



## PA CONSERVATION WORKS!

### ONE-YEAR FOLLOW-UP REPORT

Please provide a written follow-up report including the identified information and organized as follows:

Grantee Name:	<u>Warwick Township</u>		
Project Name:	<u>Warwick Region Energy Efficiency Project</u>		
Grant Document #:	<u>4100051365</u>		
Grant Application #:	<u>1001490</u>		
Project Period:	Start Date: <u>1/17/2010</u> (mo./year)	End Date: <u>5/31/2011</u> (mo./year)	
Date Submitted:	<u>7/27/2012</u>		
Preparer's Name, Telephone and Email:	<u>Daniel Zimmerman, 717-626-8900, dzimmerman@warwicktownship.org</u>		
Date Reviewed:	Reviewed By:	Date Approved:	

**1. Please provide a summary of the ongoing results of the project since the submission of the Final Report. Summary should be no more than 4-5 pages and should answer the following questions:**

- Is the project still operating? If so, discuss any pertinent successes, failures or activities relative to continued expected outcomes.
- Has ongoing/additional work occurred to further develop the project or expand deployment of alternative energy in Pennsylvania? Please include the total amount of the grant and the current total cost of the overall project.

**2. Performance Outcome Data since Final Report:**

A. Energy and Fuel Savings as a result of project deployment.

<i>(Insert more rows if necessary)</i>	Specify Type	Quantity	Quantity
electricity saved	<u>See Note below</u>	87,281 Kwh/yr	MMBTU/yr
liquid fuel saved		4,029 Gals/yr	MMBTU/yr
solid fuel saved	N/A	Tons/yr	MMBTU/yr
gaseous fuel saved	N/A	Mcf/yr	MMBTU/yr

B. Energy and Fuel Generation as a result of project deployment.

<i>(Insert more rows if necessary)</i>	Specify Type	Quantity	Quantity
electricity generated	<u>See Note below</u>	Kwh/yr	MMBTU/yr
liquid fuel generated	N/A	Gals/yr	MMBTU/yr
solid fuel generated	N/A	Tons/yr	MMBTU/yr
gaseous fuel generated	N/A	Mcf/yr	MMBTU/yr

Note: Electricity generating projects cannot declare the same quantity as both saved (Table 2.A.) and generated (Table 2.B). Indicate only one or the other. Only projects for which there is both electricity generated and conservation measures implemented can claim both.

C. Energy Saving or Generating Components manufactured, sold or deployed in PA

<i>(Insert more rows if necessary)</i>	Specify Type	Quantity
Units/components manufactured	Reflective roofing material	ca. 9,000sf
Units/components sold	Reflective roofing material; R-38 Insulation; Energy-efficient lighting; Energy-efficient controls	ca. 9,000sf; 3,510 cu.ft.; 391; 157
Units/components deployed	Reflective roofing material; R-38 Insulation; Energy-efficient lighting; Energy-efficient controls	ca. 9,000sf; 3,510 cu.ft.; 391; 157

D. Cost Saving and Economic benefit as a result of project deployment.

1. Energy/fuel cost savings (\$/yr) \$9,572
2. Energy/fuel generation/production Value (\$/yr) N/A
3. Value of units/energy components manufactured, sold or deployed in PA (\$/yr) \$68,965<sup>2</sup>
4. Revenue generated (\$/yr) N/A

E. Number of jobs created by the project and the type (e.g., electrician, plumber, pipefitter, mechanic, engineer, etc.).

List Job (Full-time, part-time, temporary)	Type (Describe)	Number
N/A	N/A	N/A

F. Number of jobs retained by the project and the type (e.g., electrician, plumber, pipefitter, mechanic, engineer, etc.).

List Job (Full-time, part-time, temporary)	Type (Describe)	Number
Full-time	Roofer	6 <sup>4</sup>
Full-time	Electrician	4 <sup>4</sup>

G. Other economic development benefits

1. Savings to Pennsylvania consumers (\$/yr) \$9,572<sup>3</sup>
2. Revenue generated for other Pennsylvania companies and beneficiaries (\$/yr) N/A
3. Revitalization of Communities or blighted properties (# acres) N/A
4. Revitalization of Communities or blighted properties (building sq. footage) N/A

<sup>2</sup> Total cost of Equipment & Supplies

<sup>3</sup> Amount we do not need to increase taxes, thanks to energy savings.

