



Case studies for BetterBuildings NH

Statewide results at a glance

Residential Units	829
Commercial Buildings	69
Commercial Sq ft	1,276,816
Total Audit Cost	\$664,260
Total Project Cost	\$14,416,570
Total Loans Made	\$5,195,453
\$\$ Savings	\$1,155,492
Electric Savings (kwh)	2,447,158
Gas Savings	221,119
Gallons Saved (oil, propane, kersene)	178,459
Leverage	\$9,378,544

Participating commerical lenders

Merrimack County Savings Bank
The Nashua Bank
Northway Bank
Guardian Angel Credit Union
Laconia Savings Bank
Northway Bank
Woodlands Credit Union
Woodsville Guaranty Savings Bank
Laconia Savings Bank
Woodlands Credit Union
Northway Bank

The BetterBuildings NH program was funded by the American Recovery and Reinvestment Act (ARRA) through the United States Department of Energy and administered by the New Hampshire Office of Energy and Planning. BetterBuildings was operated in New Hampshire by the Community Development Finance Authority. A three-year demonstration project, it operated between 2010 and 2013.

The goal of the program was to provide residential homeowners and business owners resources for conducting deep energy retrofits to their buildings, with goals of 20%-30% savings. The program operated within the boundaries of Nashua, Plymouth, and Berlin (eventually, assistance was offered statewide). City representatives, as well as local advisory boards, were active stakeholders in the effort.

BetterBuildings community managers worked with participants by helping them obtain energy audits for their home, office, or store. Staff helped analyze the audit results and suggest improvement measures. Participants then selected private-sector energy contractors, certified by BetterBuildings, to implement upgrades. Participants selected only the measures that fit their needs, building use, and budget.

A number of options were available for financing audits and construction work. BetterBuildings offered some grants money and rebates to incentivize interest. Partners, such as the Retail Merchants Association, also offered rebates to supplement financing. Working

with area banks and credit unions, BetterBuildings bought down interest rates to help create commercial lending products to qualified buyers.

BetterBuildings implemented a varied marketing campaign to build brand awareness and create demand in the three communities. Efforts included radio, print, transit, and online advertising; event sponsorships; direct mail; local event sponsorships; energy work giveaways; workshops; and social media outreach.

BetterBuildings also acted as a friend to additional energy-related programs. Among these include the Berlin Model Neighborhood Project, the Plymouth Area Renewable Energy Initiative, and several workforce development efforts to train the next generation of energy professionals.

As the program progressed, BetterBuildings partnered with PSNH, Unital, and the NH Electric Co-op to leverage the benefits of each other's efficiency programs. This resulted in greater market penetration than BetterBuildings could have achieved on its own.

At the end of the three-year demonstration project, BetterBuildings NH had exceeded its goal by facilitating the energy upgrade of more than 800 residential projects and 1,000,000 square-foot of commercial space. Best practices learned from BetterBuildings NH will inform future energy efficiency initiatives in New Hampshire going forward.

Getting the power of efficiency

Alphagraphics
97 Main Street
Nashua



project at a glance

Completion date	2/25/13
Building age	Early 1900's
Square footage	24,000 sq ft
Construction	brick masonry walls
Number of floors	3

Project cost (pre-rebate)	\$30,385
BetterBuildings rebate	\$4,673
BetterBuildings 1% loan	\$16,712
BetterBuildings partner rebates	\$10,519
Projected energy savings	15.6%
Estimated annual gas savings	1,183 therms
Estimated annual electricity savings	29,913 kWh

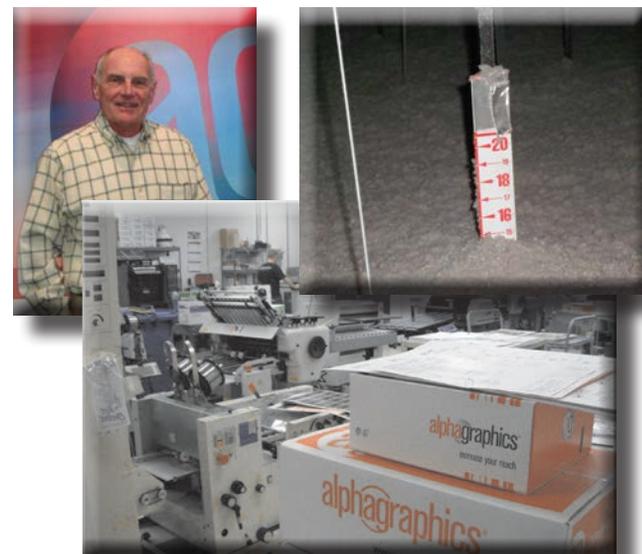
Open since 1989, Alphagraphics is a full service printing company in Nashua, NH. David Orpin owns the company and the 3-story, 29,000 square foot building which it shares with three other businesses. David was in the process of a lighting upgrade when he learned about BetterBuildings and got a free energy analysis for the building.

