

# Regional Circuit Rider for Energy Efficiency in Local Government Operations

*Local Climate and Energy Webcast series.*

*Wednesday April 27, 2:00–3:30 PM EST*

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# The Delaware Valley Regional Planning Commission (DVRPC)



- Metropolitan Planning Organization (MPO) for the Philadelphia region, created in 1965
- Bi-state (PA/NJ), nine counties
- Board made up of representatives of the counties, major cities, key state agencies, Governors' representatives
- Staff of over 120

The DVRPC Region is located at the heart of the US east coast

# Overview of DVRPC's work



Transportation Planning

Air Quality

Smart Growth Planning

Environmental Planning

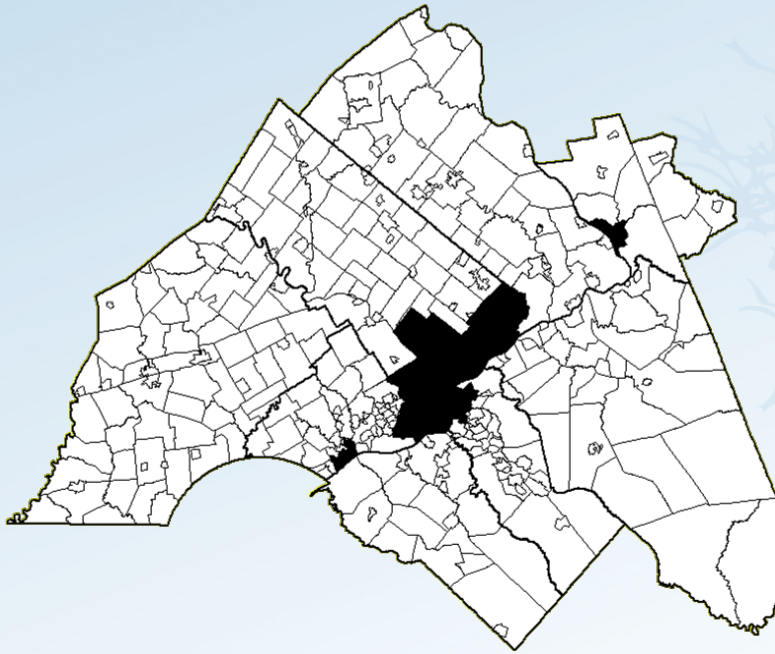
Housing and economic development,

Population and employment forecasts

*Connections: The Plan for a  
Sustainable Delaware Valley*

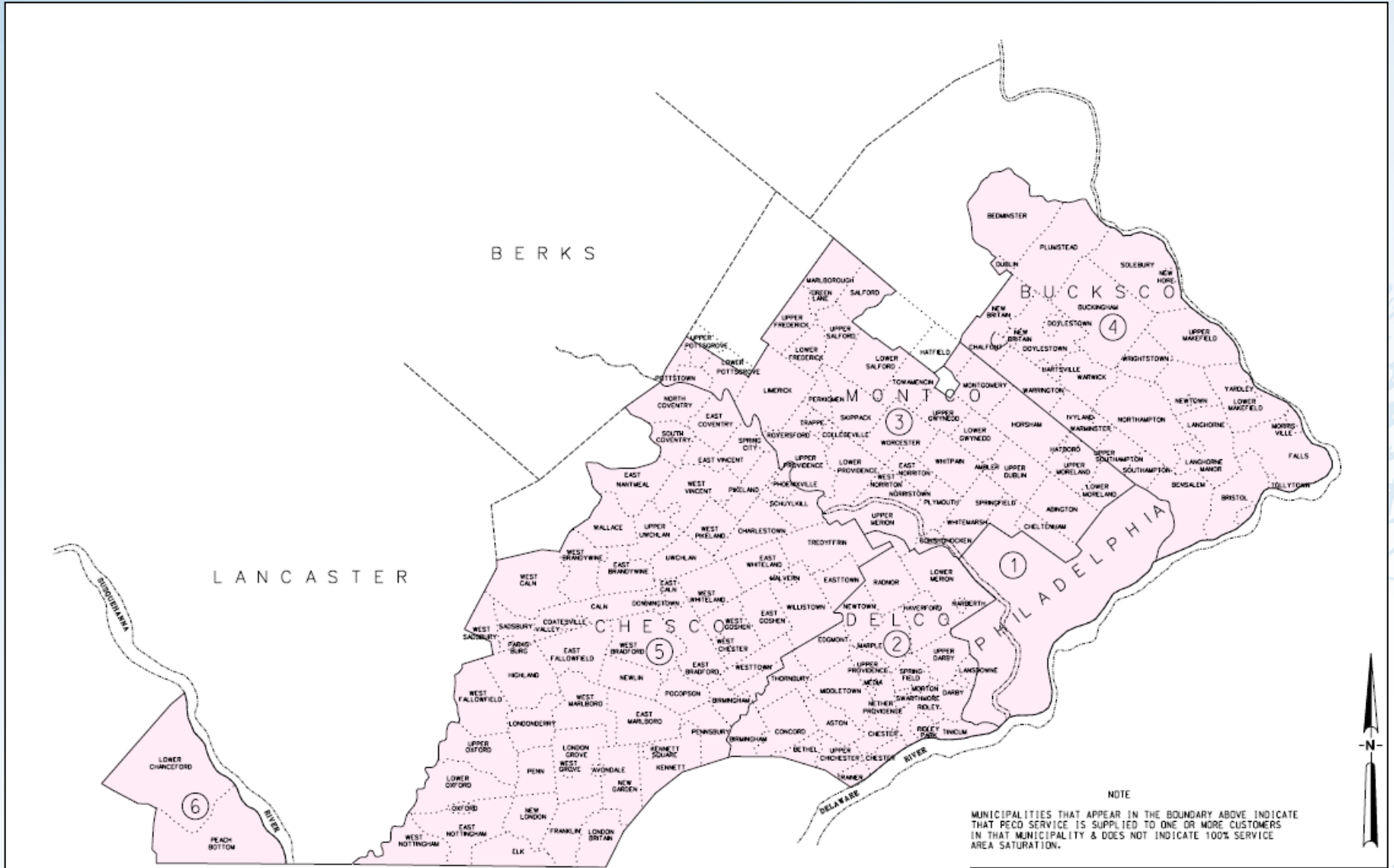
Energy and Climate Change Initiatives

# Planning Context



- 2 states, 9 counties and 352 local governments
- Over 5.5 million residents
- Strong “Home-Rule” control of land use
- Declining cities and older suburbs with suburban sprawl
- Small local governments with limited capacity and strong property rights
- Traditional divide between land use and transportation planning

# PECO Electric Service Territory



# Project Background and Context

## Gap:

- 238 municipalities in PA suburban Counties:
  - All but 10 too small to receive EECBG allocations (35,000)
