



ENERGY FUTURES GROUP

energyfuturesgroup.com

Residential Building Energy Labeling in Vermont

INTRODUCTION AND OVERVIEW & ACT 62 LEGISLATIVE REPORT

Richard Faesy

2/4/2021

Richard Faesy Bio

- Energy Futures Group
 - Principal
 - Co-founded in 2010
- Vermont Energy Investment Corporation (VEIC)
 - Managed Energy Efficiency Consulting Division
 - 21 years
- Building Performance Professionals Association
 - Board Secretary
- Energy Coop of Vermont
 - Former Board Member and Board Chair
- Vermont Involvement
 - Energy Action Network; Public Service Department energy codes, building energy labeling, and finance report contractor; Chair Finance & Funding Committee of Thermal Energy Task Force, etc.

Energy Futures Group

Vermont-based clean energy consulting firm established in 2010

Areas of Expertise

- Energy efficiency & renewable energy
- Program design
- Integrated resource planning
- Policy development
- Expert witness testimony
- Building codes
- Evaluation
- Cost-effectiveness

Range of Clients

- Government Agencies
- Advocates
- Regulators
- Utilities



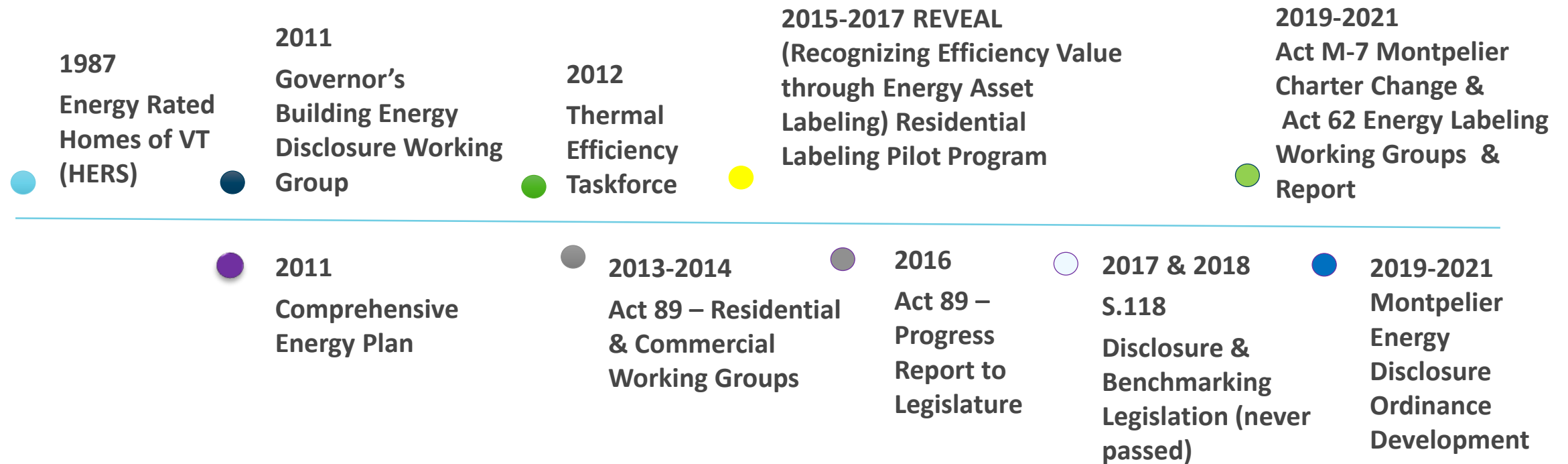
Clients in 45 states and provinces plus regional, national and international organizations.

