1) The installation of LED light bulbs in all of the College's outdoor lighting fixtures in 2012 called for an initial investment of $15,680. The College only needed to pay $4,480, while Efficiency Vermont covered $11,200 through a rebate. Over time, the cumulative savings of the simple switch from mostly CFL light bulbs to LED light bulbs will be astounding. In a time span of 15 years this one project will have reduced electricity use and labor so much that it will have saved the college $80,365. In January of 2014, the project had already paid itself back, allowing the savings to go toward the Two Editor's Inn project.

2) The PV array installed beside Dunton Hall in the Spring of 2013 provides electricity for the grid as well as a charging station for electric cars. Dubbed the "charging station" this project cost $32,400. A GMP grant paid for $12,500, while a State rebate paid for $3,366, leaving $16,534 to be paid for by GMC through the revolving loan fund. The project has a payback of approximately 14 years. The payback comes from electricity credit that GMC receives on its bill when the net-metered system isn't charging cars and is producing energy that is flowing back to the grid.

3) In May of 2014, Green Mountain College's historic Two Editor's Inn on Main Street in Poultney, VT, was transformed into a model of energy efficiency for older residential buildings in Vermont. Students were intimately involved in every step and will continue to be involved as they test the projected efficiency gains against actual data.

   To transform the Inn, Weatherization Works installed an 18,000 BTU cold climate heat pump on the first floor to offset oil use for heat and electricity for air conditioning. They also tightened the building through sealing cracks and gaps in the attic, installing an insulated attic hatch, installing vapor barriers to the exposed dirt floor in the basement, adding closed cell spray foam to the top three and a half feet of exposed foundation walls, installing a box sill room and thermal barrier to the basement, venting the bath fans, packing cellulose insulation into the attic flats, and insulating the access panel and knee wall above the kitchen with side wall insulation. The heat pump and air sealing improvements will displace oil usage over 40%. Additionally, the Inn receives 50% of its electricity from Green Mountain Power's Cow Power Program.

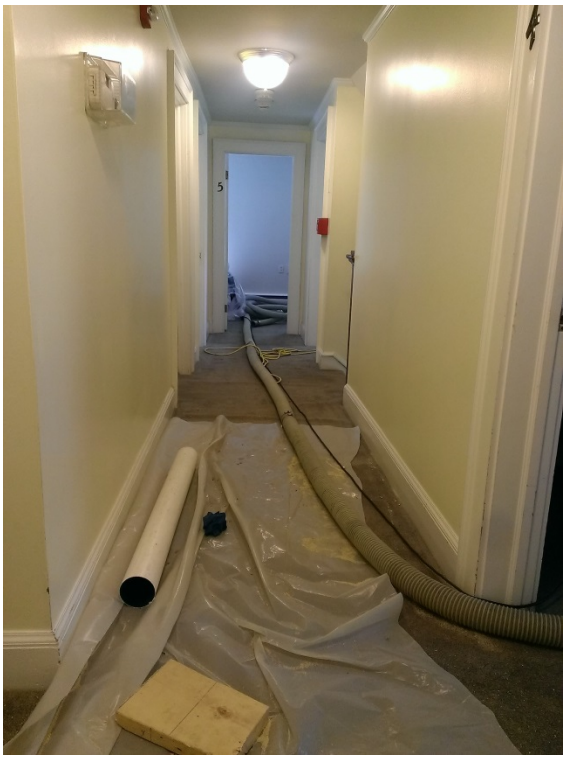
The project began in the fall of 2013 when Cathy Reynolds from Efficiency Vermont brought up the idea of renovating the outlying houses on campus to be more energy efficient, an opportunity that wasn't explored in the campus-wide energy audit back in 2011. Former director of facilities Glenn LaPlante and former director of sustainability Aaron Witham liked the idea. Witham called Ken Welch from Neighborhood Works and asked him if he would be willing to have his energy efficiency class at GMC do an audit of the Two Editor's Inn, one of the houses that uses the most oil per square foot.

Welch agreed to have his class do the audit in collaboration with Weatherization Works and Bill Morrissey (featured in the picture below). Student Mary Perotti realized the potential in the project early on and wrote a grant proposal to the student campus greening fund (SCGF) to pay for the $100 audit. SCGF, a student-run sustainability fund, agreed to pay for it. The thermal audit was a major success. The class helped Weatherization Works develop a proposal of $12,662 in retrofits for improving the energy performance of the building. The amount of the proposal fit nicely with the amount of money left in the College's green revolving loan fund (GRLF), which was $12,451.

“The project was perfect for GRLF funding,” explains Witham. “We wanted something with a payback no more than five or six years, and the projected payback on this project was 5.1 years.” The remaining projects in the campus-wide thermal audit from 2011 all had paybacks over seven years. Furthermore, Reynolds and Witham thought that the project could serve as a model for retrofitting all of the outlying houses on campus. All they needed was to show success with one house to get the ball rolling for the others.

With strong student support, Witham proposed the project to the campus sustainability council, the on-campus body that approves projects for funding from the GRLF. The project was approved by the campus sustainability council in the spring of 2014 and was later approved by GMC’s cabinet. Students on the campus sustainability council (Kristen Friedel and Connor Magnuson) and the facilitation committee (James VanDeuson) were involved in vetting the project. It was the third project to be approved for funding from the GRLF.

Work was completed in May of 2014 by Weatherization Works. Two students, Katie Getts and Andrew Woodman, accompanied the renovation crew in order to capture high quality media of the project. They took dozens of pictures and filmed a video. Their video can be viewed here. They also teamed up with Katherine Hansberry to produce the interpretative sign that can be found hanging in the living room of the Inn. Hansberry drew the sketch of the Inn that serves as the centerpiece of the sign.



The $12,662 project began paying back the loan fund immediately thanks to a $300 rebate from the heat pump manufacturer, Mitsubishi, a $750 rebate from Efficiency Vermont for the heat pump, and another $962 from Efficiency Vermont for projected efficiency gains. The balance will be paid off over time from savings on oil bills.