  - Median population of 6,275 and range in size from 34,522 to 572
  - Over 1,000,000 people live in municipalities under 15,000
- These communities are less likely to have the expertise, time, and capacity to identify, evaluate, and manage potential EE projects.

## Context:

- Opportunity to provide support and coordination through partnerships.
  - PECO Energy electricity energy efficiency program
  - County EECBG-funded programs
  - Regional "EnergyWorks" EECBG-funded loan program
  - Toolkit partially developed under earlier foundation grant to leverage City of Philadelphia's "GreenWorks Philadelphia" program
  - Prior work with Clinton Climate Initiative's Outdoor Lighting program
  - State of PA SESCO program / GESA

# Regional Energy Efficiency Circuit Rider Program

Work with small- and medium-sized municipalities to find cost-effective ways to reduce energy use in their operations:

- **Partnerships:** Counties, utility companies
- **Tools:** Portfolio Manager, DVRPC tools
- **Training:** Workshops on best practices, tools
- **One-on-one assistance:** Technical assistance for 12 per year

*Circuit Rider: “any professional who travels a regular circuit of locations to provide services”*

# Regional Energy Efficiency Circuit Rider Program

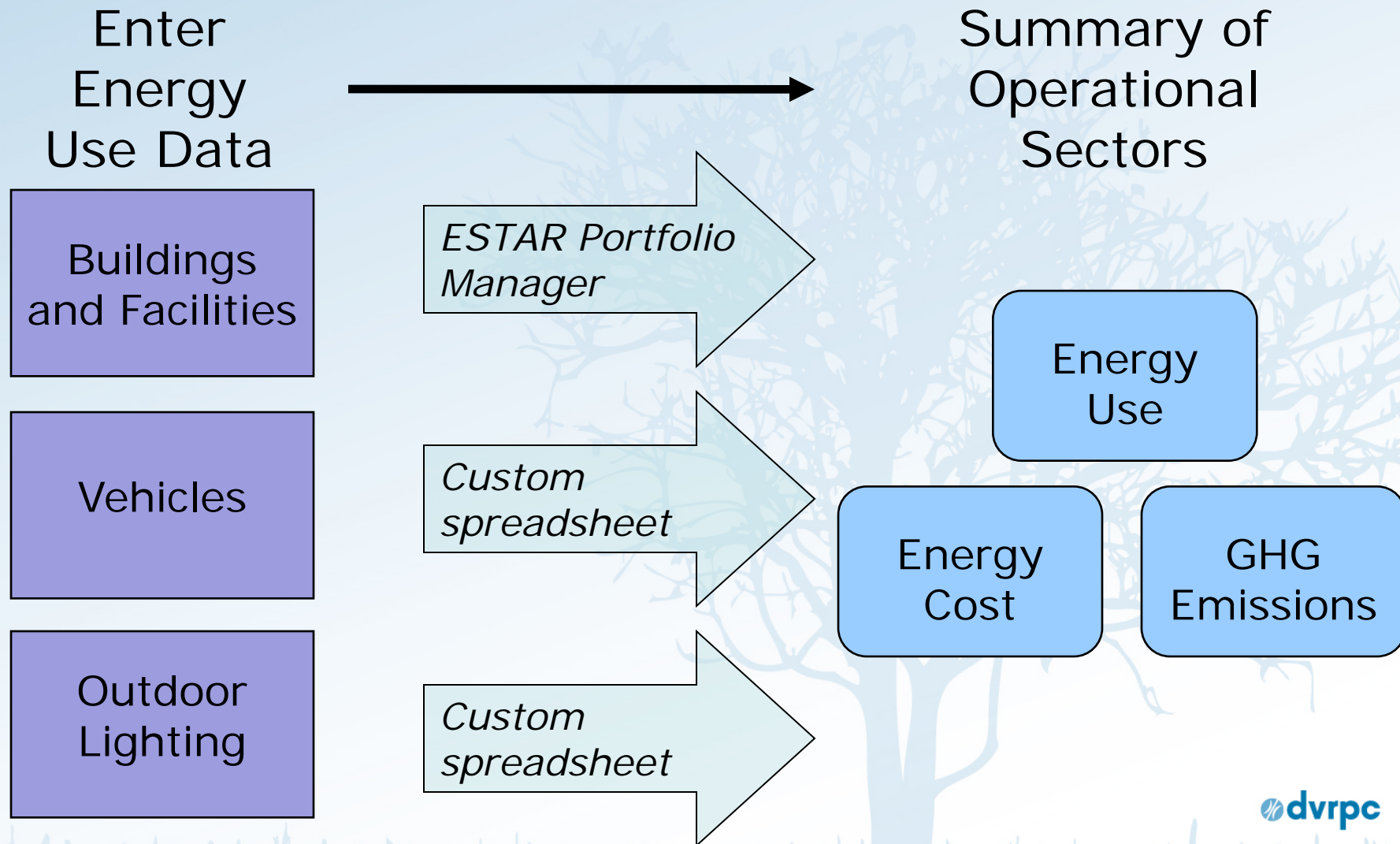
- Buildings/Facilities:**
- Training on data collection
  - Training on Portfolio Manager
  - Best Practices guide for funding, implementation
- 