The audit estimated improved insulation, airsealing and upgrades in the heating/cooling system that would achieve significant gas and electric savings. Air sealing and insulation reduce gas space heating costs in winter and electric cooling costs during the summer. Updated rooftop heating and cooling equipment also result in gas and electric savings from reduced fuel use and improved blower efficiencies.

BetterBuildings worked directly with David through the entire process from reviewing the energy audit; discussing the scope of work; outlining potential rebates, incentives, and financing options; choosing contractors, and inspecting their work.

An insulation crew used spray foam to seal a huge number of penetrations in the attic floor due to ductwork, old repairs, and the guywires supporting the plaster floor. Ductwork located in the attic was sealed and then insulated and 14" of cellulose was blown in. On the roof two new heating and cooling units were installed.

David has noted reduced electricity use. A comparison of electric bills from October to April with the same period from the previous two years shows over 28% reduction in electricity use. While reductions in natural gas use are also



Printing presses use lots of power, but BetterBuildings found other ways for Alphagraphics to conserve energy.

WORK DONE

- Conducted attic air sealing
- Insulated attic with blown cellulose to R-50
- Applied weather stripping to doors
- Sealed and insulated attic ductwork
- Replaced two rooftop heating/cooling units with higher efficiency units

expected, electricity accounts for 74% of the total energy used by Alphagraphics and 83% of the total energy cost. So reductions in electricity will have the greatest impact on David's savings.





project at a glance

Completion date	1/20/12
Building age	1900
Square footage	113,288 sq ft
Construction	former wood mill
Number of floors	2

Project cost (pre-rebate)	\$119,736
BetterBuildings rebate	\$26,558
BetterBuildings co-loan	\$61,448
BetterBuildings partner rebates	\$31,553
Projected energy savings	17%
Estimated annual oil savings	1,904 gallons
Estimated annual electricity savings	127,455 kWh

Taking some uncommon measures

The Common Man Inn
231 Main Street
Plymouth

Alex Ray is a progressive corporate citizen who really lives the company motto “doing well, by doing good.” Alex upped the ante by undergoing energy efficiency improvement projects in three of his hospitality properties, including the Common Man Inn and Spa in Plymouth.

This former wood mill was brought back to life in 2001 to become the destination event facility that it is today. But operating a hotel, restaurant, and spa in a turn-of-the-century building still came with certain inefficiencies.

Working with BetterBuildings partners, including the NH Electric Co-op, the Retail Merchants Association, and Energy Efficiency Investments, the work scope focused on measures that were automated and would not increase the workload for employees: things like lighting, pumps and motors and ventilation, room occupancy sensors, and a top of the line efficient commercial washing machine and dryer. One of the biggest investments was a new high-efficiency pellet boiler, complete with a one ton hopper to feed it.

Even with the breadth of the project, the energy measures will save the property nearly \$15,000 a year in operating costs. At that rate, it will pay for itself in just over four years. That’s a return on investment that would be - otherwise - uncommon.

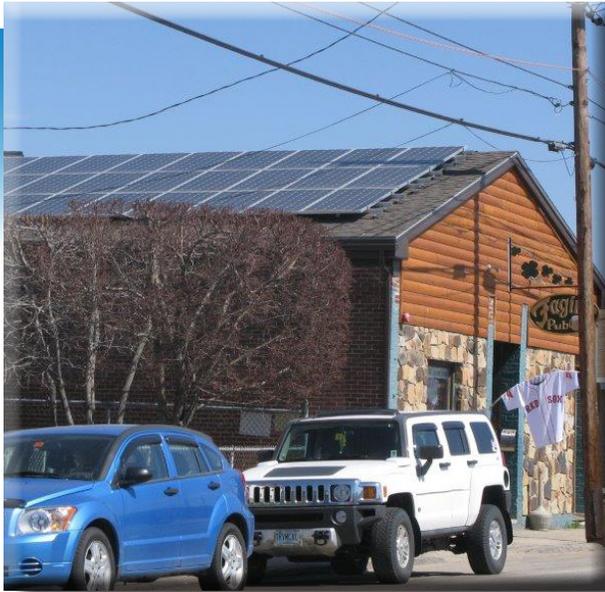


This wood pellet boiler has the power to heat the entire Common Man Inn and Spa, and provide a good return on investment.

