

NEW HAMPSHIRE REVEAL PROJECT UPDATE FOR THE EESE BOARD

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IF YOU WERE IN THE MARKET FOR A HOUSE...

What would you want to know about its energy performance?

- RESNET HERS ratings for new construction
- US DOE Home Energy Score (1-10 Scale)

PROJECT BACKGROUND

2014 DOE Funding Opportunity Announcement

Diffusion of Home Energy Score

Past Vermont Activities

Home Energy Score and label

Formation of VT/NH team

- Expand on VT work
- Allow NH to leverage off VT's progress

DOE Grant Award

- Lead: VT Dept. of Public Service and VT Energy Investment Corp.
- Subrecipients: VT Energy Futures Group, NH OEP, GDS
- NH partners: CORE Utilities & NH Local Energy Working Group

ABOUT "REVEAL"

REVEAL "Recognizing Efficiency Value through Energy Asset Labeling"

- VT/NH approach to Building Energy Labeling and Benchmarking
- Key Project Objectives
- Small Budget

What's Been Done - VT

- Advisory Board
- Vermont label developed/tested
- Homes labeled through small pilot
- Broader launch plans development
- Date collection and label input streamlining



THIS HOME'S EXPECTED \$3,664



The Vermont Home Energy 145 MMRH. Expected Annual Energy Usage This scale represents how much energy your home is expected to use over the course of a year, placed on a scale of 0 to 200+, where zero energy usage is most efficient. This home's usage: 145 MMBtu/vr

40

High Performance home

for variable factors such lights and appliance usage. Energy usage and costs are LOWEST estimates only. See reverse ENERGY USE

HOME INFORMATION

side for details.

Profile is a report on three

home energy; usage, cost,

and efficiency. The profile

is based on this home's

building features such as

size, structure, insulation

levels, and mechanical

systems. Standardized

assumptions are used

as weather, occupancy,

related components of

LOCATION:

\$3,664

Expected Annual Energy Costs*

Built to energy code (RBES 2011)

Avg. VT home.

111

The breakdown of fuel usage is based on the Juels used in this home and average fuel costs as of June 2015.



Energy Features that Contribute to this Home's Profile



Envelope Tightness: 1525 CFM50 AtticInsulation: R-60 Well Insulation: R-TI

Primary Heating System/Fuel: Gil Boiler Primary Heating System Efficiency: 86% AFUE Water Heating: Oil, Indirect Tank

Windows: Double-Pane, Clear

U.S. DEPARTMENT O **ENERGY**

U.S. DOE HOME ENERGY SCORE

The data utilized to produce this home's Vermont Home Energy Profile can also show how your home compares to others nationwide. The U.S. Department of Energy (DOE) Home Energy Score uses a 10-point scale to describe your home's efficiency where 10 is the most efficient. For more information about this home's national score, visit www.homeenergyscore.gov



HOW DOES THE VERMONT HOME ENERGY PROFILE WORK?

The Vermont Home Energy Profile is a tool to assess a home's energy consumption and overall efficiency by reporting on three related components: annual energy use, annual energy costs and the DOE Home Energy Score. The Profile also allows for comparison of one home to another. Information in this Profile is based on building features such as size, structure, insulation levels, and mechanical systems, and incorporates standardized assumptions for the number of occupants, occupant behavior, weather, and lighting and appliance usage. A home's actual energy use and costs will vary. Assessments are completed by qualified Assessors who meet DOE certification requirements.

EXPECTED ANNUAL ENERGY USE - The lower the expected MMBtu on a scale of 0-200 the better! A low MMBtu identifies a home as energy efficient with a smaller carbon footprint and lower energy costs.

EXPECTED ANNUAL ENERGY COSTS - Energy costs vary greatly depending on the fuels used in a home. The energy cost calculation allows a homeowner to compare the expected costs based on fuels used in their home.

DOE HOME ENERGY SCORE - This score allows homes to be compared nationally, where a "10" corresponds to the most energy efficient home. The average U.S. home scores a "5".

ASSUMPTIONS & DEFINITIONS

Average Vermont fuel prices are used to generate the estimated annual energy costs presented in this score. Values are obtained from the Vermont Fuel Price Report. The following table shows pricing assumptions used in this report.

COMPARING THE COST OF HEATING FUELS							
TYPE OF ENERGY	BTU/UNIT	TYP	\$/UNIT	\$/MMBTU		HIGH EFFICIENCY	\$/MMBTU
Firel Gill, Gallon	138,200	80%	52.67	\$24.16		9516	\$20.35
Kerosene, Ballon	136,600	80%	\$3,24	\$29.60	Г		
Propane, Gallon	91,699	80%	\$2.50	\$34.14		9356	\$29,37
Natural Bas, Therm	100,000	80%	\$L43	\$17.91		9514	\$15.08
Electricity, liwh (Resistive Heat)	3,42	100%	\$9,15	343.46			
Electricity, Bish (Cold Climate Heat Pump)	3,42		\$9.15			24096	\$18.52
Wood, Cord (Green)	22,000,000	:60%	\$22704	\$17.21			
Fellets, Ton	16,400,000	80%	5294	522.41			

Current fuel price reports can be obtained from the Public Service Department website. http://publicservice.vermont.gov/publications/fuel_report

MMBTU - 1 MILLION BTUS - A btu (British Thermal Unit) is a unit of energy, specifically the amount of energy required to raise 1 lb, of water 1 degree Fahrenheit. For reference, this is approximately the amount of energy released by burning 1 wooden match. 1 MMBtu = 7 gal fuel oil, 10 therms of natural gas, 11 gal of propane, or 293 kWh of electricity.

