

## **Weatherization improvements for homeowners Kim and Scott Genzer: air sealing and installation of cellulose in attic**

We bought our house in the summer of 2013 and knew from the outset that it desperately needed weather sealing. The prior owners were paying a fortune in propane and electric heat, and although they had a pellet stove, much of the warm air was literally pouring outside through all sorts of places. Furthermore the attic had become the home to a large number of squirrels over the years and hence the existing fiberglass attic insulation was destroyed. In some places, bare plywood could be seen.



We started with a home energy audit by Building Energy in November 2013, which involved both a blower-door test and infrared (heat) camera photos showing heat loss. Building Energy recommended that we seal and re-insulate the attic with loose-pack, blown-in CelPak cellulose, seal off the windows in the basement, and air seal all sorts of cracks and holes in the house.

In order to save money, we decided to do this via the Efficiency Vermont DIY program where you hire a contractor to oversee your work in return for reduced costs. Scott attended an Efficiency Vermont weatherization workshop in Thetford and hired Michael Goetinck at Snowdog Construction as the supervising contractor, and off we went!

We worked with Michael over the fall and it was a great experience. His help and encouragement was fantastic and he continued to take infrared pictures to home in on our heat loss areas. In addition to the attic (a horrible job!), we sealed off the horrible basement windows and large barn doors with rigid foam and drywall temporarily (the drywall is needed for fire retardant) and used a foam gun to seal off air passages such as those around our main circuit breaker, dryer/shower fan vents, and so forth. We also sealed off the attic with strong wire to prevent the squirrels from taking up residence in our attic again.

Michael conducted the final blower door test and we were astonished at the improvement - over 44% reduction in air leakage! Even Michael was surprised. In the end, we spent around

\$1800 in labor (Building Energy and Snowdog Construction) and \$1300 in materials, and received over \$1000 back from Efficiency Vermont, for a net cost of around \$2100 for the project. Furthermore, EV calculated that we should spend around \$560 less per year in heat and in fact we have seen greater savings than that. We have heated our 2000 sf house with just the pellet stove over these past two very cold winters with NO use of propane or electric heat, for an approximate cost of around \$1000 per winter (4 tons of pellets).

In summary, we HIGHLY recommend having a home energy audit done so you can see how you can save heating costs, particularly with the cold winters we have been having!