

November 1, 2011



DVRPC CIRCUIT RIDER PROGRAM

Energy Efficiency in Local Government Operations

Breaking Ground

November 1, 2011

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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.
- Targeting non-EECBG communities in southeastern PA
 - 228 municipalities, median population of 6,275
- Funded by a U.S. EPA Climate Showcase Communities Grant
 - ~\$364K over 3 yrs



DVRPC CIRCUIT RIDER PROGRAM

DVRPC Circuit Rider Program

2009-2010 Advisory Group defined municipal needs:

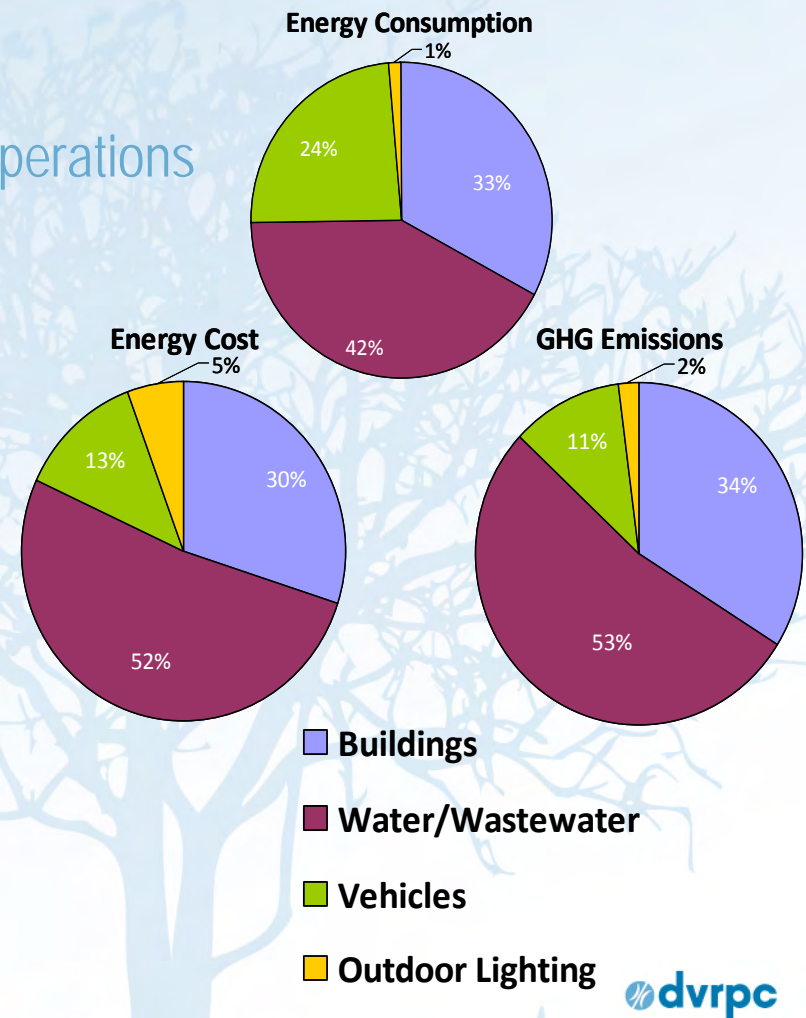
1. Prioritizing projects

- Baseline energy analysis of municipal operations

2. Implementing projects

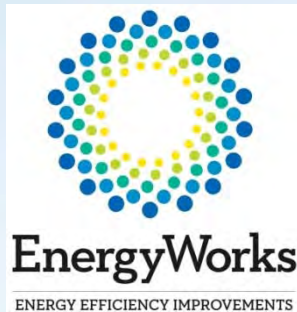
- Product selection and procurement
- Project funding

3. Best practice sharing



Project Partners

- Designed to coordinate with existing energy-efficiency initiatives
 - County efforts (including EECBG projects)
 - EnergyWorks (Metropolitan Caucus)
 - PECO Act 129 incentives
 - PA DEP initiatives
 - US EPA and ENERGY STAR tools