WORK DONE

- Installed wood pellet boiler with one ton hopper
- Installed room occupancy controls for three conference spaces
- Installed supply fan with ducted make up air for kitchen exhaust
- Installed ECM pumps
- Implemented interior lighting improvements
- Replaced 2 commercial energy efficient 30lb washing machines
- Installed spa area lighting upgrade
- Installed ventilation controls for kitchen exhaust hood





project at a glance

Completion date	02/04/13
Building age	reconstructed 2010
Square footage	3,000 sq ft
Construction	brick
Number of floors	1

Project cost (pre-rebate)	\$63,670
BetterBuildings rebate	\$15,918
BetterBuildings co-loan	\$35,070
BetterBuildings partner rebates	\$15,392
Projected energy savings	20%
Estimated annual oil savings	393 gallons
Estimated annual electricity savings	14,918 kWh



From the ashes, a better building

Fagin's Pub
777 Main Street
Berlin

Fagin's Pub is truly the place where everybody knows your name! It's the favorite watering hole for the local fire and police departments. The building suffered extensive fire damage years ago and was rebuilt mostly by the patrons helping to keep the cost affordable. Unfortunately, money and energy efficient knowledge was in short supply. So they rebuilt on a shoe string budget, skimping on the insulation and the heating system. The original building had a second floor, but the idea to rebuild was too costly; rental space and some income was lost.

Shawn Fagin purchased the business on Jan 31, 2007 and opened his doors for a New Year's Eve Bash that same night. As any small business owner knows, "every cost item comes right out of your pocket." Business was very tight; cost, service and profit was always top of Shawn's mind.

When BetterBuildings explain to Shawn the grants available, he jumped on the idea of reducing his electric cost. He enjoying the idea of providing air conditioning to his favorite people: his patrons. Everything but the cook stove was run by electricity, so lowering his electric cost was Berlin BetterBuildings' main focus.

Insulating the building and installing LED lighting with a new furnace and duct work was standard fair. A highlight of this project was the Solar Electric Generating (PV) panels. After their first winter season, Fagin's Pub had reduced their electric bill by 50% and anticipate electricity costs in the summer will be a zero. Shawn admits before he was not very "green." But now he is now saving some real green: cash green.



Just getting Fagin's Pub rebuilt after the fire was the priority. It wasn't until BetterBuildings' energy retrofits were put in place that anyone recognized their benefits.

WORK DONE

- Installed PV solar panels for electricity generation
- Installed a new heating and air conditioning system
- Shored up the basement with spray foam insulation

Buttoning up a home to make it cozy

Jennifer Reed
14 Wentworth Street
Plymouth



project at a glance

Completion date	3/28/13
Building age	1920
Square footage	2,940 sq ft
Construction	2 x 4
Number of floors	2

Project cost (pre-rebate)	\$4,465
BetterBuildings rebate	\$1,917
BetterBuildings 1% loan	n/a
BetterBuildings partner rebates	\$2,448
Projected energy savings	29%
Estimated annual oil savings	144 gallons
Estimated annual hardwood savings	one cord

Jennifer Reed of Plymouth wasn't sure what to expect when she attended a Button Up NH workshop at the library one night. She certainly didn't expect to win up to \$2,000 towards an energy improvement project in her home. When her name was drawn, after letting out a big "Yes!" she looked towards the workshop host and said, "I'm going to start the paperwork tomorrow!"

Jenny had recently moved into her home and during the first heating season in her home noticed what she referred to as "a vortex of cold air" that rose up from her basement. She heated her home with a combination of oil and wood from a stove.

Home Energy Contractor Bill Newell of Newell and Crathern was able to complete the project (from energy audit to implementation) in just 3 short weeks. The work that Bill and his crew did at the Reed house focused on adding insulation to the attic and basement and air sealing the housing envelope.

