US ERA ARCHIVE DOCUMENT





CIRCUIT RIDER PROGRAM

Energy Efficiency in Local Government Operations

April 30, 2014

Rob Graff

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Manager, Office of Energy and Climate Change Initiatives
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215.238.2826



DVRPC Region

(Project Area Highlighted)

New York City

Planning areas

- Transportation Planning, Air Quality, Smart Growth Planning, Environmental Planning, Housing and Economic Development, Population and Employment forecasts, Long Range Planning, and...
- Energy and Climate Change Initiatives:
 - Regional greenhouse gas and energy use inventory
 - Climate change impact planning
 - Preparing the region for alternative energy
 - Electric vehicle readiness plan
 - Natural gas vehicle readiness
 - Municipal energy management assistance



Challenge of Municipal Energy Planning

- Small local governments
- Limited staffing capacity
- Fiscal constraints
- Equipment Vendor Driven
- Lack of confidence in energy decisions
- Unsure where to start with energy management





Our Partners

Advisory Group



- County Planning Depts. (EECBG projects)
- The Reinvestment Fund



- PA Southeast Regional Energy Office (PA DEP)
- PECO Act 129 incentives
- US EPA and ENERGY STAR tools













DVRPC Circuit Rider Program

Focus on energy efficiency in municipal operations

Provide smaller municipalities with easy access to the resources and tools they need to prioritize projects for cost-effectively reducing energy costs in their operations.

- Reducing Energy Costs in Municipal Operations Seminar Series
- 2. Streetlights and Traffic Signals
- 3. <u>Direct Technical Assistance</u>

Circuit Rider: "any professional who travels a regular circuit of locations to provide services"



Direct Technical Assistance

 One-on-one assistance for from DVRPC and a certified energy expert (Practical Energy Solutions)



- Work with munis to Identify and prioritize cost-effective projects to reduce energy costs.
- Provide assistance with implementing recommended projects







Direct Technical Assistance Process

Hire Technical Consultant

Select Municipalities

Collect Data + Perform Utility Bill Analysis

Hold On-site Scoping Meeting

Prioritize Assessment Work

Carry Out Energy Assessments

Present Energy Assessments

Follow-up + Implementation Assistance



Finding the right consultant

- Wanted to assure interaction with DVRPC and municipalities.
- Innovation: Let's see how they respond to the problems we are seeing
 - Described two municipalities with different issues
 - Asked what they would do, how they would do it, and how they would leverage DVRPC staff time.

Evaluation Criteria

Technical qualifications that demonstrate excellence of previous work: (35%)

- Experience working one-on-one with small- and medium-size municipalities that demonstrate varied levels of commitment and expertise related to energy management.
- Experience with providing the Energy Management Services described in Section IV, Scope of Work.
- Familiarity with tools, resources and funding opportunities available to municipalities in the region.
- Familiarity with the physical, political, regulatory and legal planning environment in southeastern Pennsylvania.
- Demonstrated expertise in the preparation and presentation of technical materials to the public, municipal officials; demonstrated experience facilitating meetings.
- Relevant certifications and professional registrations of proposed staff.

Evaluation Criteria

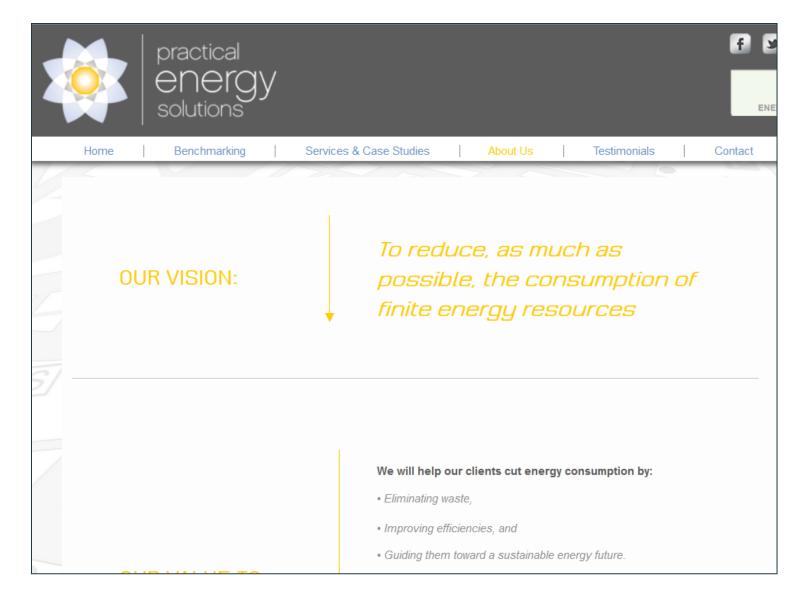
Quality of overall proposal submitted (10%)

Proposal is clear, concise, well written, and well formatted.