DVRPC Circuit Rider Program

- Training on energy management best practices
- One-on-one assistance to six municipalities in each county
 - (non EECBG)
- Seminars and workshops on tools and strategies for managing energy use in municipal operations
- Customized resources, analytical tools, and information on where to go for implementation funding
- Coordinated bulk purchasing for energy efficient equipment and services

Municipal Energy Efficiency Seminar Series

- Operational improvements 
- Energy management
- Project financing
- Energy efficiency and renewable energy ordinances

- W/WWTP conference in Spring 2012

Administration Building	Total Savings	% Savings
East Whiteland Township	\$5,184	19%
Malvern Borough	\$6,020	13%
Pennsbury Township	\$723	7%
Thornbury Township	\$1,433	16%
West Chester Borough	\$328	1%
Westtown Township	\$2,040	15%
West Goshen Township	\$11,453	8%

Source: Practical Energy Solutions, 2011

Coordinated Bulk Purchase: LED Traffic Signals

- ~ 30% of traffic signal lamps in southeastern PA are incandescent (>25,000 lamps)
- LEDs use 80% to 90% less energy than incandescent TS lamps
- DVRPC assistance:
 - Outreach and project coordination to municipalities
 - Identify purchasing needs and organizing bulk procurement
 - Identifying funding
 - Training or identifying an installer for lamp installation

	Project Costs	Project Payback
Bucks	\$154,257	1.90
Chester	\$274,707	1.66
Delco	\$826,279	2.39
Montgomery County	\$638,901	3.10

Source: PECO, DVRPC, 2011

Total annual savings in SE PA: **\$2,477,720**

Partnerships: Opportunities and Challenges

Opportunities

- Achieve economies of scale
- Lower transaction costs
- Providing a forum to share best practices

Challenges (and ways to address these challenges)

- Funding mechanisms are ramping down (EECBG and Act 129)
 - Identify new funding sources
 - Pool demand and begin dialogue with local banks
- Multi-municipal partnerships are not widespread throughout the region
 - Highlight the incentives for partnerships
- Limited staffing capacity to focus on these issues
 - Streamline program participation



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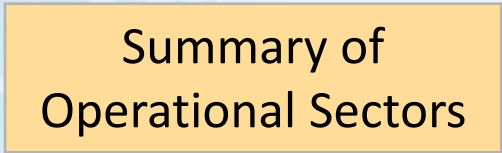
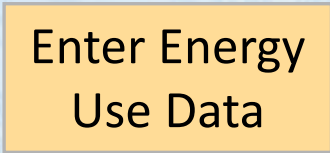
Energy Efficiency in Local Government Operations

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DVRPC Baseline Analysis Tool



Buildings/
Facilities,
W/WWTP

Monthly utility bills for electric and natural gas, delivered fuels, indicator.

*ENERGY STAR
Portfolio Manager*

Vehicles

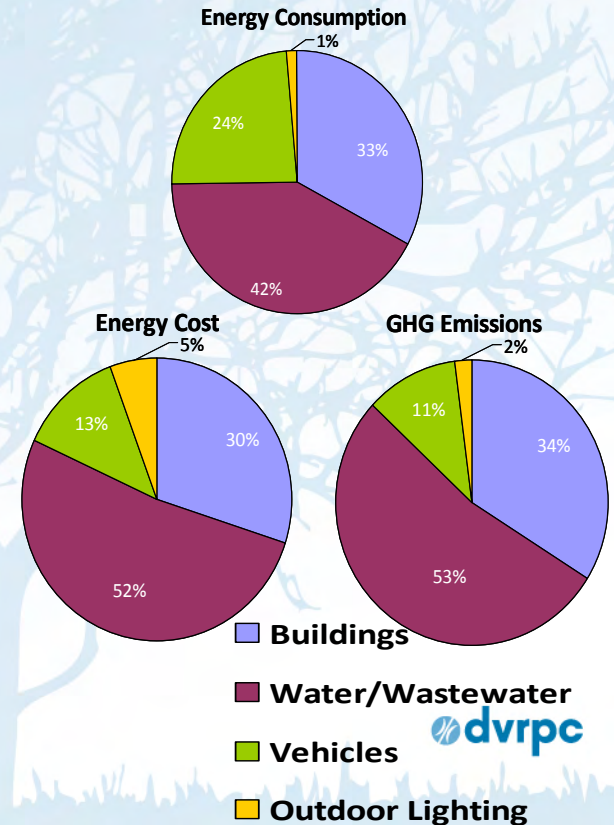
By vehicle or dept: total gallons consumed and/or vehicle-miles traveled, dollars spent on fuel