Agenda

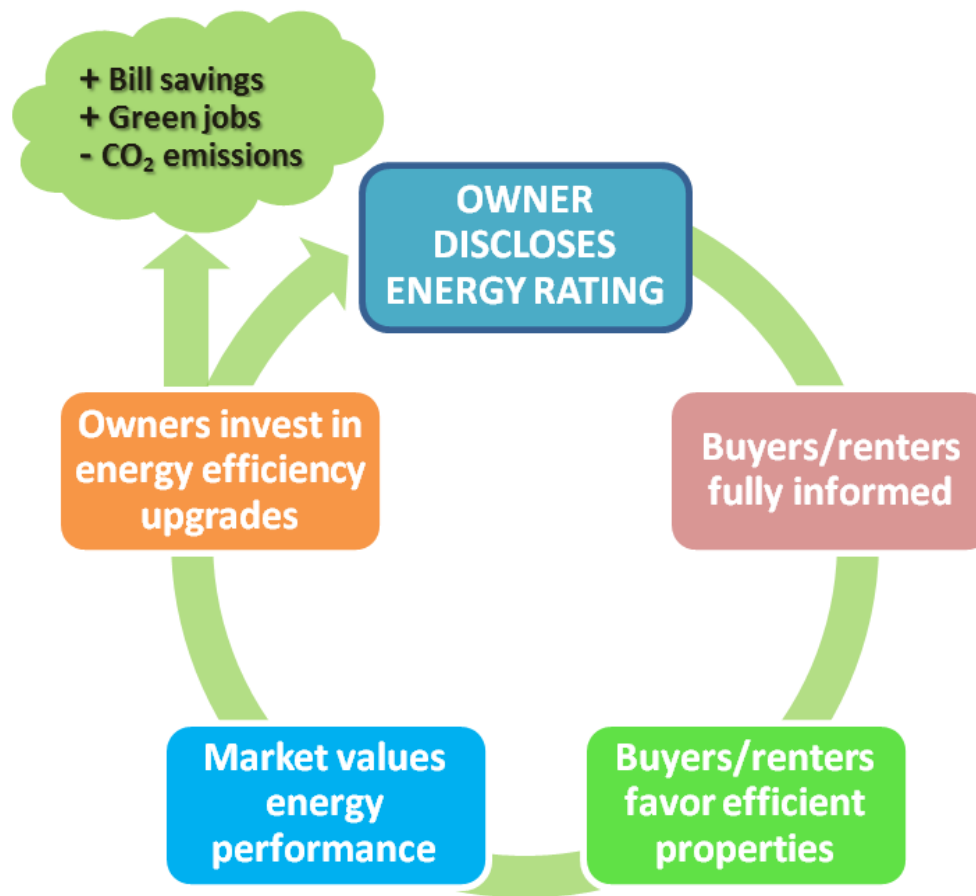
- Introduction and Overview
 - Vermont's Long History of Rating & Labeling
 - Why Label Buildings?
- Act 62 Report Overview
 - Act 62 Directive
 - Working Group Members
 - Summary Recommendations



Vermont's Energy Rating, Labeling & Disclosure History



The Building Energy Labeling Virtuous Cycle



DUNSKY ENERGY CONSULTING, *Valuing Building Energy Efficiency through Disclosure and Upgrade Policies*. Northeast Energy Efficiency Partnerships (NEEP), November 2009.

