Financing Residential Energy Efficiency in Vermont

Principal Investigators:

Marianne Tyrell

Rebecca Wigg

Colin Hagan

July 2011

Acknowledgements

The research team would like to thank Gaye Symington, Executive Director of the High Meadows Fund, for her support, guidance, and expertise. We owe many thanks as well to our partners from the Vermont Energy Investment Corporation (VEIC) and the Regulatory Assistance Project (RAP) for their collaboration and advice. In particular, we want to thank Peter Adamcyzk, George Twigg, and the late Blair Hamilton from VEIC; and Ajith Rao and Riley Allen from the Regulatory Assistance Project.

We thank the following individuals for the valuable contributions they made to this report: Laura Abbott, Dave Adams, Bob Barton, Valerie Beaudin, Joseph Bergeron, Kim Bino, Leslie Black-Plumeau, James Brown, Chris Burns, Tom Candon, Sarah Carpenter, Scott Carpenter, Peter Cillo, Maura, Collins, Sarah Cowan, Peter Crosby, Chris D'Elia, Cheryl Fatnassi, Clay Francis, Jeff Gephart, Ken Gibbons, Peter Goodell, Chris Granda, Arne Hammarlund, Chuck Karparis, James Moore, Polly Nicol, Corey Richardson, Jim Rietmulder, Mike Seaver, Gus Seelig, Chip Stone, Mike Tuttle, Sarah Woodward, Dan Yates, and Zhen Zhang.

We also thank the many Vermont lenders who gave generously of their time and insights to inform this report.

Finally, we appreciate the support from many individuals within Vermont Law School's Institute for Energy and the Environment who assisted with various tasks, from conceptual development to document editing and formatting: Shannon Clarke, Laura Colangelo, Michael Dworkin, Don Kreis, Katherine Johnson, Matt Stern, Jenny Thomas, and David Zoppo.

**The Institute for Energy and the Environment
at Vermont Law School**

The Institute for Energy and the Environment at Vermont Law School is an international resource for energy law and policy. The research team produces technical and practical reports and guides on pressing energy topics, including Smart Grid, agricultural energy efficiency, end use and system energy efficiency, and alternative generation sources. The team includes faculty members with deep experience as regulators and industry leaders who oversee project teams composed of student researchers who are pursuing JD, MELP (Masters in Environmental Law and Policy), and LLM degrees at the law school. For additional copies of this report, please call us at 802.831.1151 or send a request to Institute for Energy and the Environment, 164 Chelsea St, South Royalton, VT 05068.

Dedication

We dedicate this Report to the memory of Blair Hamilton, friend, colleague and inspiration. As co-founder of the Vermont Energy Investment Corporation and first Director of the "Efficiency Vermont" program, Blair both laid out the foundations of our work and showed us a vision towards which we all can go. Moving counties, states, and nations toward new horizons; seeing every problem as an opportunity to create and cure; Blair challenged all of us and made us grow. Blair challenged us and challenged himself even more, for which we owe him the thanks we offer in this report and in our future work as well.

I. EXECUTIVE SUMMARY

We began this research based on the assumption lack of financing stops most homeowners from improving the energy efficiency of their homes. However, after only a few interviews with Vermont lenders, the primary issue emerged: lack of demand. Without a strong reason to demand more energy efficiency, few homeowners will work through the bewilderingly complex process that leads to an outcome with unknown benefits. Vermont needs a simple, start-to-end process that includes easily accessible financing and policies that make the value of energy efficiency improvements visible to homeowners and to the market. Just as a bird requires two wings to fly, effective energy efficiency will require both adequate financing and strong customer demand.

In 2008, the Vermont General Assembly passed Act 92, The Vermont Energy Efficiency and Affordability Act,[1] ambitious legislation to substantially improve the energy efficiency of 25 percent of Vermont's housing stock (or 80,000 homes) by 2020. Despite encouraging progress toward meeting this goal, Vermont is projected to fall short of the goal by up to 28,000 homes.[2] The challenge of this projected shortfall is compounded by the high price tag of upgrades; improving a home's energy efficiency by 25% costs an average of $7,500.

This research led us to conclude that financing itself is a secondary issue. The key issue is lack of demand for energy efficiency upgrades.

In an effort to explore whether there are financing tools or procedures that would enable lenders to accelerate the pace of home energy fitness loans, the High Meadows Fund engaged the Vermont Law School's Institute for Energy and the Environment to research the energy characteristics of Vermont homes, Vermont homeowners' credit characteristics, and the needs and experiences of Vermont lenders with respect to financing energy efficiency improvements in owner-occupied, single-family homes. This research did not delve into the issues faced by low-income Vermonters.

---

[1] Vermont General Assembly, *The Vermont Energy Efficiency and Affordability Act (Act 92)*, March 19, 2008, http://www.leg.state.vt.us/docs/legdoc.cfm?URL=/docs/2008/acts/ACT092.HTM.

[2] RICHARD COWART, ET. AL, THE REGULATORY ASSISTANCE PROJECT, AFFORDABLE HEAT: A WHOLE-BUILDINGS EFFICIENCY SERVICE FOR VERMONT FAMILIES AND BUSINESSES 6 (2011).