*Custom
spreadsheet*

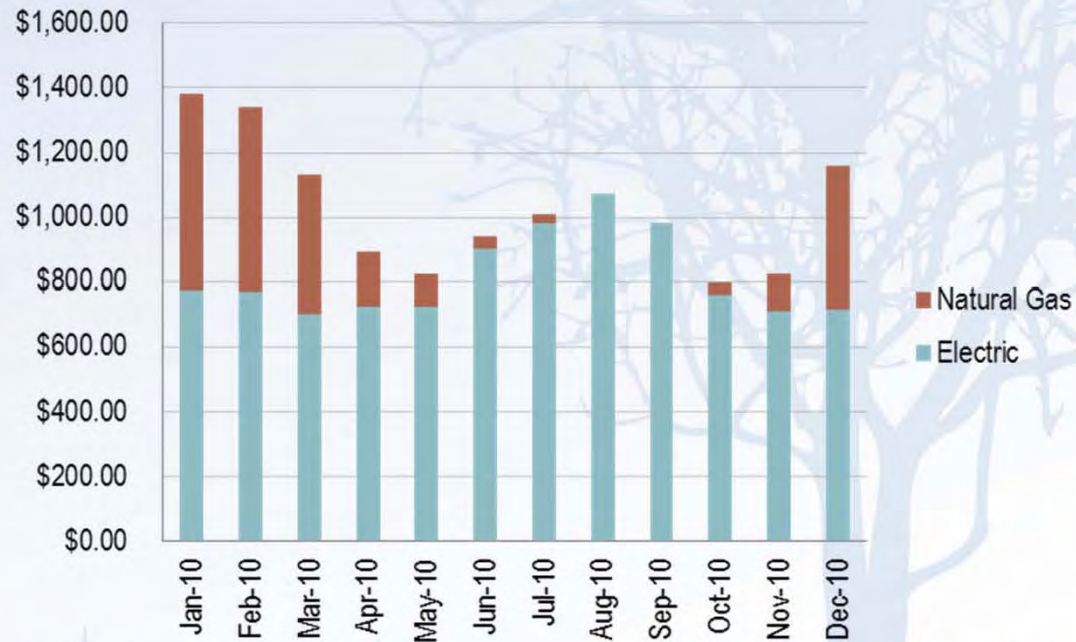
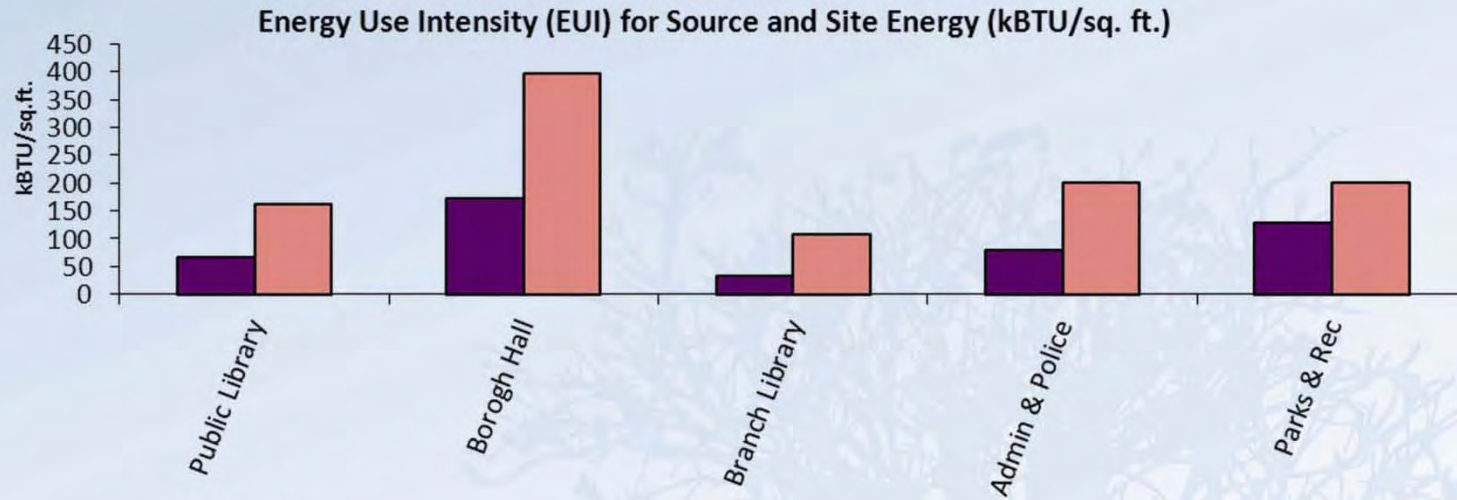
Streetlights &
Traffic Signals