The first morning after the project was completed, Jenny noticed the difference right away. "Because they completely sealed the basement and eliminated the vortex of cold air, I walked around without my slippers, sweatshirt, and quilted vest on. A miracle!" she exclaimed.

The upgrades should save Jenny at least \$800 a year and save the environment about 4,500 pounds of carbon dioxide. The work was projected to pay for itself in 2½ years, but - thanks to the Button Up grant - it was even faster. "All I paid for was a new basement door, \$120.00," she said. "Unbelievable!"



Homeowners who worked with BetterBuildings (like Bev Newton, above) received financial and technical guidance to ensure the project best suited their home and their wallets.

WORK DONE

- Attic insulation – blown in cellulose to R-50
- Air sealing – dam and seal attic entrance, air seal 6 basement windows, air seal doors, and attic eaves
- Basement insulation closed cell spray foam where floor cantilevers over back and under front dormer area over porch

A case of form following function

Coliseum Senior Residence

7 Coliseum Avenue
Nashua



project at a glance

Completion date	11/16/12
Building age	1980
Square footage	77,000 sq ft
Construction	concrete block
Number of floors	5

Project cost (pre-rebate):	\$293,165
BetterBuildings rebate:	\$73,291
BetterBuildings co-loan	n/a
BetterBuildings partner rebates:	\$24,224
Projected energy savings:	9%
Estimated annual gas savings	1,690 therms
Estimated annual electricity savings	134,363 kWh

Coliseum Senior Residence is a 77,000 sq. ft. building with over 100 apartment units. Following the addition of a new wing in early 2012, the owners decided to complete an energy upgrade on the older section.

With funding from NH BetterBuildings and NHHFA's Greener Homes Program, owners implemented all of the recommendations provided in the energy audit report.

Each apartment had a wall-mounted air conditioning unit. The sleeves around these units leaked in the summer and winter, to the point that tenants were using blankets around them. Custom covers for these A/C sleeves air sealed and insulated these areas using ridged foam and weatherstripping in a custom made box. These boxes are removable and come with a finished oak top so they can be used as an end table whether sitting over the A/C unit or placed somewhere else in the summer.

The double pane windows were in poor condition and difficult for older tenants to operate. Some couldn't shut them completely, leading to significant air infiltration. Efficient new windows with airsealed frames greatly improved comfort and savings year round.

Other improvements included Energy Star clothes washers and refrigerators, lighting upgrades in the units and in the hallways, and low-flow devices for sinks and showers.

Together, these improvements are expected to generate savings of almost \$18,000 per year for the facility in addition to important improvements in tenant comfort.



To seal air leaks from mounted A/C units, contractors installed custom covers that could double as end tables.

WORK DONE

- Fabricated custom A/C covers
- Installed new windows
- Replaced in-unit lighting
- Upgraded hallway lighting
- Stairwell lighting replacement
- Installed Energy Star washing machines and refrigerators
- Installed low flow faucet aerators and showerheads

Saving a business through efficiency

Middle Earth
95 Main Street
Berlin



project at a glance

Completion date	1/18/13
Building age	1910
Square footage	4,960 sq ft
Construction	brick w/flat roof
Number of floors	2

Project cost (pre-rebate)	\$54,806
BetterBuildings rebate	\$13,701
BetterBuildings 1% loan	\$19,999
BetterBuildings partner rebates	\$10,961
Projected energy savings	15.5%
Estimated annual oil savings	450 gallons
Estimated annual electricity savings	4,259 kWh

Dick Poulin's store, Middle Earth, desperately needed energy improvements. Their oil consumption was so high they were getting oil deliveries bi-weekly. The economic conditions in Berlin were nearly as cold as its winters. Sales at Middle Earth were down; the cost of heat was up. Cash flow was limited and he was running out of money to keep the building open. Something had to give.

Recognizing he needed help fast, Berlin BetterBuildings staff convinced Dick to apply to the program and helped him identify additional grants from partners to defray his costs. An analysis of the building quickly identified areas in which his 100 year old structure could be upgraded to improve comfort and operating costs.