Although this research was originally designed to explore the first-cost barrier of financing energy efficiency improvements, the research quickly led us to conclude that financing is a secondary issue. Instead, we found that the key issue is the lack of demand for energy efficiency upgrades. This lack of demand is due to a combination of many factors other than the lack of capital, working individually or in combination with each other, including: debt aversion, split incentives, disbelief or discounting of savings to be realized, paybacks longer than the homeowner's investment horizon, perceived financing and efficiency upgrade transaction costs, and lack of monetization of full public benefits.

The research also revealed multiple obstacles related to the financing of energy efficiency improvements, both for lenders and borrowers. These include:

- The financing process is cumbersome.
- Many Vermonters are not credit worthy under traditional lending standards and will not be able to obtain financing without additional credit enhancements.
- The scale of demand is insufficient to develop strong lender interest.
- Lenders cannot underwrite based on energy savings.

The upfront costs of residential energy efficiency improvements, high perceived transaction costs, and poor access to capital are often believed to be deterrents for homeowners who want to invest in home efficiency improvements. Thus, to increase the efficiency of the state's housing stock and decrease Vermont's demand for energy, it is essential to provide a comprehensive energy efficiency program that includes both a strong marketing component and effective energy financing options tailored to meet the needs of the different homeowner sectors.

The three sectors of Vermont homeowners include: (1) homeowners for whom financing is not a barrier but who need to be catalyzed into action through an strong marketing program, (2) homeowners who need credit enhancements or access to preferred lending programs because they do not qualify for traditional lending, and (3) low-income homeowners who need direct subsidies to improve their homes. Although there are some common obstacles, there are different issues that are specific to the different demographic sectors.

For credit-worthy Vermonters, the most important aim is to drive action using a strong marketing campaign that is integral to a comprehensive program. The key elements of effective energy efficiency lending include: (1) loan terms and conditions that are more attractive than standard loan terms for a comparable loan product; (2) a loan application that is easy to complete with minimal information requirements and a short turn-around to approval; (3) a closing process that is quick and convenient with easily understood documents; and (4) a financing process that is a seamless part of the overall energy efficiency program. For those homeowners who do not qualify for traditional lending, a financing program will have to include credit enhancements and may best be facilitated through a centralized lending program. Finally, low-income Vermonters will need subsidies to pay for energy efficiency improvements. Because of limited funds and manpower, the state needs to determine the best strategy to meet the needs of these sectors while working to achieve its Act 92 goals.

An effective financing program alone is not enough. We must first contend with the factors that contribute to lack of demand: a process that is so complex homeowners shy away from it because they do not trust the savings will be adequate to cover the loan payments and/or that the cost will be reflected in an increased value of their homes. Therefore, the perceived benefits do not warrant the "hassle" of engagement.

Our recommendations, therefore, are broken down into three categories that: (1) drive demand for energy efficiency improvements; (2) make the value of energy efficiency improvements more concrete to homeowners and the market; (3) make the energy efficiency improvement process "seamless" rather than complex; and (4) enhance the financing of energy efficiency by addressing lenders' risk, utilizing a revolving loan fund, and creating alternative lending options. These include:

- Promoting the benefits of energy efficiency by:
    - Creating a strong marketing campaign that focuses on financial benefits, reduced dependence on foreign oil, increased insulation against both uncomfortable homes and the cost of fuel and other volatile energy costs.
    - Incorporating information on the improvement process and services available.
    - Ensuring that these services are readily available and easily accessible.
- Incorporating the value of energy efficiency into the valuation of a home by:
    - Providing information about a home's energy efficiency at the time of sale (like an MPG sticker on a car) and progress to more stringent methods such as a home rating system or requiring homes to meet energy codes at the time of sale.

    - Training appraisers to take into account a home's energy efficiency in the value of a home.
    - Educating homeowners about the benefits to their annual energy bills and the resale value of their homes that result from performing energy efficiency upgrades.
- Making the energy efficiency improvement process more straightforward by:
    - Simplifying the steps along the path to an energy efficient home, so consumers can find information and resources more easily.
    - Helping contractors and other retail service providers like fuel dealers and utilities offer services and financing.
    - Coordinating the efforts of local advocates and civic organizations with the resources and outreach programs of Efficiency Vermont.
- Exploring recommendations to improve the efficacy of current financing options and to create new options tailored to the needs of energy efficiency home improvements, such as:
    - Working with lenders to motivate homeowners to incorporate energy efficiency upgrades at key points in existing transactions, such as mortgage origination or refinancing a home mortgage.
    - Providing training to lenders to help them understand the certainty and savings value of energy efficiency investments.
    - Pursuing new procedures that would expedite lending for energy efficiency and provide incentives for progressively deeper energy improvements.
    - Creating a loan loss reserve pool.
    - Engaging a specialty lender to administer an energy efficiency financing program.
    - Creating a statewide revolving loan fund for energy efficiency improvements.
    - Implementing financing mechanisms based on the savings cash flow, not the credit of the borrower, such as PACE and an on-bill tariffed financing.
    - Exploring new entities such as cooperatives or a Green Bank.

For detailed recommendations, see Section IX.

To meet the ambitious goals of Act 92, this report recommends implementing equally ambitious policies and programs to increase the demand for energy efficiency improvements and expand financing to reach a broad range of Vermonters. The benefits of doing this are clear: improved quality of life and comfort for Vermont residents, reduced expenditures on imported energy, enhanced job creation, and reduced greenhouse gas emissions. Fortunately, the tools exist to make this happen and this is an opportune time to confront this issue. Now we must marshal the political will to implement these tools and, thereby, improve the lives and well being of all Vermonters.