

Storytelling for Zero- Energy Modular Homes:

**A Collaborative Initiative with Efficiency
Vermont's Mobile Home Replacement
Program**

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Introduction

Throughout the course of the semester, our team conducted an in-depth investigation into Zero Energy Modular (ZEM) homes in Vermont and met individuals behind the stark statistics of Vermont's housing energy efficiency challenges. Jargon like energy poverty and energy arrearages can be isolating in their specificity and inaccessible to the general public, and yet they are issues and concepts many Vermonters are familiar with. Within this context, storytelling is a necessary pursuit that allows people to better understand and relate to the issues at hand. To illustrate the stories in different ways, we took a multimedia approach, producing a short and long video, a printed photographic and narrative exhibit, as well as a website to host our photos and written narratives.

We spoke with six Vermonters who were considering their options in obtaining a ZEM home to understand and share their stories and experiences. The contacts we were given had various living situations, as well as varying connections to ZEM housing and Efficiency Vermont. The interviewees' different backgrounds and perspectives displayed the intrinsic challenges and opportunities of energy efficient housing access in Vermont. While it is important to document the existing success stories of people who have been able to obtain a zero energy modular home, our goal was for our story to also reflect as accurately as possible the multifaceted challenges and issues associated with obtaining a ZEM home.

We believe that our interviews, research, photos, and video will provide a glimpse into the lives of the people across Vermont, and give voice to their searches and struggles with living sustainably and economically in Vermont—stories that mere numbers leave behind.

Methods

We choose our interviewees for our project based on a list of individuals provided by Phoebe Howe, Project Assistant and Homeownership Advisor for the Mobile Home Replacement Program at Efficiency Vermont. Efficiency Vermont's Mobile Home Replacement Program was established to help low-income individuals around the state who live in homes that have severe energy burdens or in mobile homes. The program aims to help these Vermonters move into safer, resilient, and more energy efficient homes. Howe had already contacted each of the interviewees to ascertain that they would be amenable to being interviewed for our project. Interviewees often reference VERMOD, which is currently Vermont's only zero-energy mobile home provider.

For our interviews, we developed several guiding questions asking about the individual's personal background. We then delved into their experience with the Efficiency Vermont Mobile Home Replacement Program. The individuals we contacted each had different experiences with the program and currently reside in different living situations. Throughout the interviews, we collected video and audio recordings, as well as photographs. We used these recordings to create two video presentations, and we used the photographs to create printed portraits that will be featured in a model ZEM home.

The video, digital photographs, and written narratives and quotes are compiled on our website (see page 12 for link).

Guiding Interview Questions

Personal Background:

1. Could you tell us about yourself?
 - a. Can you tell us your name?
 - b. What do you do for a living?
 - c. How many people are in your household, do you have any children?
2. How long have you lived in Vermont? Were you or people you know affected by Tropical Storm Irene?
3. What is your previous housing background? What was that experience like?
4. What do you value in a home? What does home mean to you? What does homeownership mean to you?
5. How did you heat your previous home or apartment?
6. What was your experience with energy costs in your previous living situation?

VERMOD Process:

1. How did you find out about VERMOD?
 - a. What has the process been like once you got in contact with Efficiency Vermont or VERMOD?
 - b. What was your experience financing your home?
2. Why did you choose VERMOD?
3. What has been your biggest challenge in acquiring a VERMOD?
4. What were some of the biggest factors in deciding to be part of the VERMOD program?

5. How did you find the site to place your VERMOD?
6. How has the homeownership experience been for you so far?

Interview Approach:

Each interviewee signed a form consenting to the interview as well as future use of audio, video, and photographic recording. We obtained video and audio footage of our interviewees, and additionally took photographic and written transcriptions during the course of the interviews.

We met interviewees in a location of their choosing. Such locations ranged from the Middlebury Natural Foods Co-Op to 3 Squares Cafe in Vergennes to individuals' homes and VERMOD model homes. We also pursued interviews with other experts, such as Peter Schneider of Efficiency Vermont, who Phoebe Howe suggested to us, and also investigated pertinent events and open houses hosted by Efficiency Vermont.