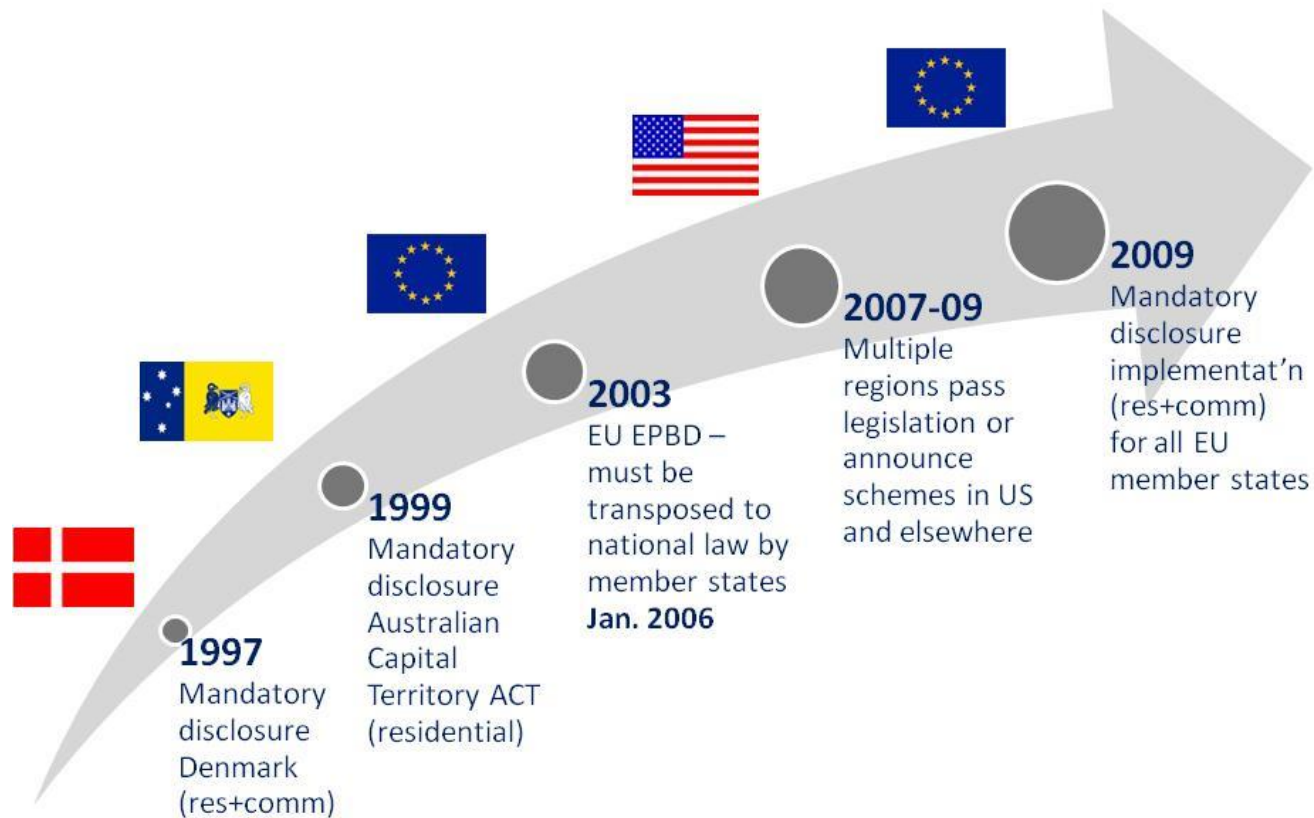
How “triggered” disclosure leads to energy savings

Informed Consumers Make Better Decisions

- Energy costs are just one factor in a larger decision, but homebuyers like having energy information, as they do with cars
- Poor scores do not necessarily “kill” a sale; they just indicate opportunity to reduce energy costs