ENERGY CODE - Vermont's Residential Building Energy Standards (RBES) were enacted in 1998. These standards set minimum energy performance guidelines for new construction and renovation building features. For more information see: www.publicservice.vermont.gov/topics/energy efficiency/rbes

REFERENCE HOMES FOR EXPECTED ANNUAL ENERGY USEAGE SCALE

LOWEST ENERGY USE - A highly efficient home that produces as much energy as it consumes is considered a Net-Zero Home. This home would have a 0 score.

AVERAGE VERMONT HOME - An average Vermont home is defined as 1,972 square feet, oil boiler and integrated hot water, built to Vermont's minimum energy code specifications (RBES 2011).

HIGH PERFORMANCE HOME - Efficiency Vermont's highest performing residential new construction service tier. These homes can be up to 75% more energy efficient than a home built to code

HIGHEST ENERGY USER - Some of the most inefficient homes in Vermont can consume over 200 MMBtu/year in total energy.

ADDITIONAL RESOURCES

CARBON FOOTPRINT

As it relates to this profile, the amount of CO2 (in lbs.) released into the atmosphere per year as a result of the energy used to operate your home. Total carbon footprint includes the products we consume as well as transportation and other activities. You can calculate your carbon footprint from the data supplied by your Vermont Home Energy Profile. Learn how by visiting:

www.epa.gov/climatechange/ghgemissions/ind-calculator.html

LOCATION EFFICIENCY

Curious how your neighborhood ranks in terms of total cost of home ownership and transportation? Take a look at the Center for Neighborhood Technology's Housing and Transportation Affordability Index at http://htaindex.cnt.org/map

ENERGY EFFICIENCY PROGRAMS

The following programs can help get you on the path to making your home more energy efficient.

Efficiency Vermont · 888-921-5990 · www.efficiencyvermont.com

Vermont Gas Systems • 802-863-4511 • www.vermontgas.com

Burlington Electric Department • 802-865-7342 • www.burlingtonelectric.com

NeighborWorks of Western Vermont · 802-438-2303 · www.nwwvt.org

Vermont's Weatherization Program - www.dcf.vermont.gov/oeo/weatherization



Efficiency Vermont was created by the Vermont Legislature and the Vermont Public Service Board to help all Vermonters reduce energy costs, strengthen the economy, and protect Vermont's environment. For more information, contact Efficiency Vermont at 888-921-5990 or visit www.efficiencyvermont.com.



Profile Elements

AboutProfile description



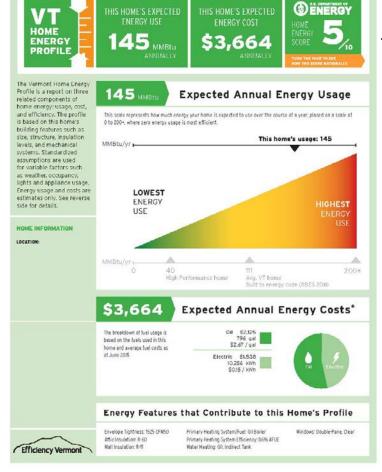
General home information



Assessor information



Features
Key features of
the home





Dashboard

Key metrics to rate home's performance



Wedge

Visualization of total energy use & reference points



Annual Cost

Estimated fuel use and costs

Planned Activities – NH

- Leverage off Vermont's experience
- Advance development of NH home energy labeling program
- Real estate industry outreach and continuing education
- Coordination with NNEREN on MLS fields
- Building energy labeling/benchmark toolkit development & dissemination
- Targeted Municipal benchmarking pilot design & delivery

WHAT'S BEEN DONE IN NH?

- NH Energy Code Collaborative research & facilitated discussions
- Green Real Estate Symposium planning & promotion
- Forming NH Stakeholder group
- NH municipal buildings benchmarking pilot design & utility discussions

NEXT UP FOR NH - STAKEHOLDER GROUP

- Finalize stakeholder group
- Facilitate monthly stakeholder meetings
- Finalize NH-ized label, leveraging VT label
- Finalize program design (infrastructure, tools and logistics)
- Develop time line for subsequent pilot testing

NEXT UP FOR NH - OTHER

- Real Estate Course Review
- New Hampshire Municipal Buildings Benchmarking Pilot

QUESTIONS/CONTACTS

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