We asked our interviewees a range of open ended questions, and allowed for the interviewees to share as little or as much as they wanted regarding each subject. The interviewees were free to stop the interview at any time for whatever reason.

We kept participants updated in our editing process, and invited them to the final presentation, as well as provided the access information to the final video and website. We chose to use a mix of photography, audio recording, and video recording for our final products in order to make our project materials adaptable for different audiences (e.g. homeowners, individuals looking at the Efficiency Vermont program or other similar programs, students, and Vermont residents).

We hoped to convey the unique experiences of the different individuals featured, which ranged from the comfort, health, and energy benefits to the challenges they are or would experience by living in a Zero Energy Modular (ZEM) home.

Interviewees and Their Diverse Perspectives:

Through our interviews we gathered a variety of perspectives, summaries of which are provided below. We completed six interviews and used footage from five of them for our final video presentation.

Marcie Pleasants & Steve Davis

Marcie and Steve both work for VERMOD; Marcie moved into a VERMOD, and then starting working for them, mainly showing the homes to interested individuals. They emphasized the health benefits of the homes as well as the energy savings. Steve particularly emphasized that people do not need to believe in climate change to get behind the concept of a VERMOD; Steve emphasized the cost savings, health benefits, and high quality of the home. Marcie particularly emphasized the high quality of the home in the way that it was built as well as the health benefits, such as high quality paint that does not release toxins into the home like a lot of paint in traditional mobile homes.

LuAnne Rotax

LuAnne appeared very enthusiastic about moving into her VERMOD home. She is currently experiencing serious mold issues in her current home. The mold affects her daily and has greatly reduced her lung capacity. She cannot wait to move into her VERMOD, which she greatly appreciates for its health benefits, uniquely high quality and simple nature. LuAnne will be benefitting from the Rural Development Loan Program, which will help her to afford her VERMOD.

Mary Mester

Mary is currently retired and emphasized that she could not afford a VERMOD on a retiree's salary. She also has a property in Pennsylvania that she is not willing to sell to buy a VERMOD. Mary currently lives in a log cabin and wants to live with a lot of space around her, distant from neighbors. She values living in a clean and healthy home environment. She is very health-conscious and eats very cleanly. Even with Efficiency Vermont's various financing options Mary was unable to afford a VERMOD.

James Monroe

James was highly interested in the high quality of a VERMOD and values home ownership so that he can call a place his own. He is selling his current condominium to be able to afford the VERMOD. He emphasized the trouble he had finding a suitable mobile home park to site his VERMOD. After deciding to buy a VERMOD, the other piece of the puzzle is finding where to place it. James visited and considered several sites to figure out what the taxes would be and what sorts of amenities, such as supermarkets and restaurants, would be located around the mobile home park. He visited several, and was able to rule some out based on high taxes and another due to the fact that a railroad was located right next to the park and was very loud and noisy. James was looking for a final home, which he will live in and will feel comfortable in for the rest of his life.

Timothy Fisher

Timothy Fisher is an artist and architect living in Cornwall, VT. For some time now, Timothy has been interested in buying a VERMOD for his property in Cornwall. Having recently returned to Vermont after spending the winter in Mexico, Timothy was gracious enough to sit down with us and show us his home, his studio, and his proposed

VERMOD site. Timothy is looking to buy a VERMOD as a home for his son and his son's caregiver. Mr. Fisher has land for the VERMOD on his property, but still needs to figure out the septic and water with the state. The rest of the buildings on the property (two houses, a barn, studio, and other outbuildings) were all built by Mr. Fisher himself. At this point, Mr. Fisher is unable to undertake the construction of another home, and to wit has looked into VERMODs. He has redesigned a custom layout for the home in addition to planning a balcony for the foundation. Mr. Fisher is also inquiring about custom siding that he might install himself. He is interested in this home as a permanent environmentally and financially sustainable housing solution for his family.