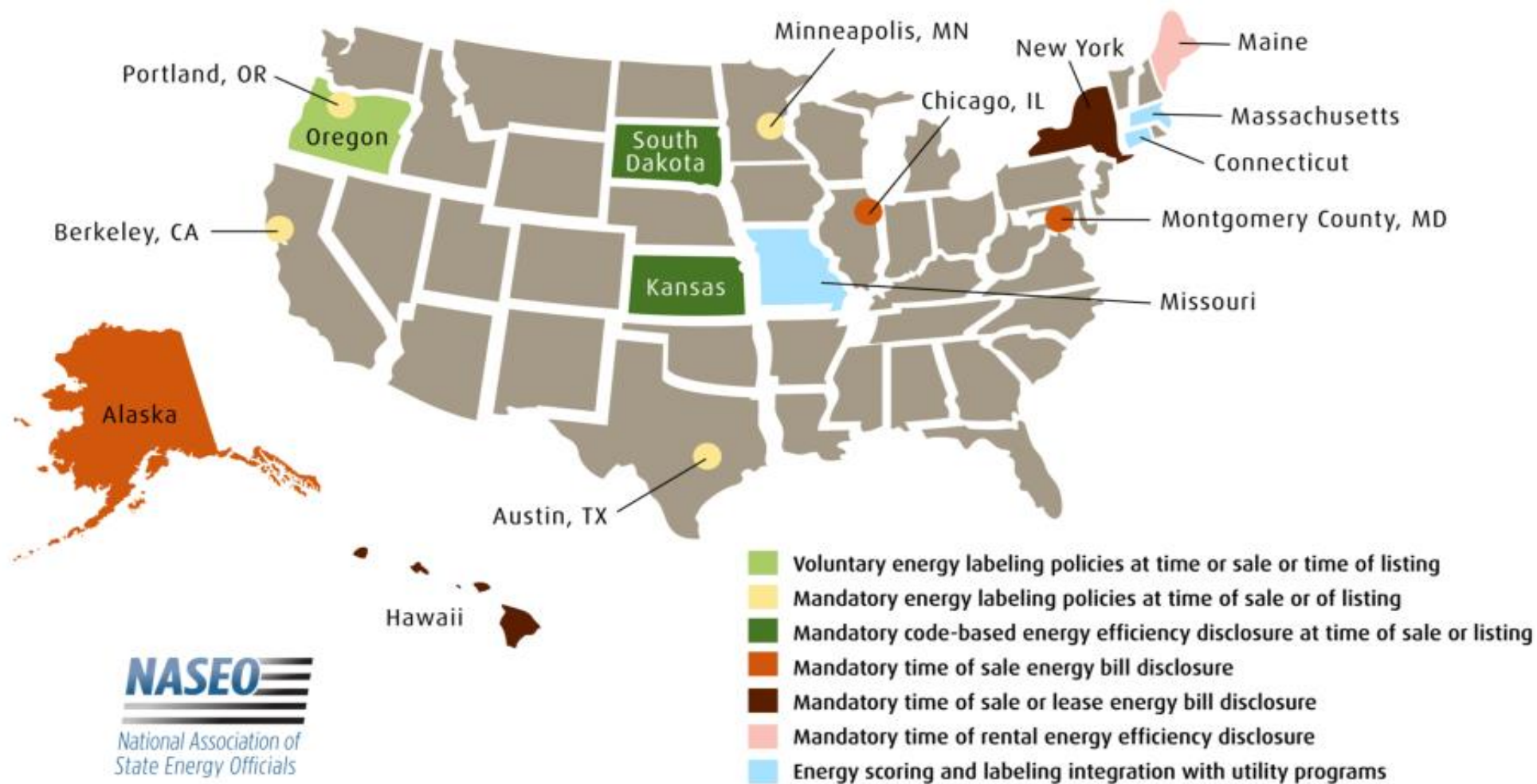


Energy Disclosure Isn't A New Idea



DUNSKY ENERGY CONSULTING, *Valuing Building Energy Efficiency through Disclosure and Upgrade Policies*. Northeast Energy Efficiency Partnerships (NEEP), November 2009.

Residential Energy Disclosure Policies in States and Cities



As of
June 2020

Impacts of Energy Labeling

- Green-certified and efficient homes typically sell at a 3-6% premium
- Energy-transparent and green-certified homes sell 18-31 days faster
- Energy information in listings increases traffic to energy efficient homes
- Homeowners can better afford mortgage payments in energy efficient homes
- Home energy audits and labels drive significantly higher retrofit rates

Labeling and Disclosure Benefits Buyers & Sellers

1. Protects and rewards investments made in your home for energy efficiency and solar
2. Helps the market to better value efficient homes with energy cost transparency
3. Consumer protection by helping buyers know what they are getting into

2/4/2021



Act 62 Energy Labeling Report

Act 62 Building Energy Labeling Working Groups Report

- Report delivered January 15, 2021
- Act 62 of 2019 called for the convening of:
 - Residential Building Energy Labeling Working Group
 - Commercial and Multiunit Building Energy Labeling Working Group
- My focus today is on the residential sector

**Residential Building Energy Labeling Working
Group & Commercial and Multiunit Building
Energy Labeling Working Group:**

Report to the Vermont House Committee on Energy and
Technology and the Senate Committees on Finance and
on Natural Resources and Energy

As Called for by Act 62 of 2019

January 15, 2021

Submitted by:
Vermont Department of Public Service

Act 62 Directives

- The Working Groups were directed to advise the Department of Public Service Commissioner on the following:
 1. Requirements for home assessors, including any endorsements, licensure, and bonding required;
 2. Programs to train home energy assessors;
 3. Requirements for reporting building energy performance scores given by home energy assessors and the establishment of a system for maintaining such information;
 4. Requirements to standardize the information on a home energy label; and
 5. Other matters related to benchmarking, energy rating, or energy labels for residential, commercial, and multiunit buildings.

Additional Requirements

- Additionally, a report and recommendations were required to be completed and submitted to the General Assembly by January 15, 2021 on the following:
 - The appropriateness and viability of publicly disclosing the results of benchmarking as defined in 30 V.S.A. § 61; and
 - The impact of benchmarking, energy labelling, and energy rating, upon the housing market and the real estate industry in Vermont.

