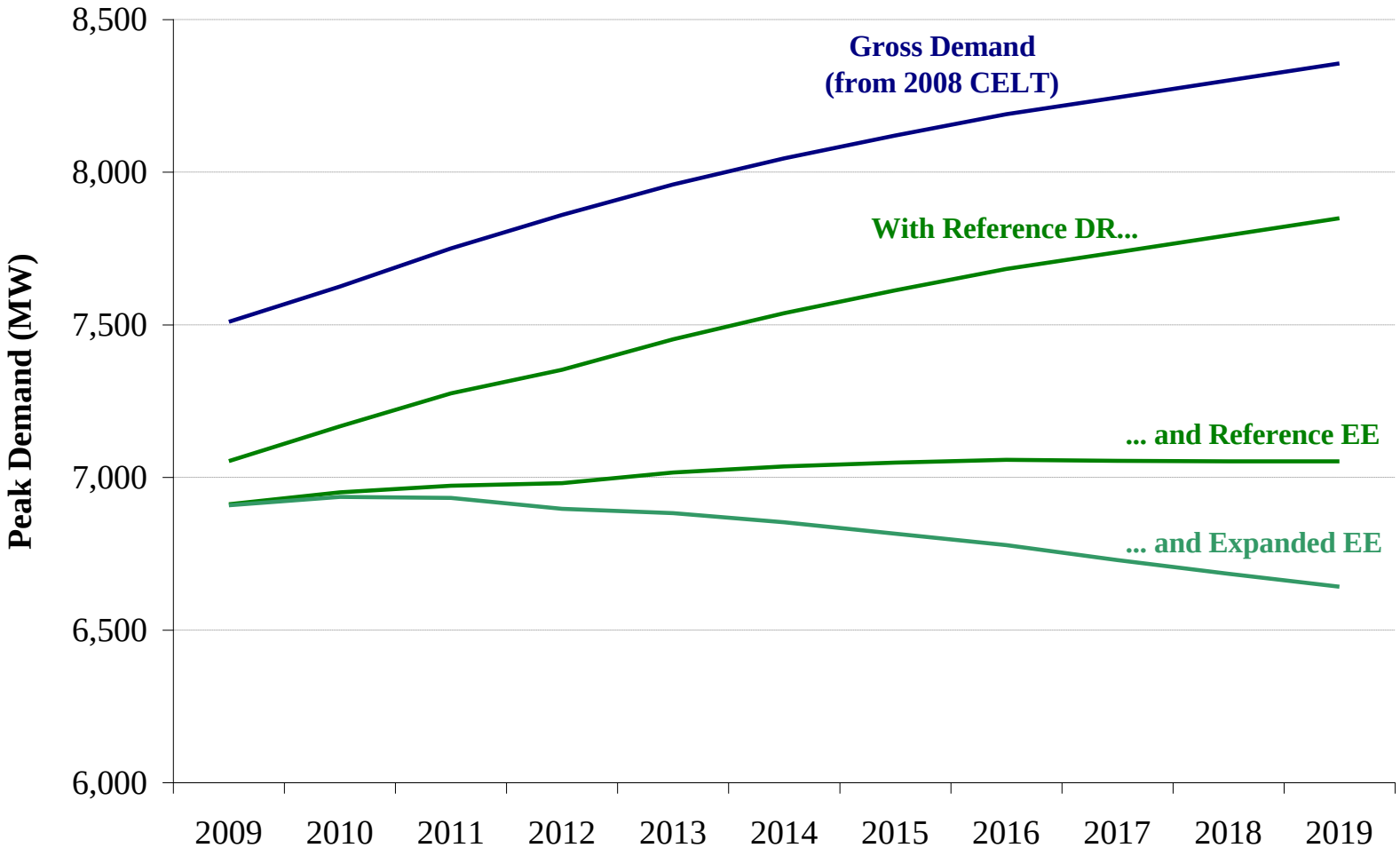
Integrated Resource Plan

- Public Act 07-242 resumed integrated resource planning in Connecticut.
- The plan is developed by Connecticut's electric utilities and submitted to the Connecticut Energy Advisory Board (CEAB).
- The plan is reviewed by the CEAB, modified if necessary, approved and submitted to the DPUC for implementation.
- The statute requires that resource needs first be met through all available energy efficiency and demand reduction resources.

Integrated Resource Plan

- The first plan was developed by the electric utilities and submitted to the CEAB as required in the statute on January 1, 2008.
- The CEAB modified the plan and submitted it to the DPUC on August 1, 2008.
- The Department issued a final decision on the plan on February 18, 2008.
- The Department found that no further action needs to be taken at this time to procure new energy or capacity resources.
- The 2009 IRP was submitted to the CEAB on January 1, 2009 as required by statute.
- The 2008 IRP as well as the 2009 IRP included a significant expansion of the current program portfolios.