Energy professionals sealed the building envelope with a combination of spray and ridged insulation. An upgrade of all the lighting cut down on the power use. But key to the successful retrofit was the replacement of the antiquated oil furnace with a high-efficiency pellet boiler. The system was installed with a hopper large enough to hold three-tons of pellets, minimizing the effort required to keep the boiler fed.

Now during the cold Berlin winters, Dick's employees say their workspace is very comfortable. The building only requires one delivery of pellets for the season, instead of heating oil deliveries



Realizing the savings from a comprehensive energy retrofit has made the difference between red ink or black.

WORK DONE

- Installed vacuum pellet boiler with 3 ton storage
- Installed spray foam insulation in the basement and rear walls
- Installed 4" rigid insulation on roof
- Replaced all T-12 light bulbs with T-8 bulbs and ballasts
- Installed TPO roof membrane on the flat roof

every other week. Most importantly, the reduced operating costs have helped Dick balance the books. Thanks to BetterBuildings, he's able to keep his business alive.



project at a glance

Completion date	11/28/12
Building age	Late 1800s
Square footage	1,450 sq ft
Construction	post & beam
Number of floors	1

Project cost (pre-rebate)	\$110,863
BetterBuildings rebate	\$27,249
BetterBuildings co-loan	\$62,796
BetterBuildings partner rebates	\$23,639
Projected energy savings	47%
Estimated annual gas savings	826 therms
Estimated annual electricity savings	3,342 kWh



No more frozen soil on the shelf

Nashua Farmers' Exchange
38½ Bridge Street
Nashua

The Nashua Farmers' Exchange is a retail feed and farm store located in a Civil War era train depot that served the Concord and Nashua & Lowell Railroads. The project renovated the retail portion of the building to create a well-insulated and efficiently heated and cooled space.

While the building retained some of its original trusses and framework, changes over the years hid many of these features and left the building with poorly functioning insulation, air barriers, and heating system. Owner Gene Harrington explained that bags of soil along the floor of the exterior wall would freeze even while the thermostats a few feet above would reach 68° and shut off.

A worn, suspended ceiling was removed along with an upper ceiling requiring asbestos abatement. A drywall ceiling was added at almost 10 feet high, exposing the bottoms of the original timber trusses and creating much more headroom. Loose fill cellulose insulation was blown into the new attic space to an R-50. The interior walls of the building were completely gutted, dense packed with cellulose and covered in vapor barrier before drywall and a faux posts cut from large beams found during ceiling demolition were added as accents.

An unsightly and inefficient gas furnace in direct view of shoppers was replaced with a high efficiency gas furnace. Old fluorescent T-12 lighting was replaced with high performance T-8 lamps.

The results are a more beautiful and more comfortable store. With the upgrade of large south facing single pane windows to Thermopane glazing, Gene noticed there is enough solar heat gain and insulation to keep the furnace from firing much at all in winter. They immediately saved 84% in heating costs. Those energy savings can mean a lot to any business's bottom line.



US Senator Jeanne Shaheen toured the Nashua Farmers' Exchange, and cited the BetterBuildings project as a model for energy efficiency best practices.

WORK DONE

- New raised ceiling with R-50 cellulose
- Replaced existing interior walls with dense pack cellulose, vapor barrier, and drywall.
- Replaced old front door and rear swinging doors
- Sprayed 4" closed cell foam under floor
- Installed high efficiency gas furnace with 4 ton heat pump and new ductwork
- Replaced front glass with Thermopane storefront glazing
- Upgraded light fixtures with high performance T-8s
- Installed programmable thermostat
- Demo'ed dropped ceiling and asbestos abatement



project at a glance

Completion date	3/5/13
Building age	1922
Square footage	21,920 sq ft
Construction	wood frame; brick
Number of floors	2

Project cost (pre-rebate)	\$67,500
BetterBuildings rebate	\$16,875
BetterBuildings co-loan	\$24,224
BetterBuildings partner rebates	\$24,105
Projected energy savings	42%
Estimated annual oil savings	1,889 gallons
Estimated annual electricity savings	4,104 kWh

Everything you want - and more!