Multimedia Outputs

Our project's final products are spread across several mediums. Our primary work is a 13:18 minute video, hosted on Vimeo. This is the link to the longer video: <https://vimeo.com/217774716>. This video weaves together the stories of our interviewees into a narrative about the biggest attractions and challenges of transitioning to ZEM housing in Vermont. Additionally, we have a shorter video, which we showed at our in-class final presentation. This is the link to the shorter video: <https://vimeo.com/216408626>. This is a good video for situations where Efficiency Vermont does not want to show our longer, more extensive and detailed 13:18 minute video.

Our longer video is also hosted on our group's custom website. This site also features short text and photo narratives about each interviewee. Our goal was to provide a variety of clear, concise stories for interested parties (Vermonters, green orgs, state financing initiatives, etc.) to engage with. The website is: cdulik.wixsite.com/vermod.

Furthermore, we have portraits of all the interviewees, which are printed, to be displayed by Efficiency Vermont in either a model home or in their offices. We also created printed descriptions and quotes to go along with each portrait.

Conclusions

The stories interviewees told us have demonstrated, firsthand, the sorts of issues and challenges Middlebury College's Spring 2017 Environmental Studies Senior Seminar class studied during the first half of the semester. The class read, studied, and discussed materials related to energy equity and energy poverty in Vermont and the challenges of accessibility of energy efficient options across socioeconomic divides. We have attached, in this document, a list of relevant readings which our class used to understand and contextualize the issues at hand. The Vermonters we interviewed do not represent as wide a spectrum as we wished to represent. However, they do have different backgrounds and circumstances as they relate to ZEM homes. These stories, we hope, can serve to inform more Vermonters and individuals interested and concerned with energy efficient housing.

The Efficiency Vermont Mobile Home Replacement Program, of which VERMOD is currently the only ZEM producer, is still relatively new and is evolving and expanding to better serve its base. We hope that the stories we gathered can help inform this evolution so that the complexities and challenges to providing and obtaining housing that is both energy efficient and affordable can be addressed.

While we were only able to interview six people on Efficiency Vermont's Mobile Home Replacement program, these interviews gave us a sense that there is most likely a wide array of diverse relationships to energy in the state of Vermont. Each interviewer had a different challenge she or he was facing in regards to obtaining a ZEM home. These challenges included finding a parcel of land on which to place the home, selling current property to afford the home, being unable to access enough financing to be able

to purchase the home, or being unable to communicate effectively with VERMOD about home pricing. For Efficiency Vermont to successfully spread energy efficiency through ZEM homes to low-income Vermonters, we believe it is important for them to continue to gather, understand, and consider a variety of perspectives and the diverse relationships Vermonters have with regards to energy accessibility and costs.

Appendix:

Further Reading

This brief list contains some of the literature we consulted in class and for our project. These key readings offer in depth, academic perspectives on energy burdens, energy poverty, and its challenges.

Al-Beaini, S. 2010. "Feasibility of Achieving a Zero-Net-Energy, Zero-Net-Cost Homes."

Lawrence Berkeley National Laboratory, June.

<http://escholarship.org/uc/item/740114f0>.

Elizabeth Anne Callicoat. 2010. "Mapping Energy Poverty in Huntington, West Virginia."

Master of Science in Geography, Huntington, West Virginia: Marshall University.

Ellsworth-Krebs, Katherine, Louise Reid, and Colin J. Hunter. 2015. "Home -Ing in on

Domestic Energy Research: 'House,' 'home,' and the Importance of Ontology." *Energy*

Research & Social Science 6 (March): 100–108. doi:10.1016/j.erss.2014.12.003.

Hall, Sarah Marie, Sarah Hards, and Harriet Bulkeley. 2013. "New Approaches to Energy:

Equity, Justice and Vulnerability. Introduction to the Special Issue." *Local Environment*

18 (4): 413–21. doi:10.1080/13549839.2012.759337.