Energy Efficiency – CT's Long Range Plan



Note: This chart reflects a load forecast at the busbar with all at-the-meter EE and DR estimates grossed up by 8 percent for transmission and distribution losses, consistent with ISO practices.

State Budget Impact on Energy Efficiency Funding

In 2003, State of Connecticut budget shortfalls caused the Connecticut Legislature to divert two years worth of funding from the 3 mill charge to the State's general fund.

The funds were securitized, and the net result was that the funding that remained for programs was equal to approximately 2 mills.

The securitization was defeased in 2008, restoring program funding to the full 3 mils.

The Administration of Connecticut has proposed, on several occasions, to divert funds to balance the current budget shortfall.

The proposed biennial budget proposal would divert $40 million per year to t he general fund and perhaps include a future additional securitization.

Connecticut Contacts

Energy Conservation Management Board:
Jeff Gaudiosi 203-596-1900 x-2

Connecticut Light and Power:
Ron Araujo 860-832-4972

United Illuminating:
Patrick McDonnell 203-499-2923

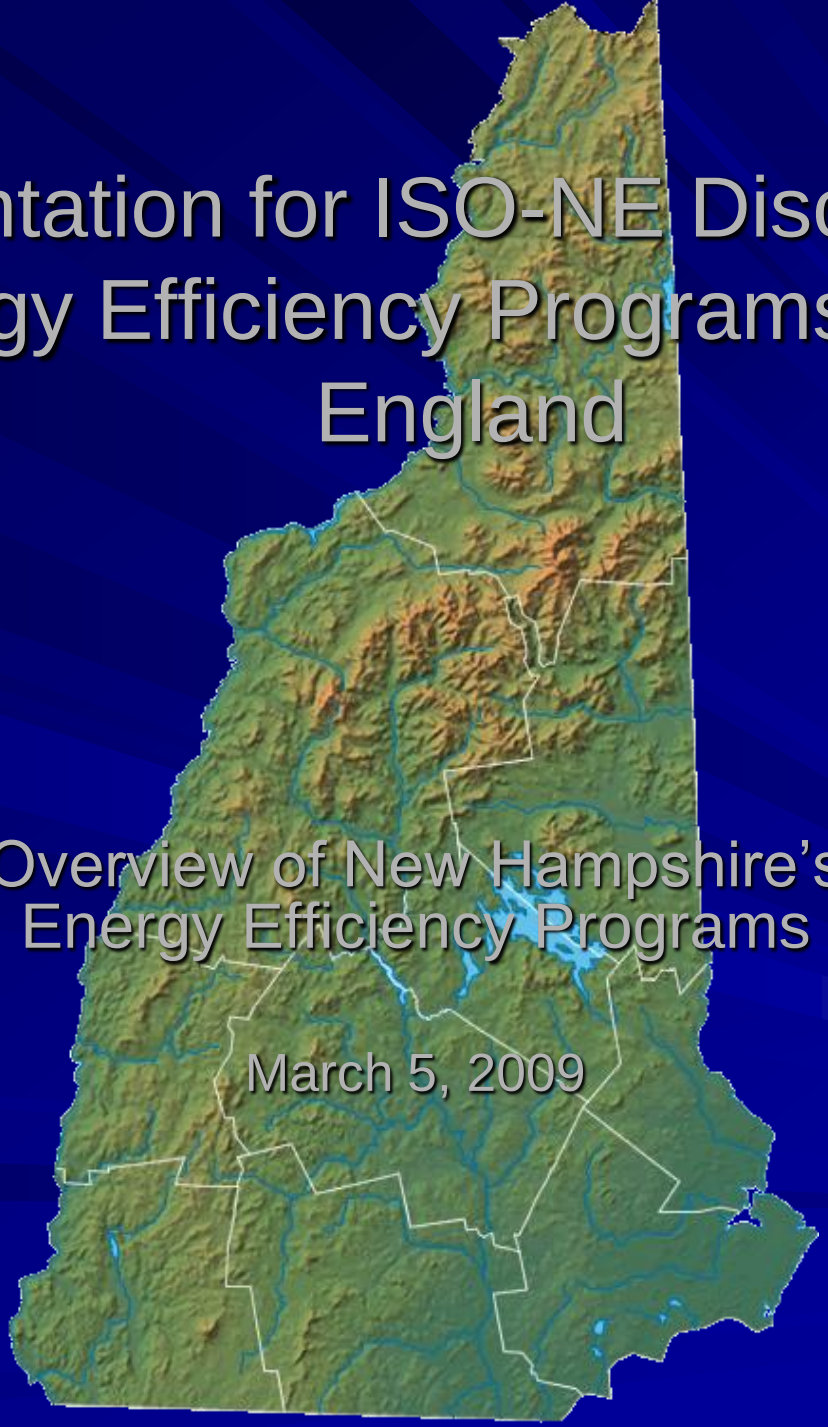
Web Information

- CEEF/DPUC www.CTEnergyInfo.com
- CL&P http://www.cl-p.com/
- UI http://www.uinet.com

