APRIL 2017

Efficiency Vermont: Performance-based since 2000

An overview of our results

Liz Gamache, Director

Overview

- Our history
- What we do, how we do it
- Results
  - Savings
  - Stories
- Policy and regulatory
- Budget and performance
- Vision for the future

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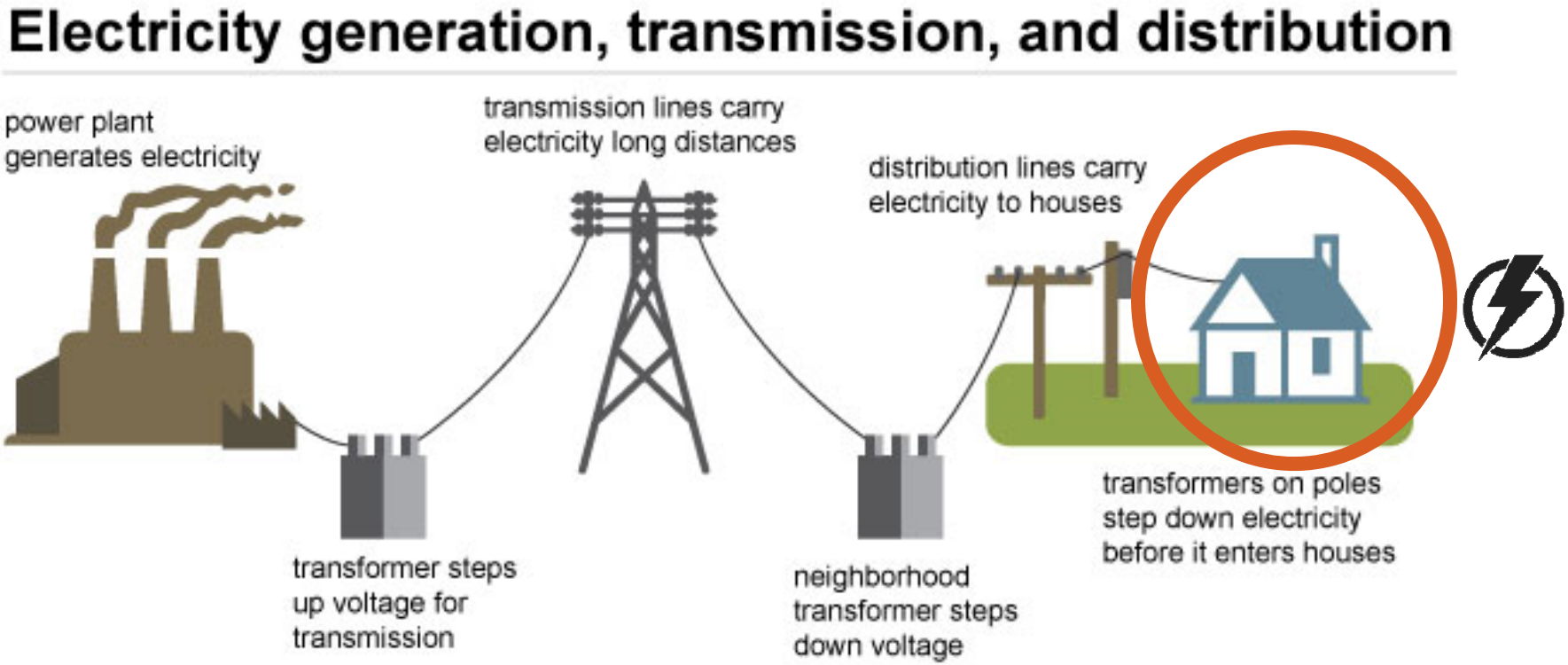
Efficiency in context



Source: Adapted from National Energy Education Development Project (public domain)

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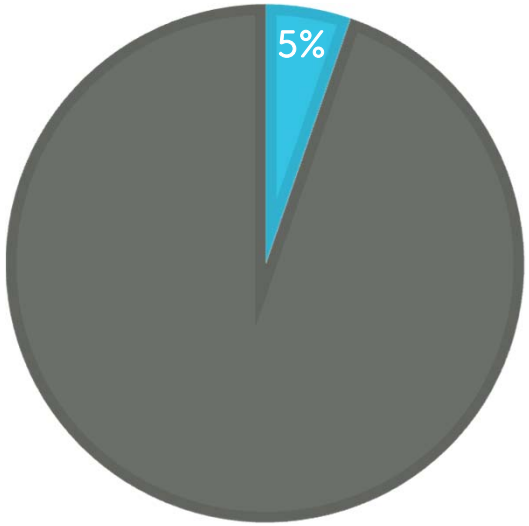
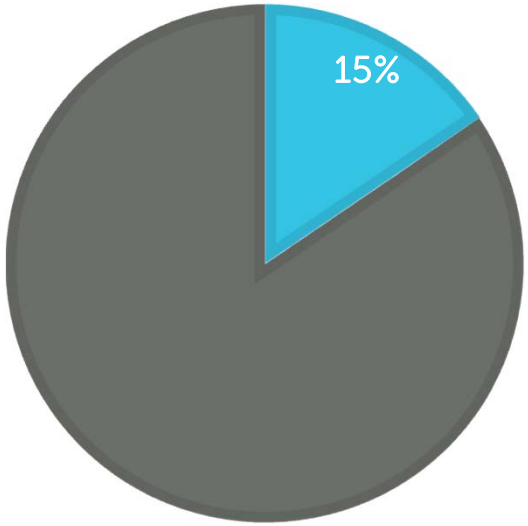
Why energy efficiency

The percent of Vermont's electricity supplied by efficiency

2006



2016



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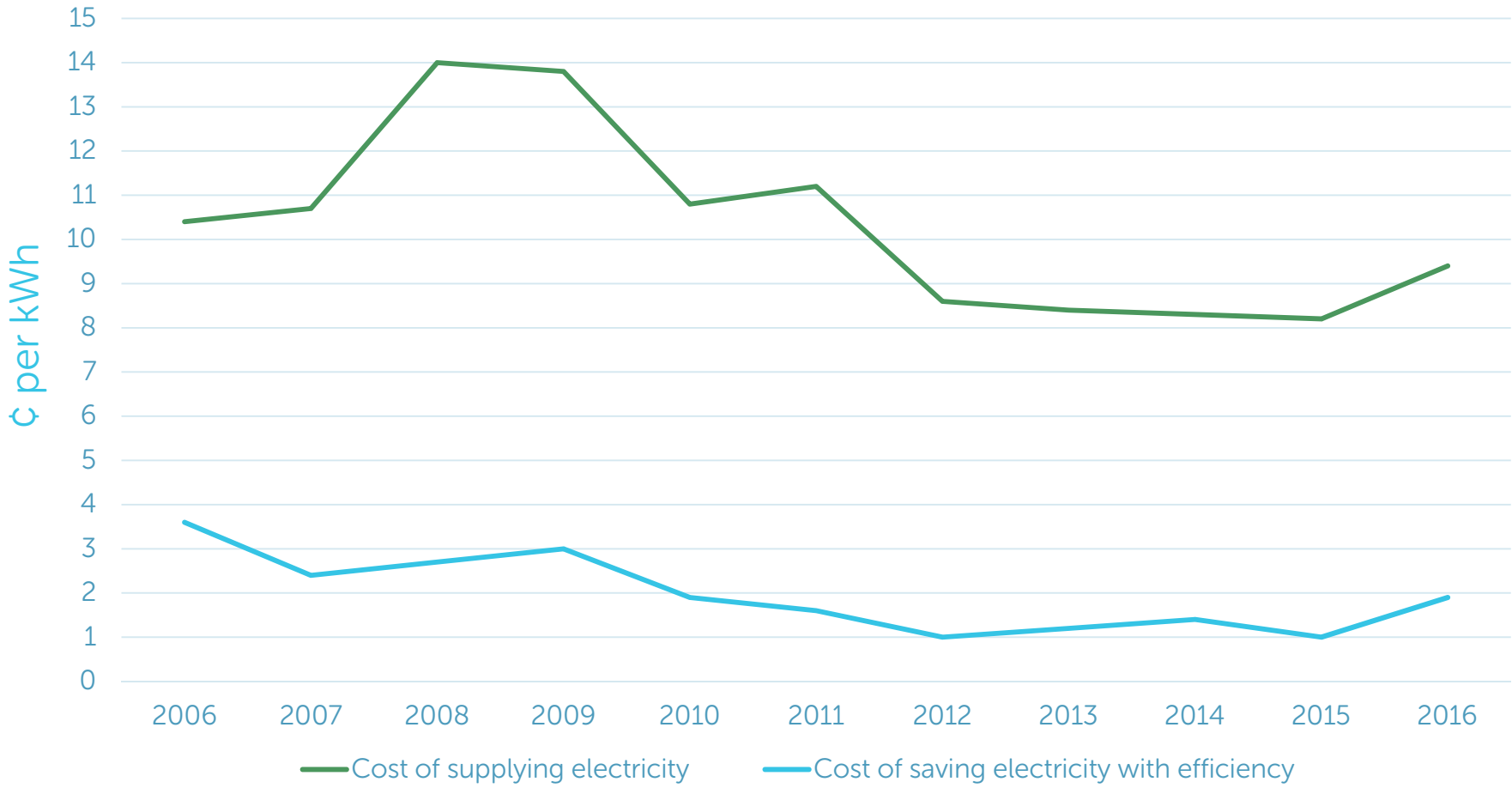
Why energy efficiency