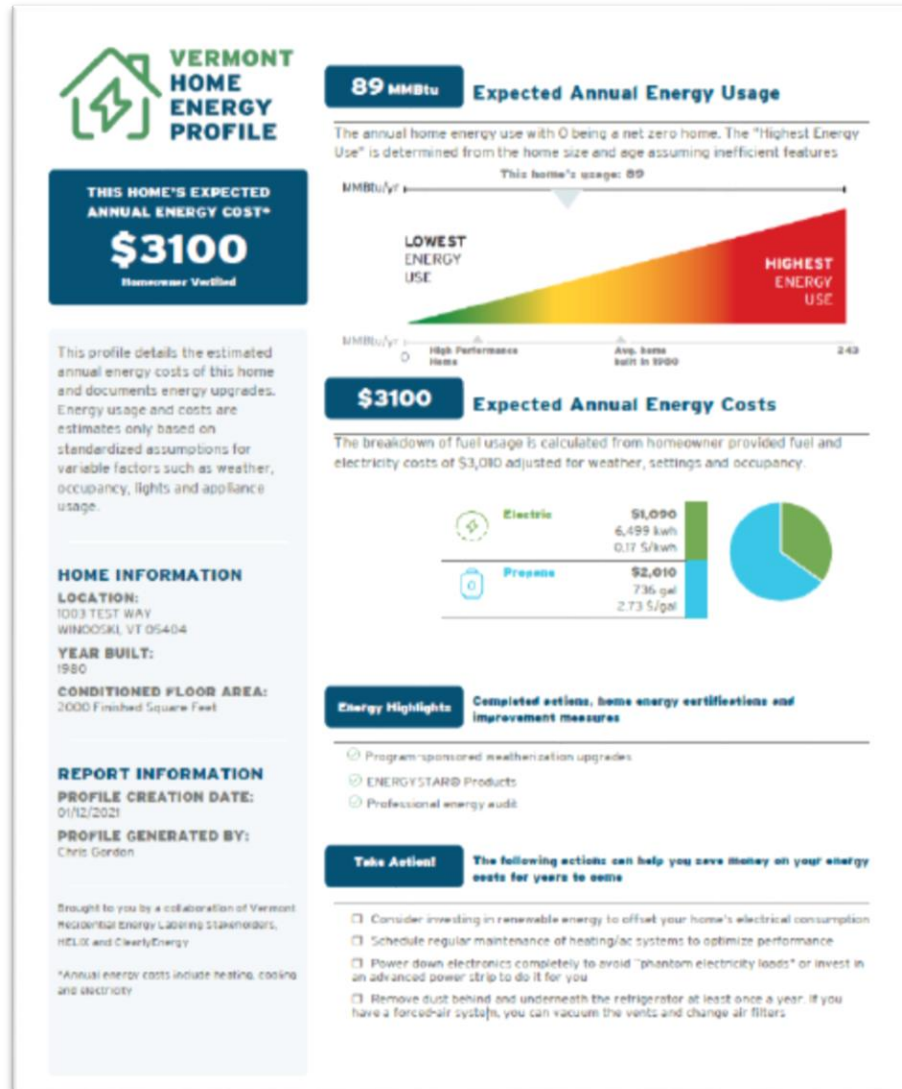
Residential Working Group Members

- **Appointed Members**
 - Vermont Department of Public Service Representative – Kelly Launder
 - Expert in the design, implementation, & evaluation of energy efficiency programs and policies – Richard Faesy, Energy Futures Group (Co-chair)
 - Efficiency Vermont Representative – Chris Gordon (Co-chair)
 - Burlington Electric Department Representative – Tom Lyle
 - Vermont Gas Systems Representative – Karen Horne
 - Vermont Office of Economic Opportunity Representative – Josh Larose
 - Vermont Community Action Partnership Representative – Paul Zabriskie, Capstone
 - Vermont Housing & Conservation Board Representative – Craig Peltier
 - Building Performance Professionals Association Representative – Malcolm Gray, BPPA Board Chair
 - Vermont Association of Realtors Representative – Martha Lange, Berkshire Hathaway Home Services Vermont Realty Group
 - Other members with expertise in energy efficiency, building design, energy use, or the marketing and sale of property – Melanie Paskevich, NeighborWorks of Western VT & Tim Yandow, Central Vermont Office of Economic Opportunity
- **Other stakeholder participants**
 - Keith Levenson, Vermont Department of Public Service
 - Geoff Wilcox, Vermont Office of Economic Opportunity
 - Michael Russom, Burlington Electric Department
 - Leslie Badger, Efficiency Vermont
 - Amy McClellan, Milne-Allen Appraisal Company
 - Jeffrey Gephart, Real Estate Trade Ally Outreach, Efficiency Vermont
 - Chris West, Home Builders Association
 - Robert Lehmert, Carbon Negativity
 - Peter Tucker, Director of Advocacy and Public Affairs, Vermont Association of Realtors®
- **Additional Assistance**
 - Carolyn Goldthwaite, Northeast Energy Efficiency Partnership
 - Maddie Koewler, National Association of State Energy Officials
 - Veronique Bugnion, ClearlyEnergy