Connecticut's Energy Efficiency Programs

QUESTIONS?

Presentation for ISO-NE Discussion of Energy Efficiency Programs in New England



Overview of New Hampshire's Energy Efficiency Programs

March 5, 2009

Chronology

- Chronology of CORE (State-Wide) Energy Efficiency Programs

  1996 – NH Legislature Enacts Statewide Restructuring (RSA 374-F)

  1998 – Energy Efficiency Working Group Created

  1999 – Working Group Files Report -("*Report to New Hampshire Public Utilities Commission on Ratepayer-funded Energy Efficiency Issues in New Hampshire*")

  2000 – Commission Issues Guidelines for CORE Programs

  2002 – NH Electric Utilities Launch CORE Programs on June 1

Electric Utility Energy Efficiency Programs

- Core Energy Efficiency programs
  - Common among NH's 4 electric utilities
    - PSNH
    - Unitil
    - Granite State (National Grid)
    - NH Electric Cooperative

nationalgrid

New Hampshire Electric Co-op

Public Service of New Hampshire

Unitil
We deliver. It's that simple.

CORE Achievements

- CORE Achievements since June 1, 2002

  Customers Served – 365,000

  kWh's Saved – 5.3 billion kWh's

  Dollars Saved – $839 million @$.159/kWh

  Reduced emissions – 3.3 million tons of CO2, SO2 and NOx – equivalent to the annual emissions of more than 688,000 cars

Cost Per kWh Saved

Total Costs Based on 2009 Budget

Utility Costs	$18.1 million
Performance Incentives	$ 2.2 million
Customer Costs	$ 9.9 million
Total Costs	$30.2 million

Lifetime kWh Savings 542,989,970 kWh's

Cost per kWh Saved $0.055/kWh

Costs to Achieve Savings Based on 2009 Budget

Cost To Achieve Savings - Breakdown by Component

Utility Cost – 3.3 cents per kWh
(i.e. $18.1 million divided by 542,989,970 kWh's)

Utility Performance Incentive – 0.4 cents per kWh
($2.2 million divided by 542,989,970 kWh's)

Customer Cost – 1.8 cents per kWh
(i.e. $9.9 million divided by 542,989,970 kWh's)

Projected Year 2018 – Estimated Peak Load & EE Demand Savings

	Year 2018
Est. NH Peak Load	3,000 MW
Est. EE Demand Savings	245 MW
Percent Savings	8.2%

Note: 2018 Projection is based on GDS Associates, Inc. January 2009 Report: *"Additional Opportunities for Energy Efficiency in New Hampshire". Values are based on "Potentially Obtainable" Energy Efficiency Savings (p. 7, p. 30)*

CORE Program Funding

System Benefit Charge on Customer Bills is $0.0018 per kWh (2009 Budget estimate is approximately $20 million)

Funding is Supplemented by ISO-NE's Forward Capacity Market (2009 Budget estimate is $0.6 million)

Funding is impacted by State Law (2009 Budget estimated is reduced by approximately $1.0 million due to the Special Winter Electric Assistance Program)

Overview of 2009 Residential CORE Programs

- Energy Star Homes
  - 2009 Budget $1.4 million
  - Lifetime Savings 4.9 million kWh's
- Home Energy Solutions Program
  - 2009 Budget $2.1 million
  - Lifetime Savings 7.2 million kWh's
- Energy Star Lighting Program
  - 2009 Budget $1.3 million
  - Lifetime Savings 91.0 million kWh's
- Energy Star Appliance Program
  - 2009 Budget $0.9 million
  - Lifetime Savings 19.5 million kWh's

Low Income Programs

Home Energy Assistance Program

2009 Budget	$2.6 million
Lifetime Savings	19.7 million kWh's

Delivery – Community Action Agencies

Basic Services – insulation, weatherization, appliance and lighting upgrades and strong educational component.