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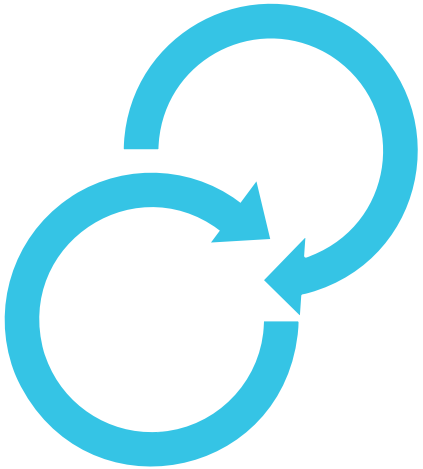
Why Efficiency Vermont



1. To remove barriers
   - Financial
   - Informational
   - Access
2. To ensure equity statewide
3. To drive customer engagement
4. To foster economic development
5. To provide objective, third-party expertise

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About Us & Our History

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About VEIC

- Non-profit founded in 1986
- Reduces the environmental, economic, and societal uses of energy
- 340 employees nation-wide
- Three efficiency utilities, and nation-wide consulting

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EFFICIENCY$MART

DC SUSTAINABLE ENERGY UTILITY

veic.org

About Efficiency Vermont

- Statewide, independent energy efficiency utility
- Electric and thermal efficiency services for all
- Nationally-recognized leader in transforming markets

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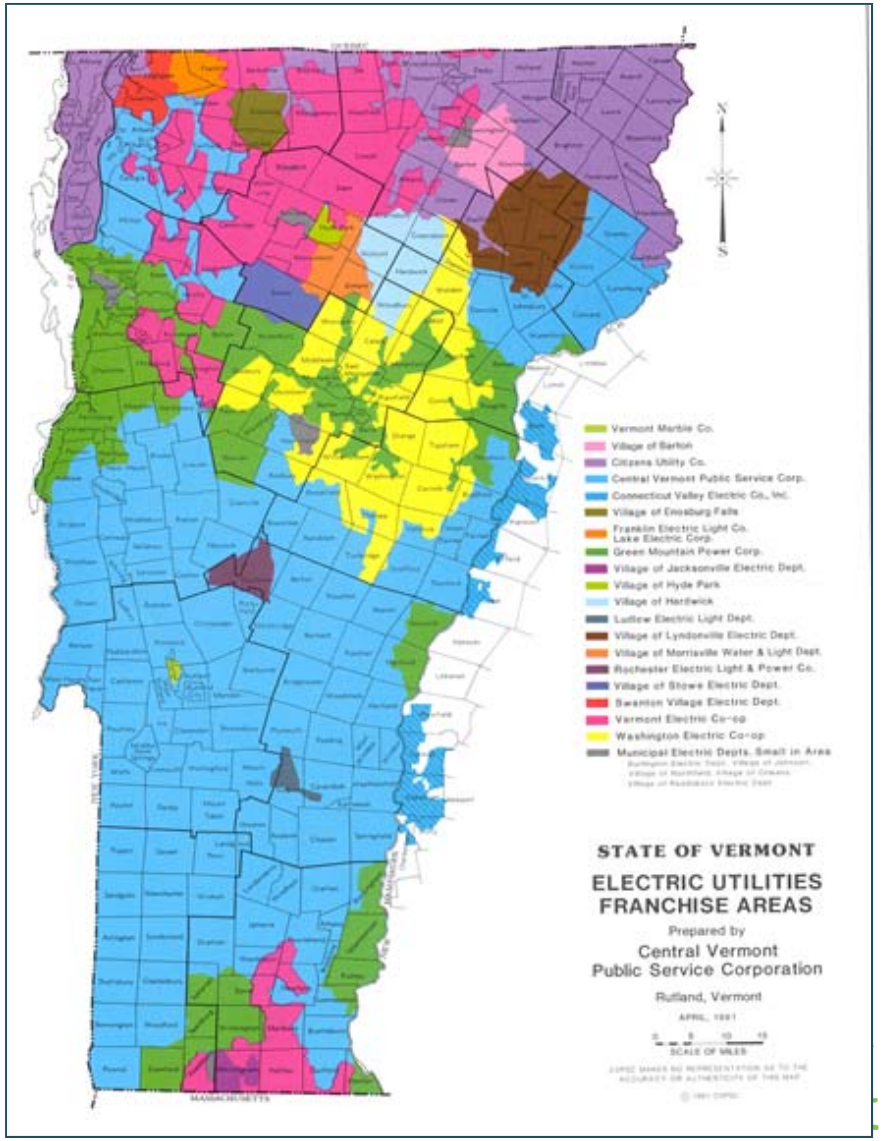
Before Efficiency Vermont

- Electric and gas utilities required to provide "least cost" services
- Efficiency services provided across 22 utilities
- New model represented:
  - Transparency
  - Statewide equity
  - Independence
  - Performance-based approach



Milestones

1999

Vermont State Assembly creates Efficiency Vermont, under 30 V.S.A. § 209.

2000

VEIC wins contract through competitive bid process, begins to operate as performance-based.

2007

VEIC bids into the Forward Capacity Market, bringing $28.4M to Vermont since that time.

2008

Efficiency Vermont expands thermal efficiency services with RGGI funds.

2009

VEIC becomes an appointed energy efficiency utility, regulated by the PSB.

2016

VEIC is re-appointed for another 11 years.

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What We Do & How We Do it

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What we do

- Provide education, services, rebates & financing
  - Electric & thermal
  - Residential & commercial
- Manage a statewide network of contractors, retailers, distributors, etc.
- Account-manage top 300 electric users
- Develop supply chains

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How we do it

Generating Savings at Every Step

One gallon of milk: Four ways to save

On the farm, Efficiency Vermont helps to deliver more efficient lights and barn fans.

In the processing plant, Efficiency Vermont supports equipment upgrades and process improvements.

In the grocery store, Efficiency Vermont helps to add refrigeration controls and lower costs.

In a family kitchen, Efficiency Vermont helps to provide a more efficient fridge.