Sample Project Work Orders: **Technical Evaluation** (35%)

- Tasks laid out indicate an understanding of how to effectively engage municipalities and guide them through implementation within the number of hours available.
- Work order indicates an understanding of the "experienced senior advisor" role of the consultant, and makes proper use of DVRPC staff time for administrative, organizational, logistical, and appropriate analytical tasks.
- Tasks laid out indicate an ability to leverage energy management services within the consultant's experience and capabilities as described elsewhere the in the proposal.
- Demonstrate judicious and **efficient use of consultant's time** for sample project work orders.

Sample Project Work Orders: Cost Evaluation (20%)



Small, local firm. Very personable, experienced with local municipalities. www.practicalenergy.net

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If you give it away, it must not be worth much









- OUTDOOR LIGHTING
- WATER/WASTEWATER TREATMENT
- VEHICLE FLEET
- BUILDINGS

CIRCUIT RIDER

FOR ENERGY EFFICIENCY IN LOCAL GOVERNMENT OPERATIONS

APPLICATION FOR DIRECT TECHNICAL ASSISTANCE FOR ENERGY EFFICIENCY

Municipality:
County:
Direct Technical Assistance Point of Contact Name:
Title:
Mailing address:
Telephone:
E-mail:
Who is currently responsible for municipal energy decisions (name and title)?

Which of the following does your municipality operate?
(check all that apply)
☐ Administration building (number:)
☐ Police station (number:)
☐ Fire station (number:)
☐ Public works garage (number:)
☐ Library (number:)
☐ Street lights (number:)
☐ Water/wastewater pumping facility (number:)
☐ Water treatment plant (number:)
☐ Wastewater treatment plant (number:)
☐ Vehicle Fleet (approx. number of vehicles:)
☐ Other (e.g. ice rink, pool, etc.)
<u> </u>
What are your most pressing energy concerns?

If you give it away, it must not be worth much

	What are your most pressing energy concerns?	
Does your municipality track energy use and costs? If so, how?		
How much does your municipality spend annually on energy?		

Please send copies of the most recent monthly utility bills for all municipal accounts along with your completed application. This information can be sent separately from the application.

For more information or clarification on any of these questions, please contact Liz Compitello at: 215-238-2897 or ecompitello@dvrpc.org

Please return application and utility bills by mail, e-mail or fax to:

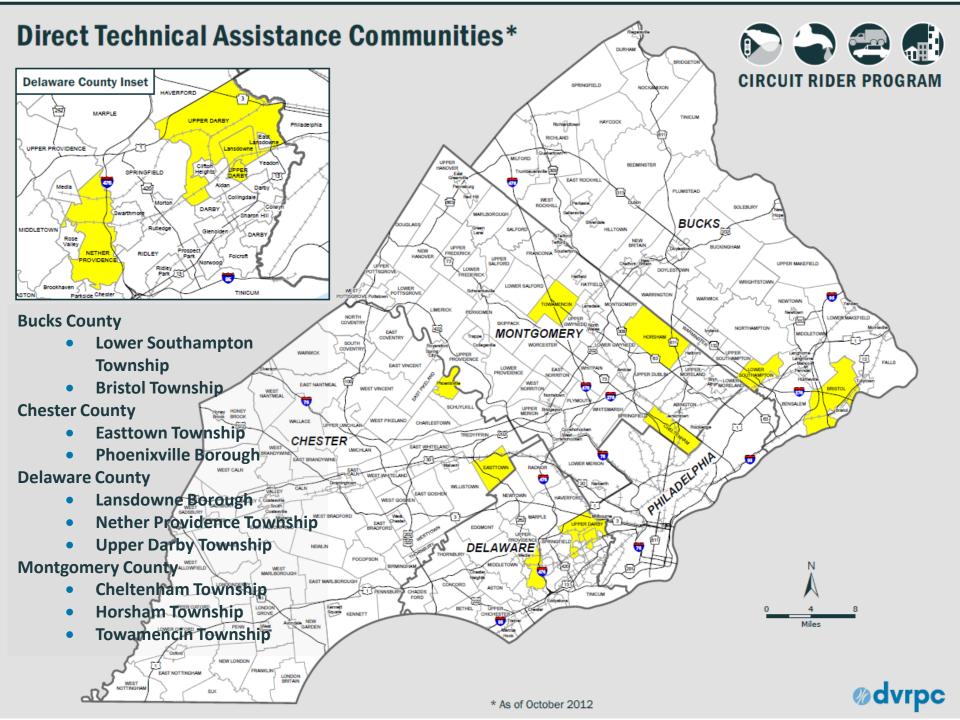
Liz Compitello
Delaware Valley Regional Planning Commission
190 N. Independence Mall West
Philadelphia, PA 19106
ecompitello@dvrpc.org
Fax: 215.592.9125