<sup>4</sup> During installation phase of the project.

- H. Environmental Benefit Data: If applicable, provide the answers to the following statements in the format of a table. Add additional rows if necessary. Fill in all blanks. Enter NA if not applicable. (Includes avoided emissions from waste oil burner and LP Gas reduction)<sup>5</sup>

<i>(Insert more rows if necessary)</i>	Specify Type	Quantity	
Air pollutant reduced	NOx	444	lbs/yr
Air pollutant reduced	SO <sub>2</sub>	1,153	lbs/yr
Air pollutant reduced	CO <sub>2</sub>	345,958	lbs/yr
Air pollutant reduced	Hg	2,064	mg/yr
Air pollutant reduced	N <sub>2</sub> O	4	lbs/yr
Air pollutant reduced	CH <sub>4</sub>	7	lbs/yr
Water pollutant reduced		N/A	lbs/yr
Water pollutant reduced		N/A	lbs/yr
Water conserved as a result of the Project		N/A	gals/yr
Solid residual or hazardous waste reduced – not disposed of per year		N/A	lbs/yr
Solid residual or hazardous waste reduced – not disposed of per year		N/A	lbs/yr
Number of PA Citizens directly educated		54,050-62,050 persons/yr <sup>6</sup>	

**(Please E-mail to Project Advisor/submit electronically)**

<sup>5</sup> Savings calculated with <http://www.cleanerandgreener.org/resources/emissions-reductions-calculator.html>

<sup>6</sup> Blue Ridge Cable estimates that 51,800 adults watch the evening news, which included a feature on our cool roof. The Lititz Library has about 20,000 registered members, of whom we might estimate ¼ read the newsletter. PA Township News, a magazine of PSATS, has a circulation of about 9,000; let's estimate ¼ read the article on our energy efficiency project. Warwick Township sends out a newsletter to about 6,000 households, and also posts press releases on its website; we might estimate that 1,500 households, or around 3,000 adults read the newsletter and/or have seen the website. Assuming 100% overlap in these populations yields a minimum population of 54,050; assuming 0% overlap yields a population of 62,050.

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**1. *Summary of ongoing results:***

The Warwick Region Energy Efficiency Project set a goal of saving the equivalent<sup>1</sup> of 177,795 kWh annually, for Warwick Township and the Lititz Public Library. Warwick Township was projected to conserve 67,441 kWh annually, plus 2,482 gallons of waste oil (energetically equivalent to about 101,017 kWh) thanks to the insulation of one of our garages. The partner on this project, Lititz Public Library, was to conserve 9,337 kWh.

The project included the insulation of one of our garages, as well as the installation of 9,000 square feet of reflective roofing material on the Warwick Township Municipal Building. In addition, 391 energy-efficient lighting components were installed between the two project partners (Warwick Township and the Lititz Public Library).

The program exceeded the anticipated overall reduction of kWh by over 15%. The actual kWh reduction equates to 215,300 kWh. Warwick Township conserved 70,320 kWh, plus 1,200 gallons of waste oil, and an additional reduction in LP Gas of 2,829 gallons. While the waste oil reduction figures were based on the assumptions of an oil heater that had not yet been purchased, the reduction in LP Gas had not been considered as part of the project. Combined, the reduction in heating fuel conserved the equivalent of 128,019 kWh; representing 48,840 kWh for #2 heating oil, and 79,179 kWh for LP Gas.

As stated in our Final Report, the reasons for our success are due to our comprehensive approach to municipal operations and an understanding that local government must lead the way for its citizens and neighboring municipalities. Warwick Township continues to look for opportunities to reduce energy demand through efficiency measures.

The Warwick Region Energy Efficiency Project has also reduced the amount of harmful pollutants being emitted into the atmosphere. Avoided emissions included: 444.7 lbs NO<sub>x</sub>; 1,153.24 lbs SO<sub>2</sub>; 345,958 lbs CO<sub>2</sub>; 2,064 mg Hg; 4.19 lbs N<sub>2</sub>O; and 7.33 lbs CH<sub>4</sub>

<sup>1</sup> As outlined in the original grant application, and final report, in some cases we converted from BTUs or fuel oil into the energetic kWh equivalent.