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Results

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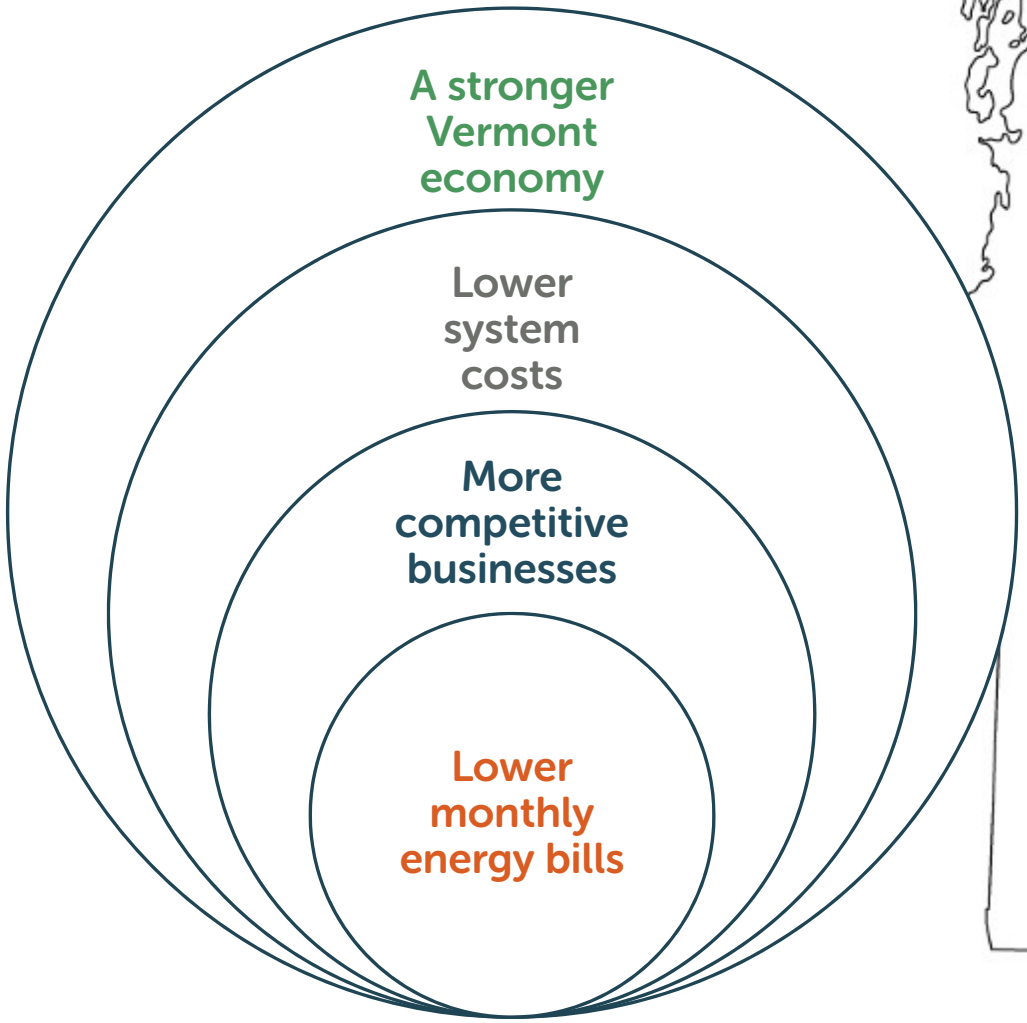
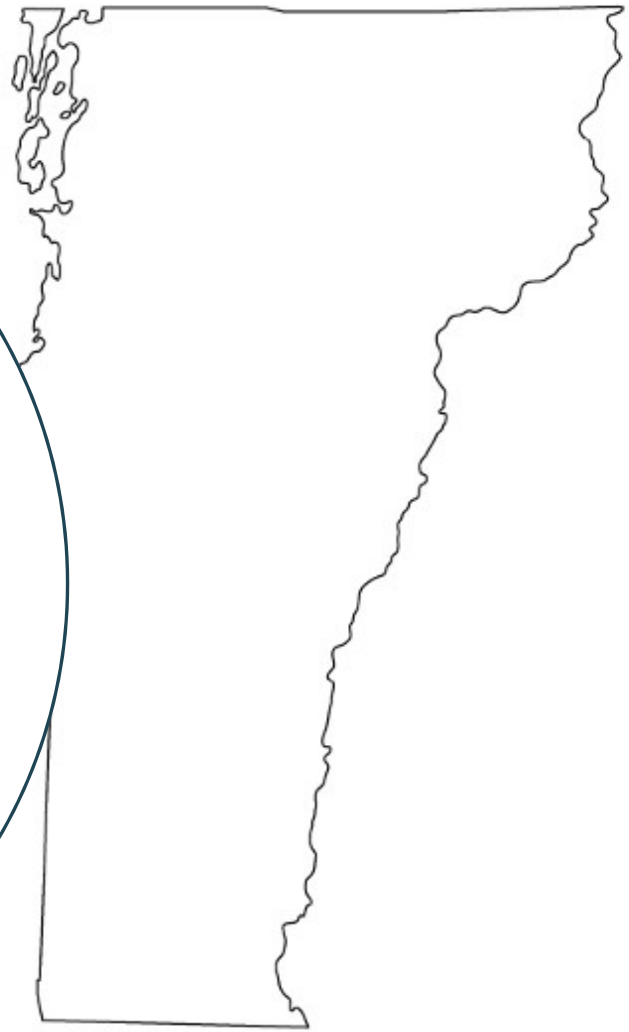
Savings at four levels





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Customer stories

"We've done great projects and seen great energy savings, which has helped us grow."

– Built by Newport, Newport

Savings

$24,300 per year

179,000 kWh per year

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Customer stories

"This winter, my family is toasty warm and I'm not worrying about the fuel bills."

- Simone Colby, VerMod homeowner, Vergennes

Savings

$3,000 per year

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Customer stories

"When we saw the operating and energy savings the choice was easy. We have done extensive testing and analysis over the past two years and we are finding the treatment has actually improved."

- Peter Krolczyk, Chief Operator, Waterbury Wastewater Treatment Facility

Savings

$40,700 per year

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Economic impact

We have completed projects with all 16 Vermont hospitals over the past five years.

Sector Lifetime Savings

$63 Million
461,000 MWh

Non-energy benefits

Water savings
Indoor air-quality
Patient comfort

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2016 Results

132,826
MWh saved

136,004
MMBtu saved

$82,500,000
Net lifetime value of efficiency investments Vermonters made in 2016

Avoided pollutants

894,251 tons
Carbon dioxide

425 tons
Nitrogen oxides

939 tons
Sulfur oxides

Every $1 invested in efficiency = $2 saved[1]