What do I have to do to participate?

To apply, complete the simple application form on the next page. Note that municipalities must also send copies of the most recent monthly utility bills for all municipal accounts. Together with county planning departments, DVRPC will select municipalities that are committed to cost-effective energy management in their operations, but have staffing or financial barriers. **Municipalities in the program must:**

- Identify a single point of contact to coordinate with municipal staff and DVRPC's team.
- Commit to participating with DVRPC and the other selected municipalities throughout the project. This will include (please note that the hourly estimates provided will vary by size and capacity within each municipality):
 - gathering and compiling energy-use information for municipal operations to use as a starting point for developing an energy management plan (4-5 hours);
 - participating in a training workshop on gathering and managing energy use data (½ day);
 - participating in a walk-through assessment with DVRPC's energy expert (2 hours);
 - making staff and elected officials available for a debriefing on the findings and recommendations of the energy expert (2 hours);
 - working with DVRPC staff to set priorities on recommendations (½ day);
 and
 - joining other Direct Technical Assistance Communities in two half-day roundtables to share best practices, and report on your progress. (2 half-day roundtables).

This level of committed participation is critical to ensuring success in reducing your energy costs.



Reflecting the Diversity of our Region's Municipalities

		Median Household
	Population	Income
Municipality	(2010)	(2009 ACS)
DELAWARE		
Nether Providence	13,706	\$96,435
Lansdowne Borough	10,620	\$63,009
Upper Darby Township	82,795	\$52,572
CHESTER		
Easttown Township	10,477	\$128,984
Phoenixville Borough	16,440	\$61,153
MONTGOMERY		
Towamencin Township	17,578	\$75,128
Cheltenham Township	36,793	\$72,584
Horsham Township	26,147	\$81,888
BUCKS		
Lower Southampton Township	18,909	\$74,193
Bristol Township	54,582	\$47,693

Talk Their Language

DVRPC Circuit Rider for Energy Efficiency in Local Government Operations.

In 2011, DVRPC was awarded a grant through the United States Environmental Protection Agency's Climate Showcase Communities Program to create a replicable model of sustainable community action that generates cost-effective and persistent energy reductions while improving the environmental, economic, public health, or social conditions in a community. Through this program, DVRPC launched the *Circuit Rider for Energy Efficiency in Local Government Operations program*. DVRPC's *Circuit Rider* program works with municipalities in Bucks, Chester, Delaware, and Montgomery Counties to reduce energy costs in their municipal operations. Municipalities in southeastern Pennsylvania grapple with tightening budgets and limited staffing, and yet they are inundated by sales-pitches for energy efficiency improvements on a regular basis. Municipalities want to know where to start with energy management, and how to carry these aspirations through to the implementation of cost-effective and long-term solutions towards their energy challenges. With state and federal funding for energy efficiency projects ramping down, DVRPC seeks to work with municipalities to demonstrate how cost-effective energy management decisions can be implemented and institutionalized to achieve real savings.

Talk Their Language

Every municipality has opportunities for energy savings! Many of these opportunities are easy to achieve at low or no cost. In these times of tight budgets and limited staffing, many municipalities simply don't have the time to sift through competing options (and sales pitches) for energy efficiency improvements.