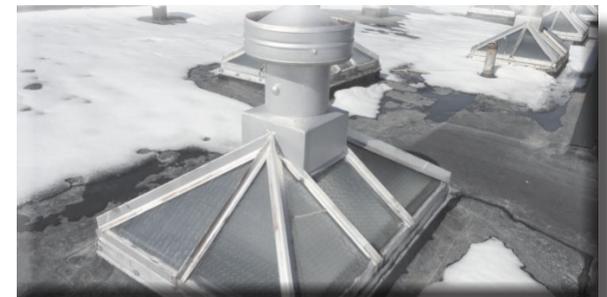
Rand's Hardware
71 Main Street
Plymouth

Steve Rand came to Plymouth BetterBuildings with a plan. He wanted to install a solar hot water system for his commercial multi-use building on Main Street. However, an energy analysis from the Plymouth Area Renewable Energy Initiative (PAREI) revealed additional opportunities for energy savings.

After taking a closer look at the property, which included a hardware store, offices, and some apartments, the team found some inefficiencies with the building envelope. They recommended beefing up the insulation in the attic and getting a better seal around the building's distinctive skylights. They also told Steve there could be additional electrical savings if he upgraded the lighting.

BetterBuildings worked with its partners to get Steve additional resources to defray some of the costs. The project received grants from BetterBuildings, the Retail Merchants Association, New Hampshire Electric Cooperative, and the State of New Hampshire.

Thanks to these additional upgrades, the building was more comfortable and efficient in the short term, and in the long term, the project will pay for itself in seven years. Steve Rand was able to get everything he wanted – and more!



Steve Rand came to BetterBuildings thinking about one energy-saving measure. The staff was able to demonstrate the benefits of doing even more.

- WORK DONE**
- Installed attic insulation, upper and lower roof
 - Installed a solar hot water system
 - Implemented lighting improvements
 - Insulated panel for skylights





Comfort so good you can hear it

Unitarian Universalist Church

274 Pleasant Street
Concord

project at a glance

Completion date	4/31/13
Building age	1960
Square footage	13,809 sq ft
Construction	brick
Number of floors	1

Project cost (pre-rebate)	\$850,000
BetterBuildings rebate	\$150,000
BetterBuildings co-loan	\$700,000
BetterBuildings partner rebates	n/a
Projected energy savings	45%
Estimated annual gas savings	5,643 therms
Estimated annual electricity savings	n/a

The Unitarian Universalist Church is an historic architect designed structure built in 1960. The property is on the historic register and therefore presented some challenges. It's a one story brick and glass building. The heating system was old and very costly to operate. The structure has several glass walls in addition to many transom windows. At the initial facilities committee meeting it was clear that the comfort of the communicants was a high priority. The sanctuary was unusable in the summer and services had to be held in the activity hall. To remedy this, new windows and a new air handling unit were installed. This dramatically increased the ventilation to the sanctuary making it more comfortable for services in the summertime.

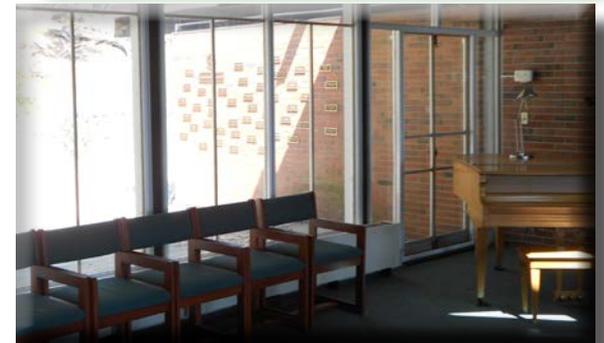
The heating system was replaced with a new more efficient hydronic heating system with zones to enable church members to adjust the heat in each area according to use.

The banks of windows represent the "inside/outside" feel that the architect was trying to convey in concert with the Unitarian philosophy. But they were old and prone to drafts. Several of the transom windows were replaced and others were equipped with magnetic storms to reduce heat loss and increase comfort. Several heat recovery ventilators were installed ensuring that the heat is consistent in the winter while providing adequate air exchange.

At a recent church function to celebrate the completion of the project, members of the church were delighted and thankful for the increased comfort in the building. One gentleman explained he could "now hear the service clearly" and did not have to "turn up my hearing aid."

WORK DONE

- Installed a new hydronic heating and ventilation system to service the large building
- Mitigated heat loss issues with a combination of installing some new windows and repairing others.