73,554
Households served

$9,154,075
Saved by households

8,341
Businesses served

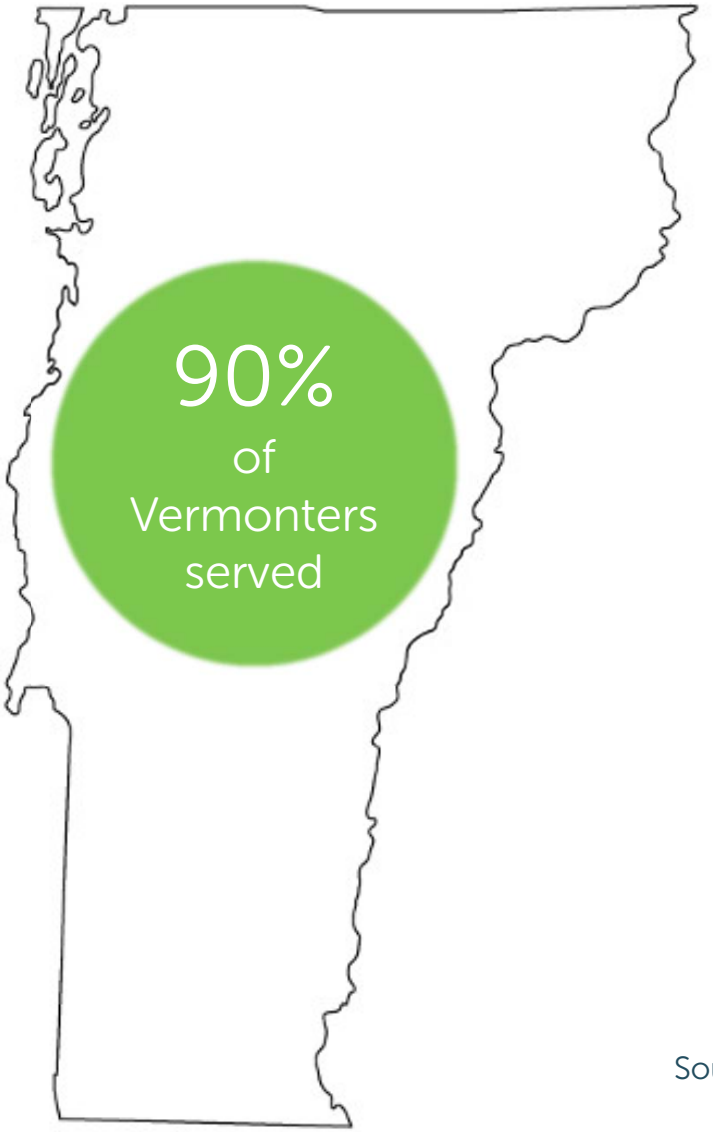
$9,163,543
Saved by businesses

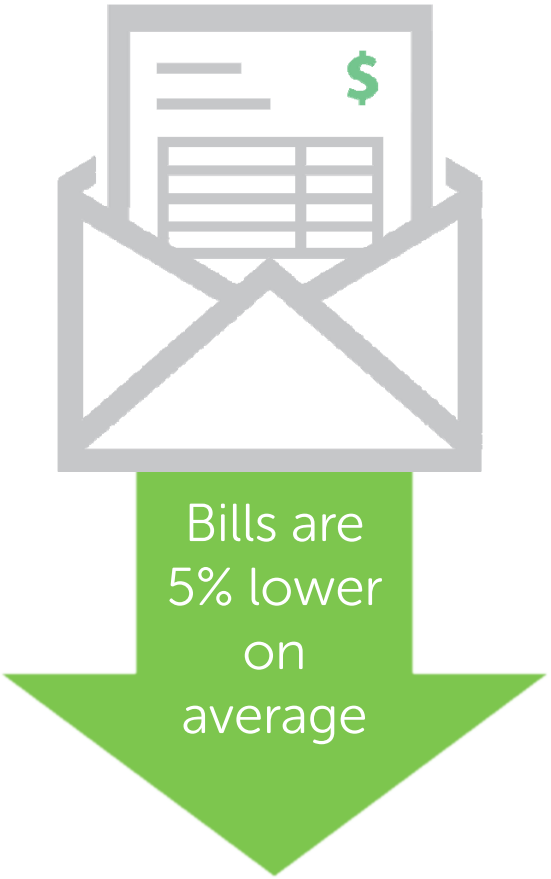
Source: Efficiency Vermont's Savings Claim Summary, 2016

1. Investments are Efficiency Vermont's and participants' 2016 costs. Savings are participants' lifetime savings from 2016 investments. Customer Credit is not included.

Efficiency Vermont

Fifteen-year results





Source: Public Service Department Report to Legislative Joint Energy Committee, 2016

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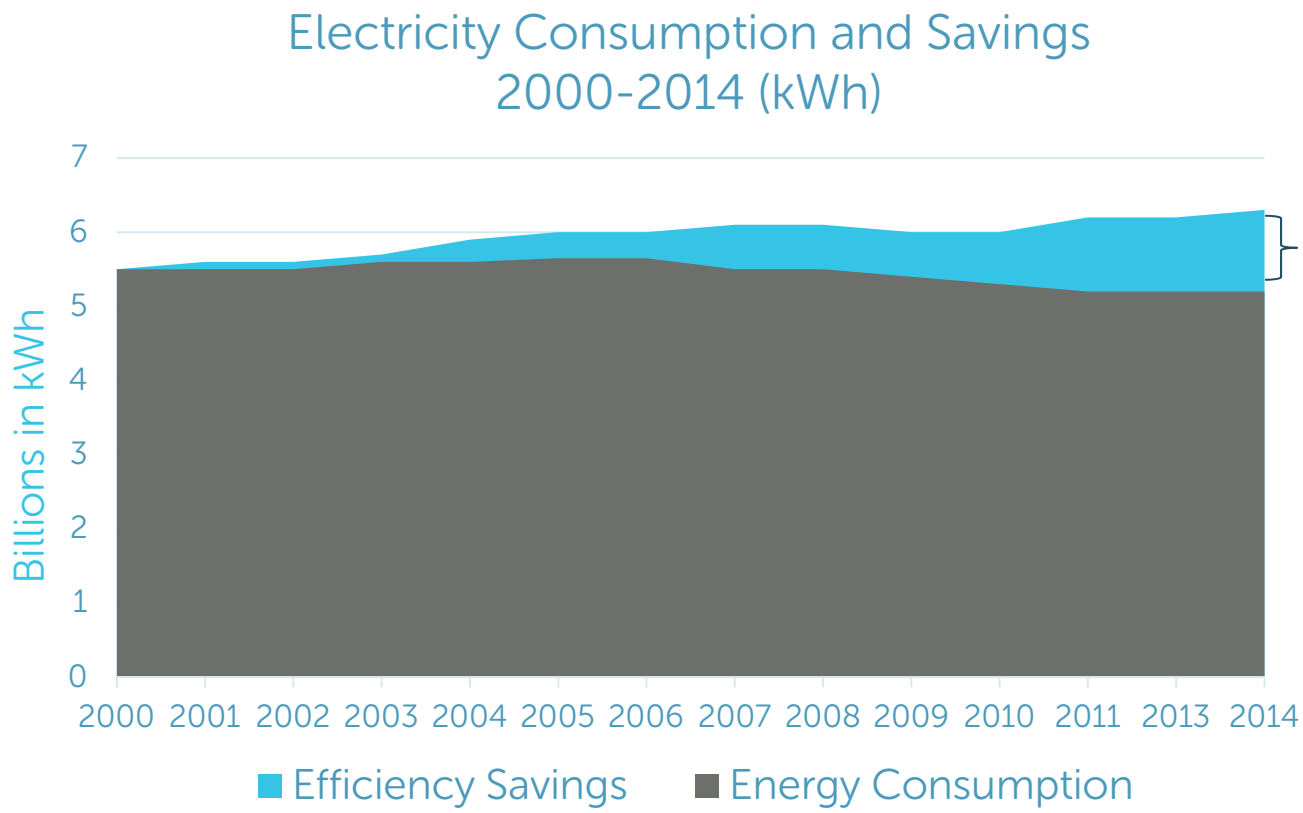
Fifteen-year results



$473M savings attributable to efficiency programs

– EEC paid in

$48M net savings

Source: Public Service Department Report to Legislative Joint Energy Committee, 2016

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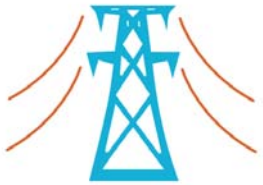
System benefits

Savings for All

When we lower our statewide electric use, every Vermonter saves.
Here's how:

Utilities are buying less power.



Utilities are spending less on transmission and distribution.

VELCO has deferred $279M in projects

Vermonters are paying less to maintain and build the New England power grid.

Fewer power plants are needed because demand is lower.

