

**Small Business Development Center
Penn State**

Helping businesses start, grow, and prosper.

**Energy Efficient Upgrades to
Store in Amish Community**



“Imagine the impact in the commonwealth if everyone-businesses and homeowners-made energy improvements like these.”

**Tom McNabb
February 2008**

**Tom and Ann McNabb
The Hill Store
3849 West Main Street
Belleville, PA 17004
Mifflin County**

Industry: Gift and Novelty Shops

SBDC Assistance: Energy Efficiency, Funding

Annual Energy Savings: \$5,179

Grant and Rebate Awarded: \$7,900

Additional Partners: Pennsylvania DEP and PPL (funding sources)

**Penn State SBDC
Heather Fennessey
Regional Environmental Specialist
814-863-4293
hxm103@psu.edu
www.sbdc.psu.edu
www.askemap.org**

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Tom and Ann McNabb are the owners of The Hill Store, located in the quaint town of Belleville, Pennsylvania. The McNabbs purchased the 1853 building, which was originally a general store, in 2004 and immediately began refurbishing it so that it could be a useful part of the downtown community again.

The existing boiler was very old and inefficient, so Tom decided to upgrade to a more energy efficient heating system to ensure that rent is kept low. Additionally, there was no air conditioning in the building, which tenants and customers now expect during the summer months. However, these upgrades would be expensive.

An existing client of the Penn State Small Business Development Center (SBDC) Environmental Management Assistance Program (EMAP) suggested that Tom contact EMAP for energy efficiency assistance. Tom contacted EMAP and discussed the renovations, energy efficiency, and upgrading to a safer and more energy efficient boiler. Heather Fennessey, the local EMAP Environmental Specialist, suggested that Tom apply for funding through the Pennsylvania Department of Environmental Protection’s (DEP) Small Business Advantage Grant. When awarded, the Small Business Advantage Grant reimburses half of the costs of a pollution prevention or energy efficiency upgrade up to \$7,500. Heather also provided information to Tom about PPL’s Appliance Rebate Program, which provided a \$500 rebate when transitioning from fuel oil or electric appliances or heating systems to natural gas systems.

EMAP helped Tom prepare the Advantage Grant application and calculated potential energy, pollution, and cost savings. Tom applied for the grant in August 2006 and was awarded the requested \$7,400 for his energy efficiency project a few months later. Tom also applied for and received the \$500 Appliance Rebate. The old oil-fired boiler was upgraded with a 91% efficient natural gas furnace and two energy efficient air conditioning units were installed. The equipment was operational in January 2007.

The first tenant, a gift shop, moved in the building in May 2007. The second tenant, another gift shop, moved in the building in August 2007. In addition to installing the equipment with the grant, the McNabbs also greatly improved the building envelope by installing insulation and other similar measures in the Fall of 2007.

By upgrading The Hill Store’s heating, ventilation, and air conditioning (HVAC) system and installing insulation, Tom McNabb saw a **savings of \$5,179 annually!** With the help of the grant and rebate funding, the payback period of the energy-saving project was only 9 months!

Project Cost

Equipment	\$10,300
Labor	\$4,500
Total Project Cost	\$14,800
Grant Received	\$7,400
Appliance Rebate Received	\$500

Economics

Indicator	Projected/Actual
Net Cost Savings	\$5,179 (Projected)
Capital Cost	\$14,800 (Actual)
Payback Period	2.9 years
Business' Payback Period, when accounting for grant and rebate	9 months

Environmental Savings

Indicator	Baseline Quantity/yr	Current Quantity/yr	Annual Savings
Oil @ \$2.29/gal*	2,442 gallons/ \$5,592 est	0 gal/ \$0	2,442 gallons/ \$5,592
Natural gas @ \$1.49/therm	0 therm/ \$0	\$477/ 320 therms est	-320 therms/ -\$477
Electricity @ \$0.11/kWh	7,618 kWh/ \$609 est	6,810 kWh/ \$545	808 kWh/ \$64
Energy Usage Reduction			310 MMBTU/ \$5,179

Results are normalized for weather patterns