The Delaware Valley Regional Planning Commission (DVRPC), your regional planning agency, is pleased to announce **free one-on-one direct technical assistance to reduce energy costs**—designed explicitly for smaller municipalities in southeastern Pennsylvania. This flyer provides information on this opportunity, and explains how to apply.

Reward and Acknowledge



190 N INDEPENDENCE MALL WEST 8TH FLOOR PHILADELPHIA, PA 19106-1520 Phone: 215-592-9125 www.dvrpc.org

October 24, 2012

Dennis Sheehan Assistant Township Manager Nether Providence Township 214 Sykes Lane Wallingford, PA 19086

Dear Mr. Sheehan:

On behalf of the Board of the Delaware Valley Regional Planning Commission, I congratulate you and Nether Providence Township for your selection to receive the first round of Direct Technical Assistance under DVRPC's Circuit Rider for Energy Efficiency in Municipal Operations. DVRPC looks forward to working with Nether Providence Township and the other nine Direct Technical Assistance awardees, both individually and together, to develop and implement cost-effective strategies to reduce your energy costs.

DVRPC commends you for taking a leadership role in reducing energy use in municipal operations. Energy bills make up a significant part of municipal budgets, and by demonstrating commitment towards identifying cost-effective ways to reduce these costs, you are setting an important example for the residents and businesses in your community, as well as for other municipalities in the region that face similar challenges.

If you have any questions about Direct Technical Assistance, please contact Robert Graff, Manager, Office of Energy and Climate Change Initiatives, at 215-238-2826 or rgraff@dvrpc.org.

Congratulations, and thank you for your leadership!

With best regards,

Barry Seymour Executive Director

COMMONWEALTH OF PERHISVEVANIA: BUCKS COUNTY I CRESTER COUNTY I DELAWARE COUNTY I MONTGOMERY COUNTY I CITY OF PHILADELPHIA I CITY OF CHESTER STATE OF NEW JERSEY, BURLINGTON COUNTY I CAMBEN COUNTY I GLOUCESTER COUNTY I MERCER COUNTY I DITY OF CAMBEN I CITY OF TREATON

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Barry Seymour Executive Director

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Baselining

DVRPC worked with munis on data collection (fundamental starting point)



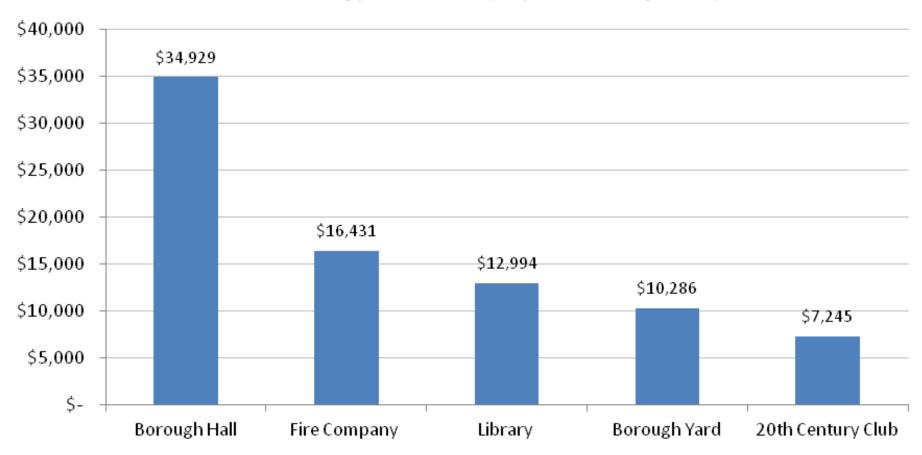
4	Α	С	D	Е	F
1		PECO - TWP. BLDG 2010			
2		Acct. #	01409-360		
3					
4	SERVICE DATE	kWh	<u>\$\$</u>	<u>Ccf</u>	<u>\$\$</u>
5					
6	12-17/1-20	9,360	1,138.83	397	487.12
7	1-20/2-18	7,840	1,079.43	438	534.96
8	2-18/3-21	8,000	1,018.28	199	264.04
9	3-21/4-19	7,280	\$1,011.48	21	50.63
10	4-19/5-19	11,862	\$1,150.93	17	\$45.75
11	5-19/6-17	10,000	1,528.63	15	41.95
12	6-17/7-19	14,000	\$1,829.25	17	43.07
13	7-19/8-17	11,920	\$1,440.33	16	42.03
14	8-17/9-16	10,640	\$1,279.57	17	43.07
15	9-16/10-17	9 280	1 087 70	35	62 19