Source: Public Service Department Report to Legislative Joint Energy Committee, 2016

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Policy and Regulatory

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VT energy efficiency policy

30 VSA § 218c

- Requires comprehensive, cost effective energy efficiency programs "to acquire the full amount of cost-effective savings"

30 VSA § 209(d)

- Public Service Board appoints energy efficiency utility (EEU) to deliver efficiency programs in multiple service territories
- Board to establish performance goals, budget, and energy efficiency charge rate "to achieve all reasonably available, cost-effective energy efficiency savings"

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VEIC Order of Appointment

- 11-year appointment
- Requirements:
  - Address demand-side electric and thermal efficiency
  - Participate in statewide and regional energy planning, ISO-NE forward capacity markets
  - Provide technical assistance
- Compensation:
  - Based on incurred costs, achievement of performance goals, operations fee

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Demand Resources Plan (DRP)

- Every three years
- Sets goals, budgets, & compensation rates for next performance period
- PSB sets budget by balancing four objectives in 209(d)(3)(B):
  1. Reduce size of future power purchases
  2. Reduce generation of greenhouse gas emissions
  3. Limit the need for upgrades to electric transmission and distribution infrastructure
  4. Minimize the cost of electricity

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Performance-Based Regulation

- 3-year performance periods
- 20-25 Quantitative Performance Indicators, such as
  - Energy and peak (kW) demand reduction
  - Low-income spending
  - Geographic equity
- DPS reviews expenses and savings claims
- Overall Performance Assessment conducted every six years
- Board approves Triennial Plan and annual updates

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Budget and Performance

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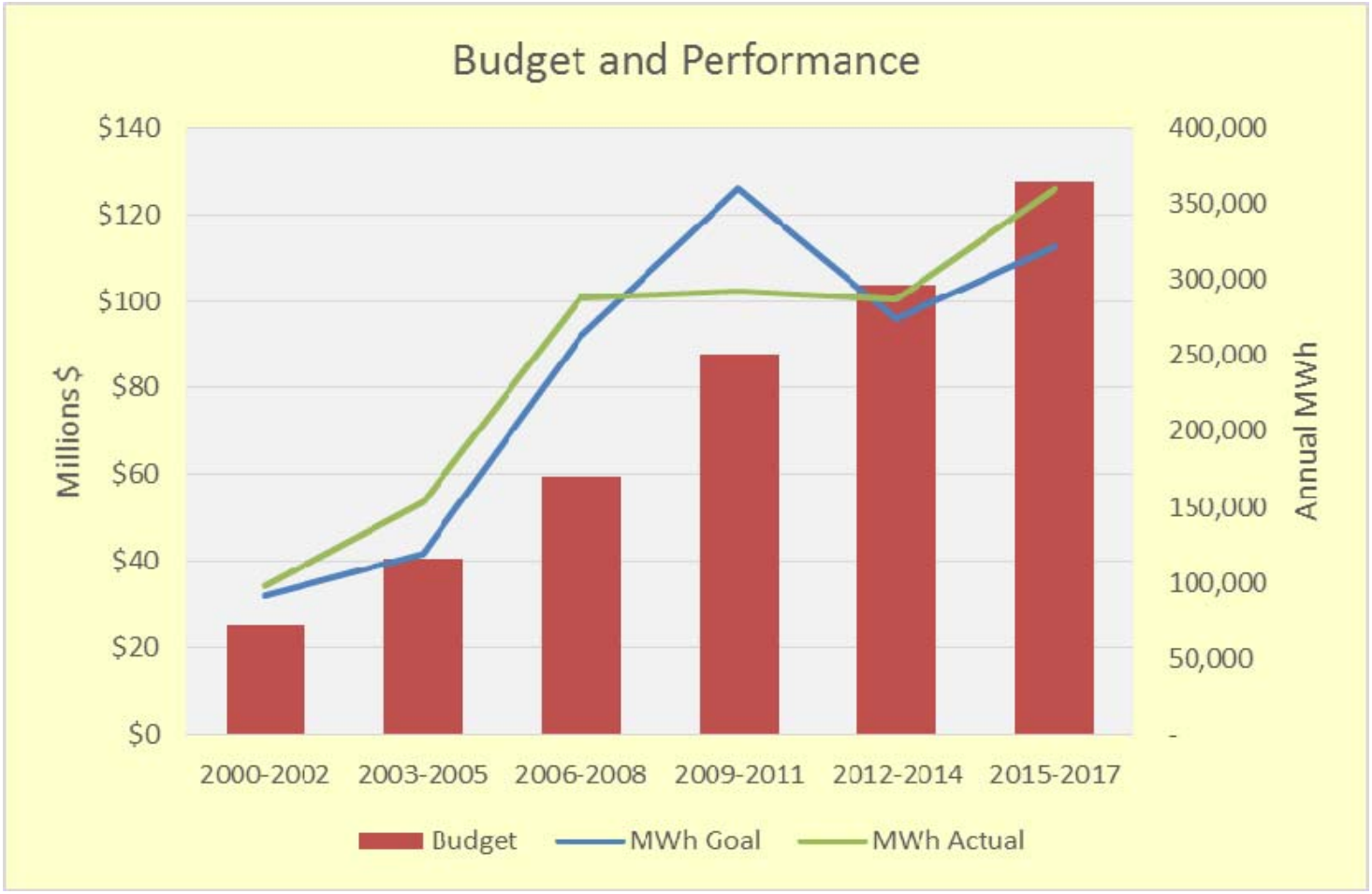
Budget



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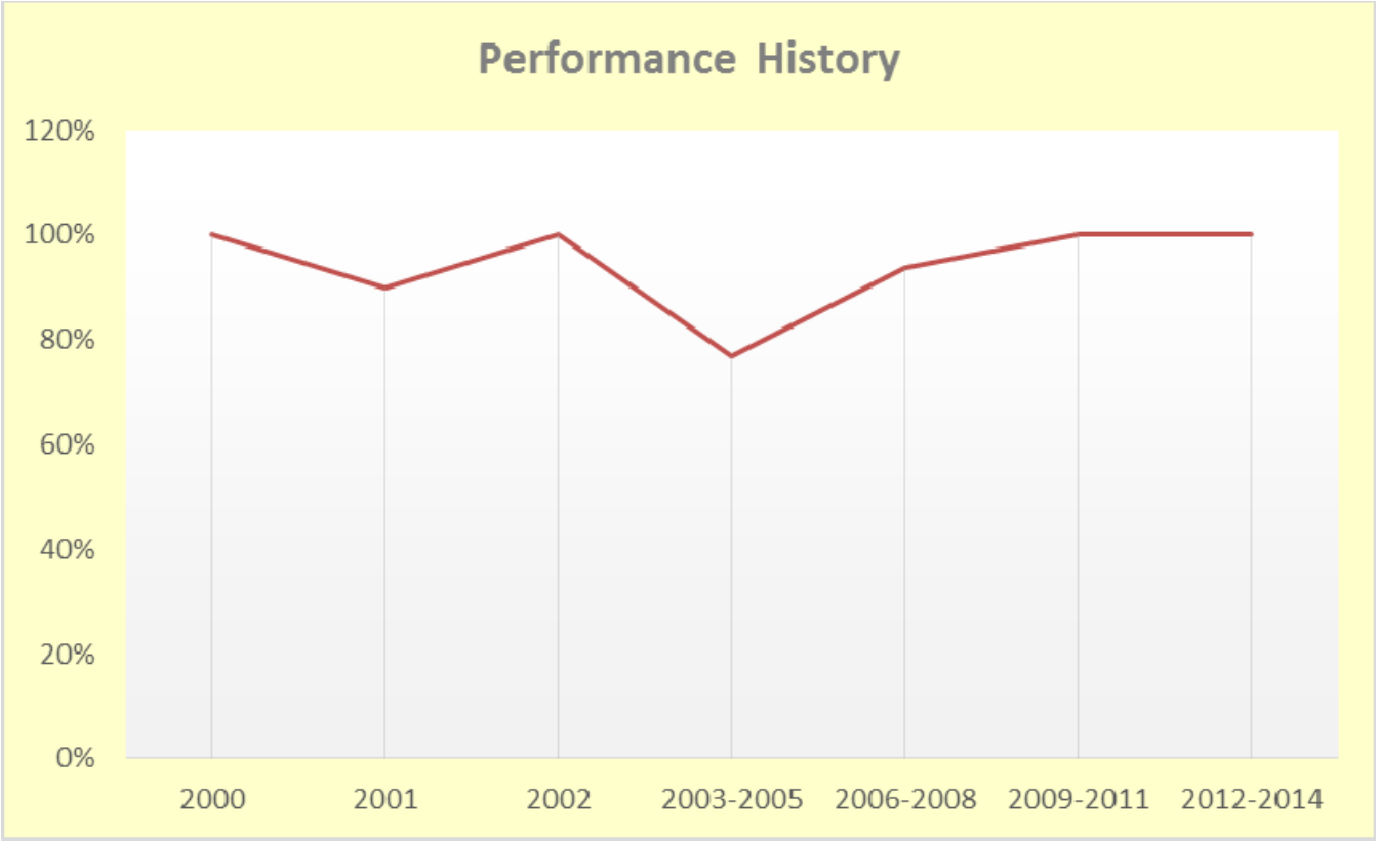
Performance indicators