Recommendations

1. Energy Label – Vermont Home Energy Profile (VHEP)
2. Reporting Requirements & System for Maintaining Information
3. Administration and Oversight
4. Public Disclosure of Information
5. Requirements and Training for Home Assessors
6. Recommendations to Increase the Impact of the VHEP

1. Energy Label – Vermont Home Energy Profile (VHEP)

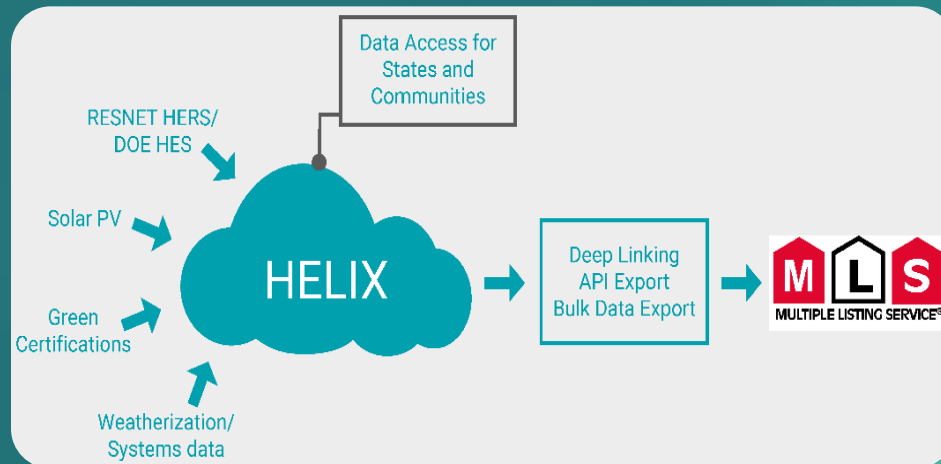


- The “Vermont Home Energy Profile” (VHEP) is recommended to be made available for use on a voluntary basis
- Any municipalities that choose to require building energy disclosure use the VHEP for consistency
- The VHEP be created from the Energy Estimator, a customer-facing web tool developed by ClearlyEnergy and the Northeast Energy Efficiency Partnership (NEEP).
- The Working Group further recommends that the energy usage and cost estimate displayed on the VHEP be derived from asset-based energy modeling.

Home Energy Labeling Information eXchange (HELIX)



HELIX provides states with a central repository to store home energy labels, certifications, and solar PV data. This database is designed to automatically populate real estate listings with home energy information.



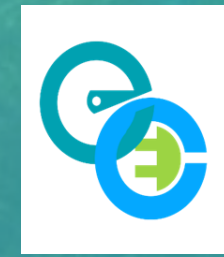
The first iteration of HELIX was supported by a U.S. DOE SEP grant hosted by the state of Vermont

HELIX can:

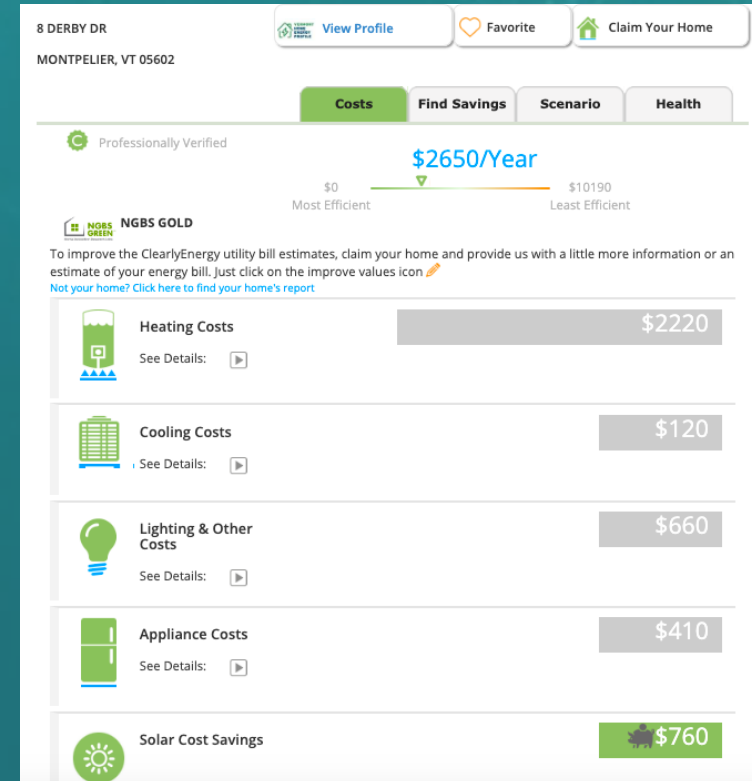
- Assist utilities in attributing energy savings to specific program expenditures;
- Track code compliance and analyze impacts of new construction energy code adoption;
- Automatically generate custom reports and energy labels to serve state or community-specific needs in meeting policy goals.

Energy Estimator Powered by HELIX & ClearlyEnergy

A Model Tool Jointly Developed by NEEP & ClearlyEnergy



- Educational virtual energy audit performed jointly by homeowner and contractor
 - Features easily understood step-by-step audit questions
 - Features secure login, home claim, and lock process
 - Starts with a baseline estimate and refines based on home energy features and/or utility bill data
- Custom energy profile report highlights energy features
 - Offers targeted energy efficiency improvement recommendation logic
 - Home profile and upgrade history stored in HELIX
- Custom savings page with links to incentives, professionals, product sites, and additional resources



For more information, see the Energy Estimator [Webpage](#) and [One Pager](#).

Energy professionals can easily review audited homes and share custom energy reports with homeowners

HELIX + Energy Estimator = Vermont Home Energy Profile



THIS HOME'S ANNUAL EXPECTED ENERGY COST:
\$1456

This profile details the estimated annual energy costs of this home, and documents verified energy upgrades completed by a professional contractor. Energy usage and costs are estimates only. Standardized assumptions are made for variable factors such as weather, occupancy, lights and appliance usage.

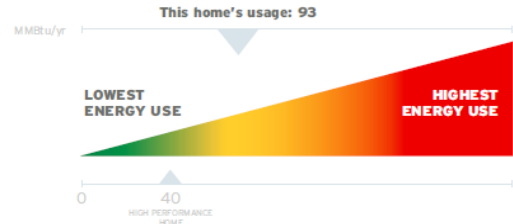
HOME INFORMATION
LOCATION:
123 Main Street,
Anytown, VT 05000
YEAR BUILT:
2005
CONDITIONED FLOOR AREA:
3,029 sq. ft.

REPORT INFORMATION
PROFILE ISSUE DATE:
6/10/20
GENERATED BY:
John Doe

Brought to you by a collaboration of Vermont Residential Energy Labeling Stakeholders and HELIX-CE

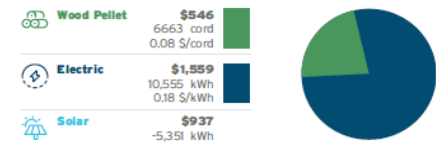
93 MMBtu Expected Annual Energy Usage

The amount of energy this home is expected to use over the course of the year, with 0 being a net zero energy home.



\$1456 Expected Annual Energy Costs

The breakdown of fuel usage is an estimate based on the fuels used in this home:



Source: Professionally verified
The Energy Estimate powered by HELIX and ClearyEnergy

Energy Highlights Completed actions, home energy certifications and improvement measures

Congratulations! You've taken the first step to understanding your home's energy use...