Annual Energy Cost—2011

Annual Energy

	7 1111101011 =110101	
Sector	Cost	
Buildings	\$90,452	
Outdoor Lighting	\$97,443	
Vehicles	\$96,089	
Total	\$283,984	
		Buildings 41% Outdoor Lighting 16%

Lansdowne Municipal Buildings Annual Energy Cost - YTD (Sept 2011-Aug 2012)



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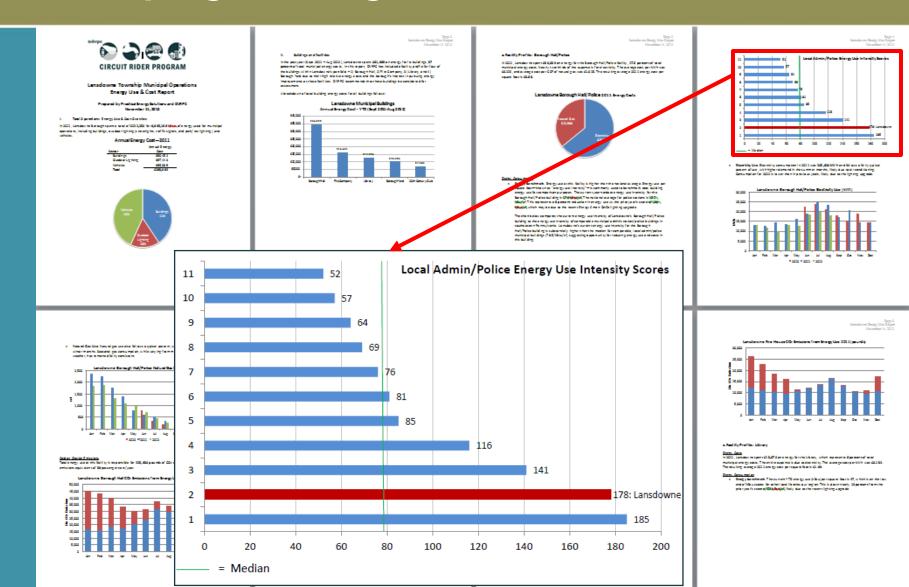
Prioritize Assessment Work

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Follow-up + Implementation Assistance

Scoping Meetings



Focus on Partners

Coffee and donuts



Focus on Partners

- Coffee and donuts
- Meeting time



Focus on Partners

- Coffee and donuts
- Meeting time
- Make participants comfortable and respected

Marianne Leamy Assistant Finance Director



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Balancing needs with resources

- Municipal Priorities
- Consultant Capabilities
- DVRPC Staff Abilities
- Economics / Payback
- Cost
- Chance of Implementation



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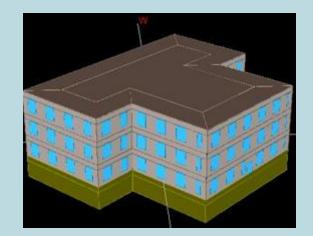
Energy Assessments

Figure 8. Significant Overlighting









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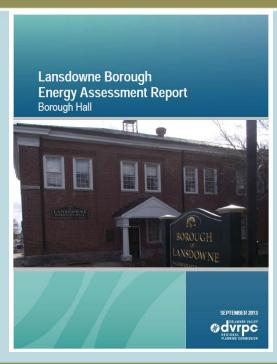
Present Energy Assessments

Follow-up + Implementation Assistance



Energy Assessments (Findings)





Snapshot of DTA Energy Assessments		
DTA-wide 15 yr Energy Cost Savings	\$1,112,347	
Average Project Cost	\$41,514	
Average Annual Cost Savings	\$11,581	
Average Simple Payback (yrs.)	2.45	

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Implementation Assistance



Towamencin Township Administration Building
Hot Water Baseboard Repair Plan
April 2014

The intent of this project is to gain control over the hot-water baseboard radiators in the Township Administration facility.