- 95% (101 of 106) of indicators exceeded minimum performance levels since 2000

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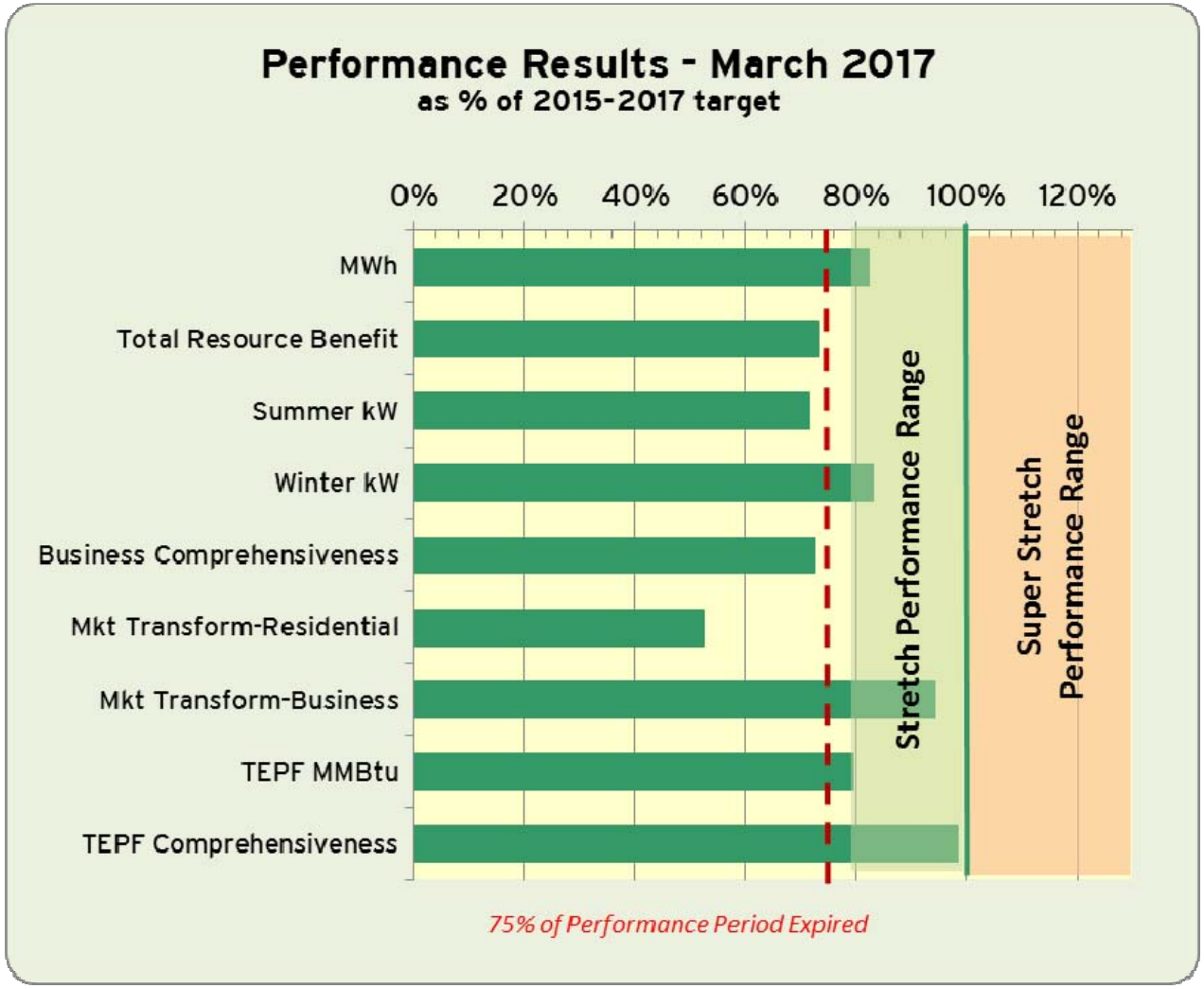
Current period performance



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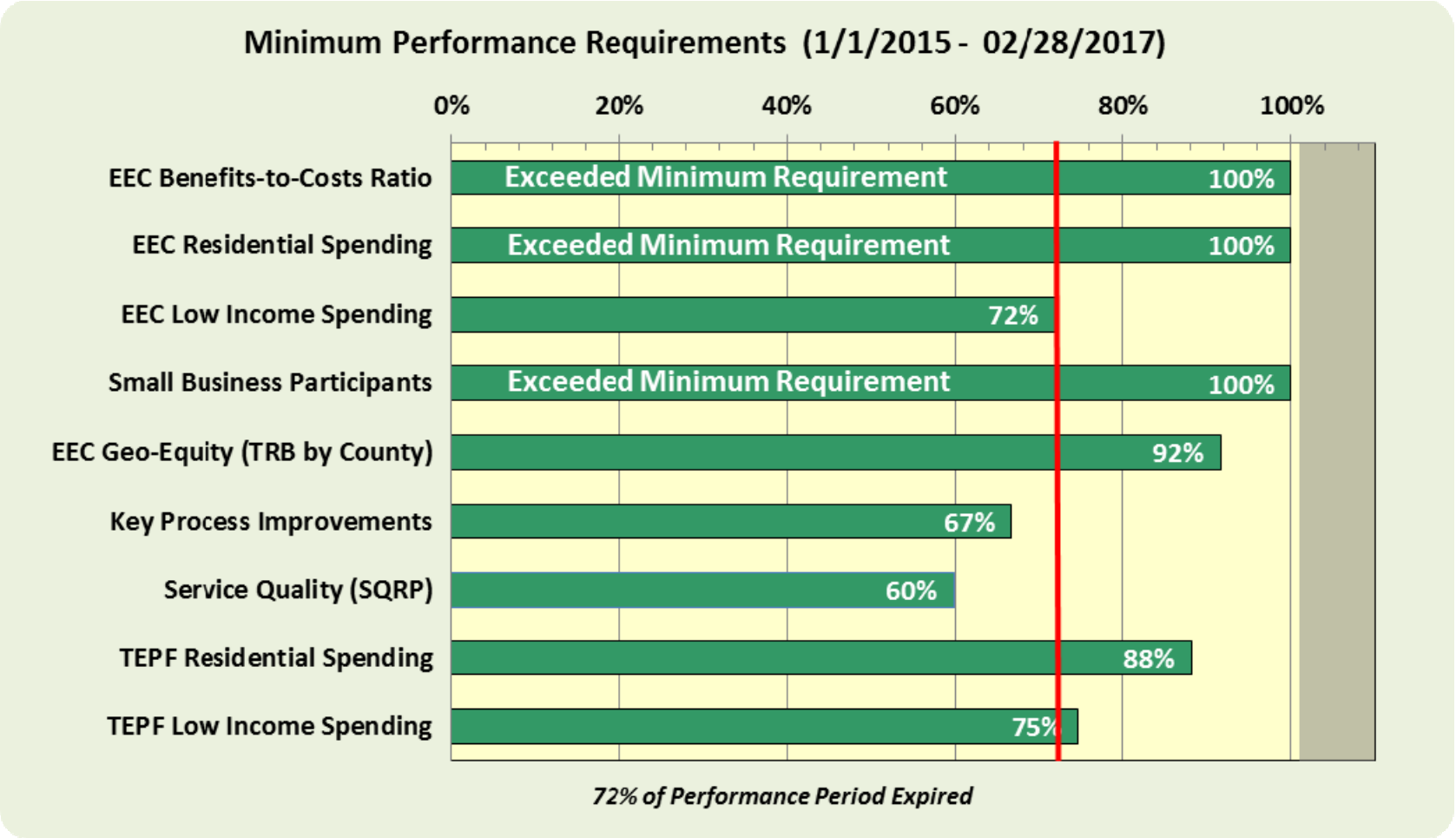
Current period performance