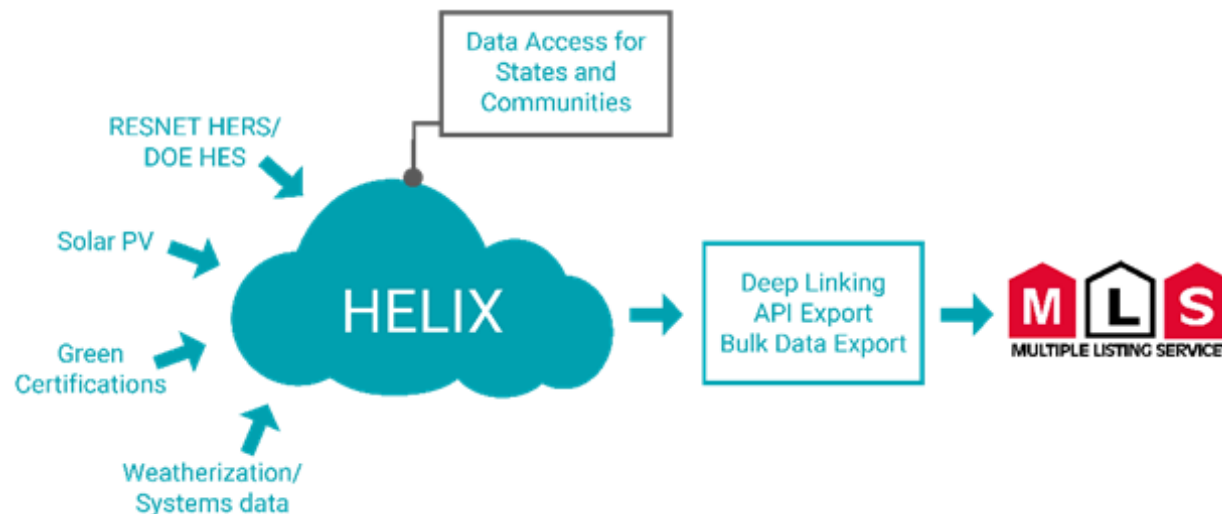
- ✔ Generated a Vermont Home Energy Profile.

Take Action! The following actions can help you save money on your energy costs for years to come:

- Schedule regular maintenance with a professional for your heating and cooling (if applicable) equipment to ensure optimum performance.
- Ensure insulation levels meet Vermont Residential Building Energy Standards.
- Discover if unseen air leaks are contributing to heat loss and creating uncomfortable drafts in your home.
- Verify all appliances and mechanical equipment are ENERGY STAR® certified.

2. Reporting Requirements & System for Maintaining Information

- No reporting requirements beyond the state supported programs (EEUs and the State Office of Economic Opportunity, “OEO”) reporting weatherization program completions on a quarterly basis.
- HELIX Platform administered by NEEP be used as the system for maintaining building energy information.



3. Administration and Oversight

- Efficiency Vermont, Vermont Gas, and Burlington Electric Department, as the state's EEUs, collaborate to administer
 - Scope for the work should be consistent with the resources available to carry it out.
- An advisory committee be created to govern the delivery of the Vermont Home Energy Profile
 - Determine the overall roles and requirements for administration of a voluntary labeling program.

4. Public Disclosure of Information

- All asset-based data about a home's level of efficiency as generated by the Programs or the Energy Estimator, shall not be considered private if customers choose to make that information publicly available.
- HELIX should not store any Personally Identifiable Information (PII)
 - Except in cases where the customer agrees to make it public
- Data entered into the Energy Estimator tool for the purpose of generating a label, also not be considered private
 - A checkbox for the homeowner to allow the information entered to be made public.
- The Working Group recommends that all EEU's and OEO implement program participation terms that identify final project completion data to be considered public.
 - This data shall be limited to asset-based data elements and recognition of final project completion.

5. Requirements and Training for Home Assessors

- No credentials are required to use the Energy Estimator tool
- If a building is to be listed as “professionally verified” and certified energy information is not available in HELIX, the profile be generated by a “Credentialed Professional”.
- The Energy Estimator tool is also designed to be usable by homeowners and assessors without technical training
 - Online and in-person training for homeowners and professionals in the use of the Energy Estimator tool should be offered

6. Increase the Impact of the VHEP

- EEU's support building energy disclosure in their programs and in the real estate industry by using the VHEP to encourage investment in home energy efficiency and drive demand to higher-performing homes.
- EEU's should support municipalities that encourage the disclosure of the Vermont Home Energy Profile in the home buying, selling, and renting process.
- Recommend statewide education and outreach for home buyers, sellers, and the housing industry about the benefits of home energy labeling.
 - Provide and promote a public GIS map display of VHEPs.



Questions?



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