Existing Conditions

Currently, each baseboard radiator has an electric zone valve wired to a manual thermostat. In nearly every case, the controls are dysfunctional; some radiators run despite low thermostat settings while others do not run despite high thermostat settings. The lack of control could be due to a number of factors – including broken thermostats, faulty wiring, dysfunctional valves and actuators, and/or a problematic transformer, although a transformer problem is unlikely in this case.

Project Scope

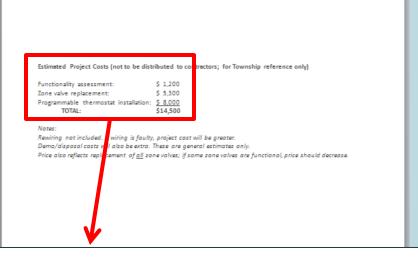
To correct the problem, the following steps should be taken:

Evaluate all valves, actuators, and wiring to ensure functionality. If needed, ensure functionality of transformer.

- · Replace all faulty valves, actuators, and wiring.
- Replace all manual thermostats with <u>digital programmable thermostats with locking cover</u>
 Ensure that all AHUs also have digital programmable thermostats with locking covers.
- Schedule all programmable thermostats carefully. The intent of the hot-water radiators is complement the air handling units (AHUs), which act as the primary heat source for the cobuilding. The radiators provide supplementary heat on cold days when the AHUs cannot is heating demands and in the mornings when needed to bring the temperature up to setpo the baseboard thermostats should be set at temperatures below those of the AHUs, using similar to the following:

	Occupied	Unoccupied
Air Handling Units (core)	70°F	60°F
Hot-Water Baseboards (periphery)	66°F	50°F

 Once thermostats are scheduled, lock all thermostats to maintain temperature control. Se refined to meet the needs of the occupants, but the same approach outlined above should set baseboards lower than AHUs, with a 4°F difference between the occupied AHU and he baseboard temperatures. Allowing building occupants to change settings will defeat the p project and can greatly increase energy costs, while undermining comfort.



Estimated Project Costs (not to be distributed to

Functionality assessment: \$ 1,200

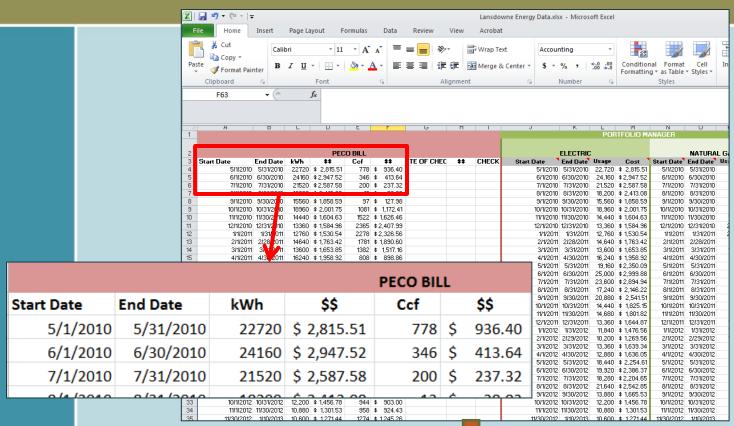
Zone valve replacement: \$ 5,300

Programmable thermostat installation: \$ 8,000

TOTAL: \$14,500



Energy Use Tracking





Facilitate Exchange



Take Aways

- Select partners inclined to be engaged
- Value your partners
- Understand your role
- Reward and acknowledge
- Focus on partners
- Talk their language
- Facilitate exchange
- Be flexible and helpful



Please call or e-mail for more information and resources

Rob Graff, Manager Office of Energy and Climate Change Initiatives rgraff@dvrpc.org 215-238-2826

Liz Compitello, Research Analyst
Office of Energy and Climate Change Initiatives
ecompitello@dvrpc.org
215-238-2897



Survey Question

Task/Municipality	Cost
All meetings/planning sessions, Kick-off preparation and presentation	
for DH/PS, DTA questionnaire support, Prioritization assistance,	
Scheduling, Project management with Liz/conference calls, Internal	
project management	\$9,794.67
Bristol	\$4,568.08
Cheltenham	\$7,511.96
Easttown	\$1,940.46
Horsham	\$4,327.04
Lansdowne	\$3,215.76
Nether Providence	\$3,276.23
Phoenixville	\$3,487.68
Towamencin	\$4,442.90
Upper Darby	\$3,951.64
Expenses	\$740.12
Total	\$47,256.54