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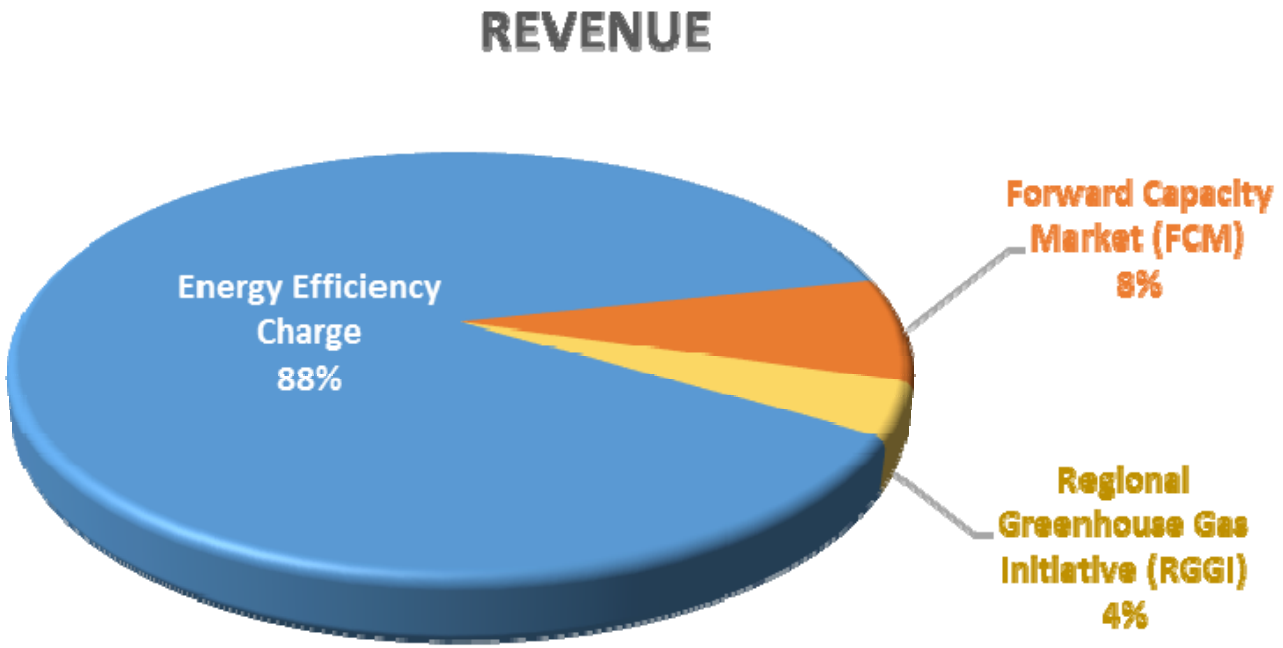
Budget 2016



Source	Programs	Revenue
Energy Efficiency Charge	Electric	$50,575,902
Forward Capacity Market (FCM)	Thermal	$4,443,898
Regional Greenhouse Gas Initiative (RGGI)	Thermal	$2,289,281
Total Revenue		**$57,309,081**

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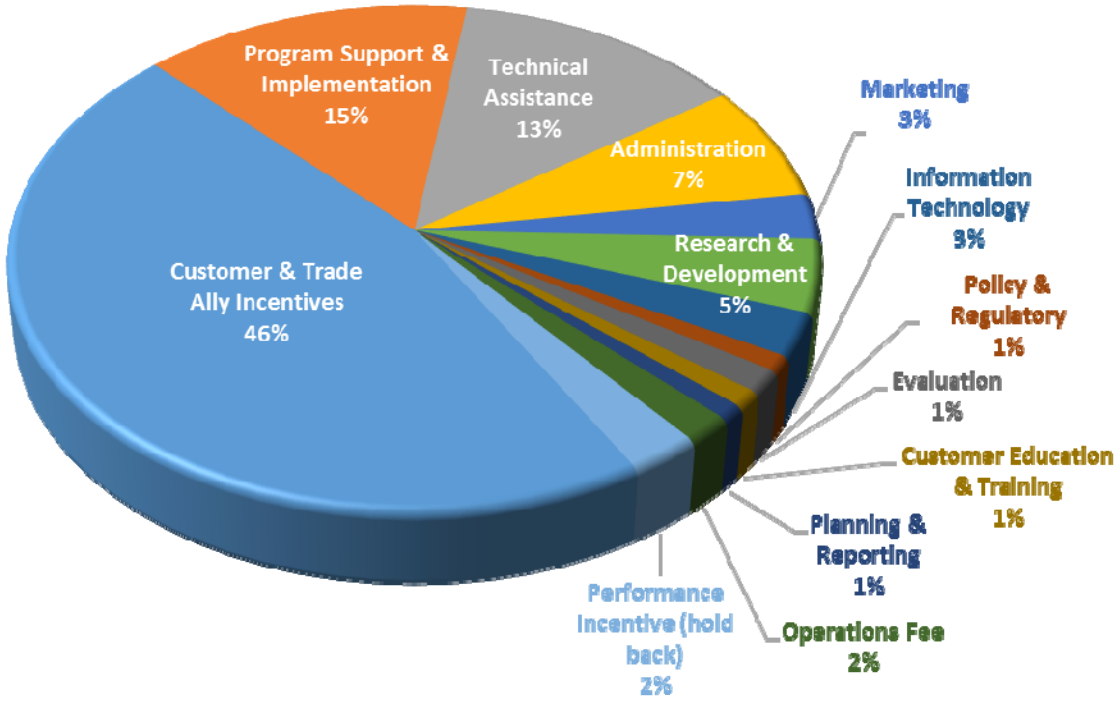
Allocation of expenses

Activities Supporting Efficiency	Expense
Customer & Trade Ally Incentives	$26,383,287
Program Support & Implementation	$8,375,166
Technical Assistance	$7,389,310
Administration	$4,247,068
Marketing	$1,674,436
Research & Development	$2,657,710
Information Technology	$1,591,713
Policy & Regulatory	$569,295
Evaluation	$823,219
Customer Education & Training	$587,061
Planning & Reporting	$529,515
Operations Fee	$986,900
Performance Incentive (hold back)	$1,494,401
Total Expenditures	**$57,309,081**



- 74% of spending directly benefits customers through services and incentives

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Performance highlights

Since 2000:

- Saved 15M in lifetime MWh = enough to power 100% of VT households for seven years
- Leveraged $260M investments in products and services
- Reduced lifetime greenhouse gas emission by 10.4M US tons CO_2 equivalent.
- Achieved benefit-to-cost ratio of 2:1

