

SAVING 79% IN EXISTING HOMES – Vermont's Zero Energy Now Program

Vermont homeowners were offered a unique opportunity in 2016 to participate in a new program to save significant fossil fuels in existing homes, and the results are impressive; an average savings of 79% per home! This deep level of total energy savings was achieved through a comprehensive combination of home weatherization, heat pumps and solar PV. Compared to typical Home Performance with ENERGY STAR program savings of about 25%, these Zero Energy Now results are remarkable.

Green Mountain Power's (GMP) Community Energy & Efficiency Development (CEED) Program offered the funding opportunity to Vermont's trade association of home performance contractors, Building Performance Professionals Association (BPPA). In late 2015, BPPA applied for about \$700,000 in funding to design, develop, deliver, track and report comprehensive deep energy retrofit projects in 2016. The funding was made available in February and projects had to be completed by December 31, 2016.

Despite the compact timeframe, BPPA designed and developed the Zero Energy Now program, recruited and trained contractors, hired and worked with a marketing firm and launched the program in early 2016. A press conference that included U.S. Representative Peter Welch, GMP executives, Vermont State administrators and others kicked off the program in June in Richmond, Vermont. BPPA Board members and subcontractors promoted and supported Zero Energy Now throughout the year and completed 22 deep energy savings projects.

These comprehensive Zero Energy Now projects included air sealing and insulation, added cold-climate heat pumps and heat pump water heaters, and installed solar photovoltaic (PV) systems to reduce total energy use by at least 50%. The savings

Zero Energy Now 2016 Summary Statistics	
Participants	22 Vermont existing homeowners
Customer investments	\$1.2 million (split relatively evenly between efficiency and solar PV)
Median total project cost	\$44,739 (ranging between \$22,000 and \$170,000)
Net customer project cost	\$31,090 (after incentives from Zero Energy Now, Efficiency Vermont and 30% Federal tax credit)
Median energy cost savings	\$3,692/year
Average annual energy savings	95 MMBtu (60 MMBtu from efficiency and 31 MMBtu from solar PV) from 120 MMBtu pre- to 25 MMBtu post-improvement
Customer return on investment	11.9%

came with a guarantee that if they did not show up, BPPA contractors would not only go back to fix any issues, but would also make up the cost difference. So far, no one has made a claim against the guarantee, so the savings projections likely are fairly accurate.

Customer economics were impressive. For the 22 homeowners, they collectively invested about \$1.2 million in their projects, with a median project cost of about \$45,000. These project costs ranged from \$22,000 to \$170,000, with the three most expensive projects all installing ground source heat pumps. After subtracting out the program

incentives from Zero Energy Now and Efficiency Vermont, and considering the 30% Federal solar tax credit, total project costs came in at about \$31,000. However, these investments yielded an impressive annual energy cost savings of almost \$3,700! Total energy use dropped by 79%, a level unprecedented in existing homes programs at this level of investment. From the consumer's perspective, this investment yielded an 11.9% return on investment, which rivals

the best returns from the stock market, but provides this return year-after-year, while weaning the customer of fossil fuels.

Program highlights are summarized in table above.

For 2017, BPPA is working with Efficiency Vermont to offer the "Solar Bonus" program. This scaled-down approach still targets 50% fossil fuel savings from weatherization, heat pumps and solar PV, and offers up to \$3000 in total incentives (plus the 30% Federal tax credit for solar) for participants. For information on the Solar Bonus, see <https://www.encyvermont.com/solarbonus>.

BPPA is still promoting the Zero Energy Now certification for individuals and communities interested in the deep comprehensive approach. The Zero Energy Standards include at least 10% savings from weatherization, 50% fossil fuel savings and 50% energy produced by renewables. Unfortunately, the \$5000 incentive that drove the 2016 interest in this deep level of savings is not available at this time. But, up to \$3,000 in incentives is available for the Solar Bonus program for 2017, so visit <https://www.encyvermont.com/solarbonus> for more information.

The Zero Energy Now Program demonstrates that a comprehensive approach incorporating energy efficiency, heat pumps and solar photovoltaics can be a viable and cost-effective approach for achieving deep energy savings. With a sustained budget, consumer educating and marketing push, even greater participation and savings can be achieved.

For more information, see <https://www.encyvermont.com/solarbonus>, <http://zeroenergynowvt.com/> or contact: Richard Faesy, Energy Futures Group, rfaesy@energyfuturesgroup.com, 802-482-5001x2.

Vermont Farm Cuts Fossil Fuel Use with Zero Energy Now



Zero Energy Now Participating Home in East Saint Johnsbury, Vermont

When the owners of a vegetable farm in East St. Johnsbury, Vt. wanted to reduce their use of fossil fuel, they turned to the Zero Energy Now program for help. Through Zero Energy Now they found a certified energy contractor (CEC) who put together a package for them that included insulating their century-old house, adding a cold climate heat pump, and installing a large photovoltaic system to generate electricity on the farm. The CEC served as a single point of contact for the owners and coordinated the work of other contractors on the project.

The certified energy contractor also helped arrange financing. With tax credits and incentives, the project cost about \$30,000. The owners will begin saving money immediately by cutting their fossil fuel use from 1,200 gallons a year to 300 gallons annually. Once they finish paying their loan, they'll have almost no monthly energy costs.

For a short video of the project, see <http://zeroenergynowvt.com/>

Cut fossil fuel use by 50%. Get up to \$3,000 back.

Minimize the energy loss in your home and maximize the benefits of installing solar panels.

Take advantage of a limited time offer that pairs home weatherization improvements with a new solar installation for your home.

Contact Efficiency Vermont today to confirm eligibility for this limited time offer!

Visit www.encyvermont.com/solarbonus or call 888-921-5990

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