A challenge to balance historical and religious sensibilities, the upgrades provided efficiency and comfort for all communicants.



project at a glance

Completion date	11/14/12
Building age	1943
Square footage	5,490 sq ft
Construction	wood frame
Number of floors	1

Project cost (pre-rebate)	\$33,160
BetterBuildings rebate	n/a
BetterBuildings 1% loan	\$16,670
BetterBuildings partner rebates	\$16,542
Projected energy savings	54%
Estimated annual oil savings	790 gallons
Estimated annual electricity savings	n/a

Achieving the triple bottom line

Venture Printing
44 Main Street
Plymouth

Venture Printing owner Dawn Lemieux came to the Plymouth BetterBuildings program early on, wanting to see what she could do to reduce energy consumption and improve the comfort and indoor air quality of her building on Main Street.

The single story 1940s building had its challenges: the floor plan was chopped up into small sections and some work spaces were way too hot and some were way too cold. The whole building smelled strongly of printing ink and chemicals, and there were definite drafts coming in through the building exterior.

BetterBuilding partners sharpened their pencils to come up with solutions. Lakes Region ThermalScan (serving as energy auditor and project advisor) was able to install a heat recovery ventilation system to improve the air quality of the building without wasting heat from the building, add two new air source heat pumps that provide both heating and cooling, upgrade the lighting in the customer service area, and insulate and air seal the building envelope.

To help finance the project BetterBuildings partners, the Retail Merchants Association and the New Hampshire Electric Co-op, provided substantial rebates.

After completion, Dawn experienced a hefty drop in her energy costs, money that gets reinvested in her business. The subsequent reduction in CO₂ emissions is the equivalent of saving 27.4 barrels of oil. Also, the much-needed ventilation system has made the office quieter and helped minimize

the odor associated with the printing press, providing a more comfortable working environment for the staff.

With BetterBuildings, Dawn has been able achieve the triple bottom line: people, planet, and profit. And that you can put down in ink.



One of the heat exchanges installed at Venture Printing that helped the business responsibly balance the needs of people, of the planet, and of profit.

WORK DONE

- Improved insulation and air sealing
- Conducted lighting upgrade
- Installed heat pumps
- Implemented heat recovery ventilation system





project at a glance

Completion date	4/27/12
Building age	1911
Square footage	1,502
Construction	wood frame
Number of floors	2

Project cost (pre-rebate)	\$27,493
BetterBuildings rebate	\$750
BetterBuildings 1% loan	n/a
BetterBuildings partner rebates	\$23,528
Projected energy savings	40%
Estimated annual oil savings	666 gallons
Estimated annual electricity savings	315 kWh



Harnessing the power of the pellet

Chip and Joyce Lebreque
677 Fourth Avenue
Berlin

Although a relatively small home, Chip and Joyce Lebreque's house was still extremely expensive to heat. Even with the boiler running full blast, the home was filled with drafts and cold spots. Joyce resorted to wearing battery-powered socks to keep her feet warm.

When the Berlin BetterBuildings office opened, they recognized the value of increased energy efficiency, and soon signed up to have the home insulated and air-sealed. The energy analyst outlined important measures which could increase the home's efficiency an estimated 37%.

The Labrecques took advantage of the shared funding and committed to implementing all the suggested measures in the proposed scope of work.

In September 2011, the Northern Forest Center, the City of Berlin, and Maine Energy Systems partnered to create the Berlin Model Neighborhood Project. The goal was to create a model community of wood pellet boiler-heated homes, to create momentum in conversion from imported oil-heated homes of all sizes to locally-harvested wood-heated homes. This helped develop the demand for delivery infrastructure and the encouragement of local talent for installation and maintenance of the pellet boilers.

When the couple heard about the Berlin Model Neighborhood Project, they leapt at the chance to participate. Now, not only is the home thoroughly weatherized, it's heated by a clean, sustainable fuel.

And best of all, Joyce no longer needs to wear heated socks!



BetterBuildings worked with the Lebreques to provide sensible residential energy solutions, including the installation of a high-efficiency wood pellet boiler.

WORK DONE

- Installed flow control devices
- Added 6 CFL watt bulbs
- Insulated hot water pipes
- Installed dense pack cellulose to exterior walls
- Added air sealing, including exterior doors, pipe penetrations, and all openings between floors
- Spray foamed basement walls, rim joists, and crawl space.
- Increased the efficiency of the attic ventilation
- Sealed and added insulation to attic floor
- Installed OkoFen wood pellet boiler