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Vision for the Future

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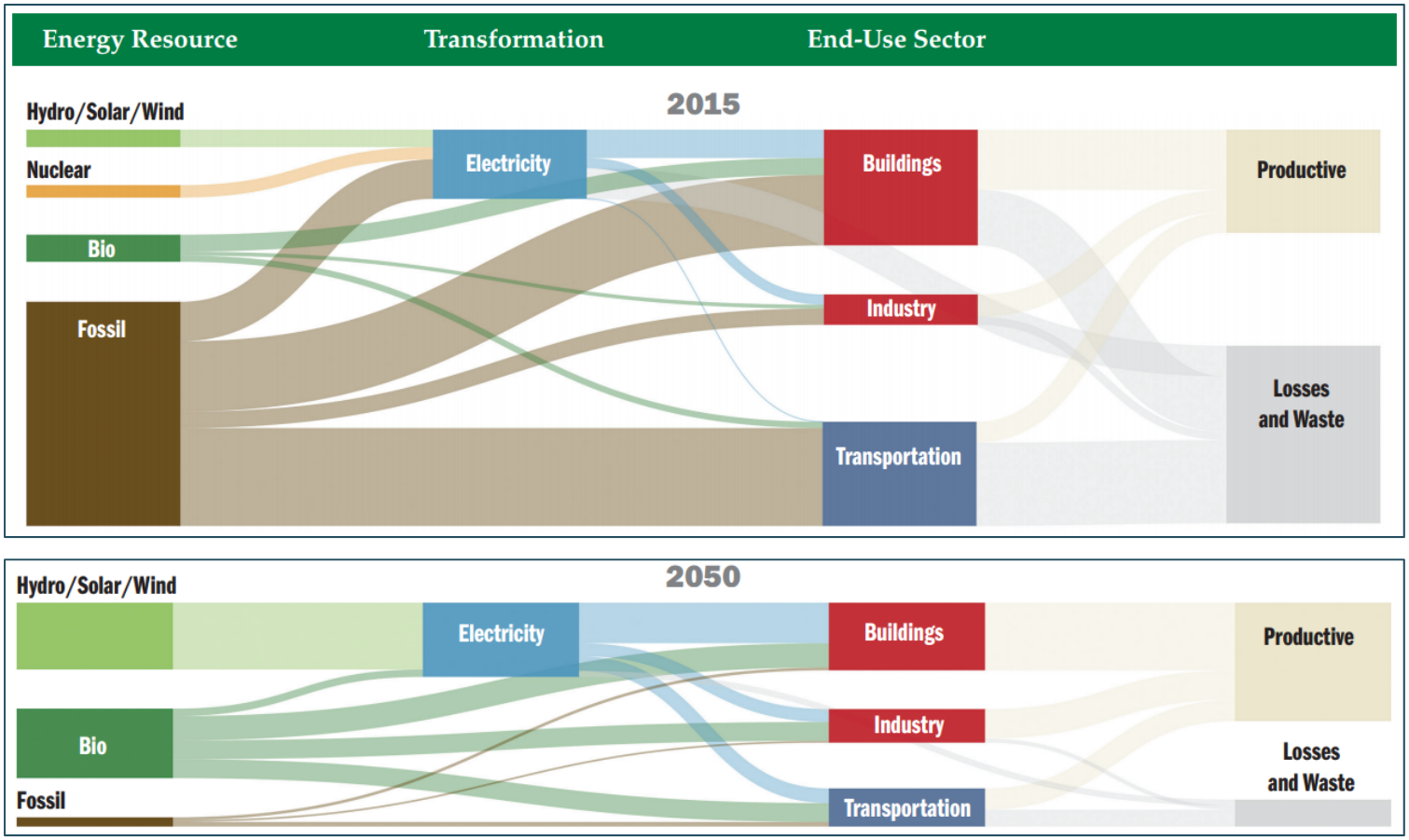
Comprehensive Energy Plan

How we get to 90% renewable by 2050…



Source: Vermont's Comprehensive Energy Plan, 2015

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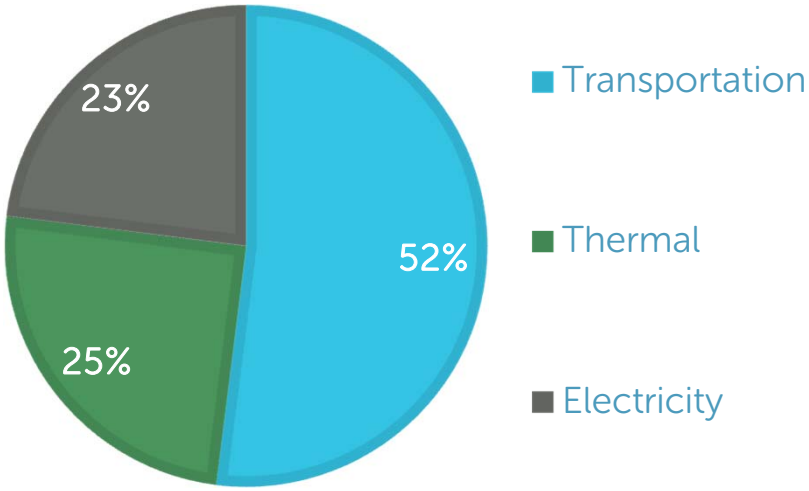
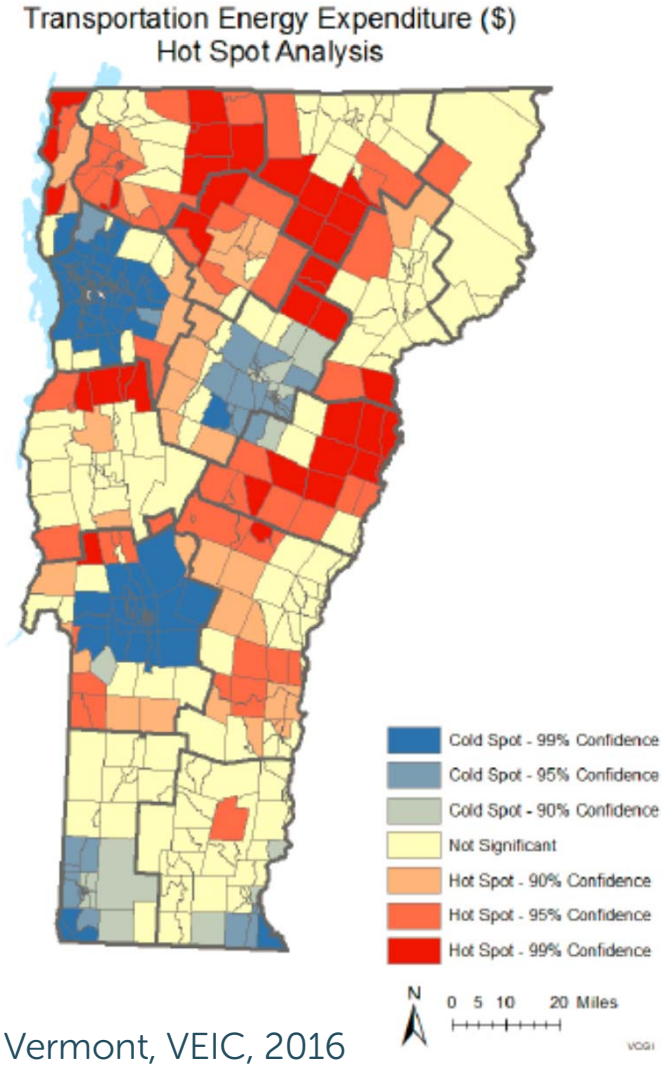
Energy affordability

Vermont's Household Energy Costs



Average total annual energy cost: $4,700



Source: Mapping Total Energy Burden in Vermont, VEIC, 2016

Where we're headed

Goals:

- Drive down the total cost of energy & bolster economic growth
- Decrease greenhouse gas emissions
- Reduce the energy burden, especially for the most vulnerable

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Thank you!

Liz Gamache
lgamache@efficiencyvermont.com

Abby White
a.white@efficiencyvermont.com

David Westman
dwestman@efficiencyvermont.com

Jim Massie
jmassie@efficiencyvermont.com

Charlie Smith
csmith@veic.org

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