Hards, Sarah Katharine. 2013. "Status, Stigma and Energy Practices in the Home." *Local*

Environment 18 (4): 438–54. doi:10.1080/13549839.2012.748731.

Jonathan Teller-Elsberg, Benjamin Sovacool, Taylor Smith, and Emily Laine. 2016. "Energy

Costs and Burdens in Vermont: Burdensome for Whom? A Report for the Vermont Low

Income Trust for Electricity, Inc." Institute for Energy and the Environment.

- Newell, Peter, and Dustin Mulvaney. 2013. "The Political Economy of the 'just Transition': The Political Economy of the 'just Transition.'" *The Geographical Journal* 179 (2): 132–40. doi:10.1111/geoj.12008.
- Public Assets Institute. 2016. "State of Working Vermont 2016." Montpelier, VT.
- Rachel Cluett, Jennifer Amann, and Sodavy Ou. 2016. "Building Better Energy Efficient Programs for Low-Income Households." A1601. Washington, DC: American Council for an Energy-Efficient Economy.
- Rubin, Herbert, and Irene Rubin. 2005. *Qualitative Interviewing (2nd Ed.): The Art of Hearing Data*. 2455 Teller Road, Thousand Oaks California 91320 United States: SAGE Publications, Inc. doi:10.4135/9781452226651.
- Steve Clemmer, Kathryn Wright, and Ryan Cook. 2016. "Financing Clean Energy: A Powerful Tool for Driving Investment in Vermont's Economy." Fact Sheet. Union of Concerned Scientists.
- Teller-Elsberg, Jonathan, Benjamin Sovacool, Taylor Smith, and Emily Laine. 2016. "Fuel Poverty, Excess Winter Deaths, and Energy Costs in Vermont: Burdensome for Whom?" *Energy Policy* 90 (March): 81–91. doi:10.1016/j.enpol.2015.12.009.
- Ürge-Vorsatz, Diana, and Sergio Tirado Herrero. 2012. "Building Synergies between Climate Change Mitigation and Energy Poverty Alleviation." *Energy Policy* 49 (October): 83–90. doi:10.1016/j.enpol.2011.11.093.
- Walker, Gordon, and Rosie Day. 2012. "Fuel Poverty as Injustice: Integrating Distribution, Recognition and Procedure in the Struggle for Affordable Warmth." *Energy Policy* 49 (October): 69–75. doi:10.1016/j.enpol.2012.01.044.

Consent Form:

Following is the consent form we used with each person interviewed:

Release Agreement

Thank you for participating in an interview with the Environmental Studies Senior Seminar from Middlebury College on the topic of Zero-Energy Modular Homes. For this project, Middlebury College students will be conducting oral interviews with voluntary participants on their experiences with Efficiency Vermont's Mobile Home Replacement Program and share their life stories beyond the program. By signing this form below, you give your permission for Middlebury College and Efficiency Vermont to:

- o Use any audio recordings, video recordings, photographs, manuscripts or other material made during or resulting from this interview for scholarly and public educational purposes, including print, live, or on-line publications, broadcasts, and exhibitions, including any subsequent technologies;
- o And to deposit these materials in a public archive where they will be available to researchers and the public for scholarly or educational purposes under the discretion of the Archivist.

You are being asked to participate in an interview/series of interviews that will take between 20 minutes and an hour or more depending how involved you wish to be. These interviews will be audio recorded so that we can be sure to get your story right, and photography and video recording will be used if you are comfortable with it. You may choose to not have your story told in those media forms. You can choose not to

participate or to end your participation in this project at any time. You can refuse to answer any questions.

If you have any more questions feel free to contact us (envs0401_VERMOD@middlebury.edu) or our project advisor (dmunroe@middlebury.edu; 802.443.5925). Thank you so much for your participation!

I have read and understood the above. I have been offered a copy of this informed consent form.

- I consent to having this interview recorded.
- I decline having this interview recorded.
- I consent to having my picture taken.
- I decline having my picture taken.

Participant's Signature

Date

Participant's Printed Name