One month of bills for TS and streetlight service for each year of analysis

*Custom
spreadsheet*



Drill Down: Buildings



Drill Down: Outdoor Lighting

Traffic Signals

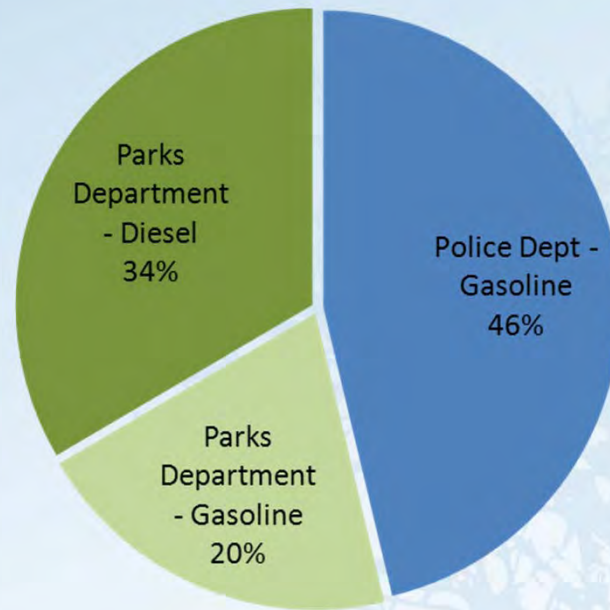
Lamp Type	No of Lamps Installed	LED Retrofit Energy Cost Savings	Total LED Retrofit Lamp Cost	Simple Payback
8" Incandescent Red	46	\$1,511.13	460	.304
8" Incandescent Yellow	131	\$141.48	\$3,406.00	24.07
8" Incandescent Green	3	\$2,818	\$2,592	.92
Total	25	\$4,471	\$6458	1.44

Streetlights

Lamp Type	No of Lamps Installed	Per Lamp Annual Energy Use (kWh)	Per Lamp Annual Energy Cost
100 W Mercury Vapor	238	95	\$10.64
175 W Mercury Vapor	8	363	\$40.46
250 W Mercury Vapor	5	311	\$34.68
70 W HPS	4	366	\$40.80
100 W HPS	10	7	\$00.75

Drill Down: Vehicles

GHG Emissions by Vehicle/Group



Fleet or Vehicle MPG

Vehicle	MPG
2007 Ford Explorer	8.65
2000 Crown Victoria	9.35
Fleet/Department Average	7.5