Overview of 2009 C & I CORE Programs

- New Equipment & Construction Program
  - 2009 Budget $2.6 million
  - Lifetime Savings 97.6 million kWh's
- Large C&I Retrofit Program
  - 2009 Budget $3.0 million
  - Lifetime Savings 165.2 million kWh's
- Small Business Energy Solutions Program
  - 2009 Budget $2.9 million
  - Lifetime Savings 102.7 million kWh's
- Company Specific and Ed. Prog. (Res. & C&I)
  - 2009 Budget $1.4 million
  - Lifetime Savings 35.1 million kWh's

CORE Program Budget

- CORE
- 2009 budget

Other Energy Efficiency Funding

- RGGI
  - Expected 2009 funding level is $18 million
  - RFP has been issued for proposed projects

Energy Efficiency Building Code

1st State-wide building code in NH

- Adopted by General Court
  - 1979
  - RSA 155-D
  - 2007
    - IECC 2006
    - RSA 155-A
    - Zone 6

Energy Code: What , When , Why?

- What?
  - International Code Council 2006 version
- When?
  - Energy Code adopted in 1979 by RSA 155-D
- Why?
  - Rising dependence on foreign fuels
  - Housing is a long term stock
  - Payback is swift and continuous

State Building Code

RSA 155-A:1 IV adopted in 2002

- International Building Code 2000
- International Plumbing Code 2000
- International Mechanical Code 2000
- International Residential Code 2000
- National Electric Code 2002 *and*
- International Energy Conservation Code 2000

Commercial Code

- Chapter 5 IECC 2006 or 90.1-2004
- Includes
  - Envelope
  - Lighting Requirements
  - Solar Heat Gain

Energy Efficiency Building Code

Trainings

- Commercial
- Residential

2009 Efficiency Maine Program Status

March 5, 2009

ISO-NE Regional Energy Efficiency Initiative

Saving Energy For Maine

efficiency MAINE Business Program

Topics to cover:

- Detailed description of the program
- When the program will be initiated and its expected lifetime
- Who will administer/implement the program
- Level and source of funding
- Expected annual energy and peak savings
- Time of year, time of day, locational or peak differences in energy savings
- Assessment of risks
- Potential impact of Federal stimulus Package

efficiency MAINE
Business Program

Program Description

"Efficiency Maine is a statewide effort to promote the more efficient use of electricity, help Maine residents and businesses reduce energy costs, and improve Maine's environment. Efficiency Maine is funded by electricity consumers and administered by the Maine Public Utilities Commission"

By statute, the MPUC must ensure that the program:

- Targets at least 20% of its funds to improve low income energy efficiency
- Targets at least 20% of its funds to improve small business consumers energy efficiency.
- To the greatest extent practicable, apportions the remaining funds among customer groups and geographic areas to allow all other customers a reasonable opportunity to participate in one or more conservation programs
- With passage of the Regional Greenhouse Gas Initiative, Commission was charged with ensuring the program acquire all cost effectively achievable energy efficiency
- Efficiency Maine currently implements seven programs.

Program Description

Efficiency Maine is the brand name for seven separate programs that cover all electric end uses.

1. Residential Efficient products: incentives for lighting and appliances.
2. Maine Home Performance improves efficiency of homes
3. Low income appliance replacement program
4. Business Efficient products: incentives for lighting and equipment.
5. Commercial new construction: incentives and education
6. Educational programs (schools to scholars)
7. Solar and wind equipment rebates/incentives

Efficiency Maine Program Status

- Program was initiated in 2003. There is no "end date".
- Five of the seven program are fully mature.
- Home Performance and Commercial construction are start ups.
- Commission rules require 3 year formal reviews of the program
- RGGI act requires a program expansion – planning for this is just getting underway.
- MPUC continues as program administrator *
- Level and source of funding
- SBC at 1.5 mils ~$13 E6/yr with possible expansion
- RGGI and Stimulus?

Efficiency Maine Program Status

- Expected energy and peak savings
  - After 5 yrs the program is saving 316,000 MWh/yr
  - Annual increment grows each year
  - Winter peak savings are ~ 43 MW
  - Summer peak savings are ~ 25 MW
- Time of year, time of day, locational or peak differences in energy savings.
  - Not intentional. Diurnal differences are driven by load shape, locational by population.

Efficiency Maine Program Status

- Risks
  - Raid on SBC funds during times of tight budgets
  - Loss of momentum due to legislative changes
    - Reformation of agency or realignment of responsibility
  - Change of mission due to legislative changes
- Impact of Stimulus
  - Potential for $28 million – MPUC administers the SEP but still issues about who gets the money
  - RGGI annual revenues of $18 million
  - Study on achievable potential later

efficiency MAINE
Business Program

Questions?