- Outdoor Lighting:**
- Work with utility to compile data on installed lighting
  - Assemble MOU and coordinate bulk purchase agreement for traffic signals
  - Host county-level workshops on energy efficient outdoor area lighting
  - Work one-on one with selected communities to analyze street lighting retrofit scenarios.
- 

- Fleets:**
- Training on data management and fleet policies
  - Best practices guide
- 

- Water/Wastewater Treatment:**
- Training will provide basic information on the availability of resources and funding and existing activity in the region.

# Local Government Technical Assistance: Tools and Guidance for Municipal Operations



# Program Goals

- Institutionalize informed energy management in local governments
- Reduce confusion, foster more efficient use of limited resources
- Expand awareness of best practices and available funding.
- Develop compendium of best practices for project planning, funding and implementation through rigorous analysis of projects.
- Two facility-based goals:
  - Reduce facility energy use by a minimum of 25 percent in a minimum of 50 buildings with a total area of at least 500,000 square feet.
  - Switch out a minimum of 10,000 incandescent traffic signal lamps (fewer than one-third of those available) for LED lamps.
- Total GHG reduction estimated as 5000 tons CO<sub>2</sub>e per year (ongoing).
- Total ongoing annual energy cost savings estimated as \$680,000.

# Sharing results

- Case studies
- Best practices guides
- Other? On-going advisory group or workshops?

**ENERGY EFFICIENCY CASE STUDIES**  
GREATER PHILADELPHIA REGION

**ING OFFICE BUILDING**  
West Chester, PA

**Overview & Scope**

ING is a Dutch financial institution specializing in banking, investments, life insurance, and retirement services with facilities across the United States. Within the past decade, ING has reevaluated their business practices in light of the overwhelming evidence of human-caused emissions on climate change, making it a priority to reduce their direct and indirect greenhouse gas emissions. ING has begun to improve operational management in their buildings, located in more than 40 nations across the globe. ING determined that a series of low-cost, energy efficiency upgrades within their facilities would greatly reduce a significant portion of their overall greenhouse gas emissions.

The ING West Chester, Pennsylvania office is an excellent example of a building that significantly improved energy efficiency through operational improvements and efficiency upgrades. Constructed in 1993, the brick building has three stories, 125,000 SF of office space, holds approximately 450-500 people, and is in use for 90 hours per week. In 2005, working in coordination with the building management team, a sustainability director identified three main areas to improve energy efficiency: the heating and cooling equipment, lighting, and the power management system.

**Project Details**

**Building**  
**Retro-Commissioning** - Building management conducted a thorough investigation of their current mechanical systems to determine if they were running at peak efficiency. System upgrades and general maintenance was conducted to optimize performance.

**HVAC**  
**HVAC Scheduling** - Deficiencies in the operation of heating and cooling systems were alleviated by the reconfiguring when the building's mechanical systems were powered. Scheduling mechanical systems to be in sync with working hours greatly reduced unnecessary energy expenditure.

**Thermostat Set Point** - In 2009, ING raised its summer thermostat set point to 75 degrees across its portfolio, effectively reducing the amount of cooling provided, and decreasing the energy consumed throughout the summer.

**retrofit at a glance**

- .....Retro-Commissioning
- .....HVAC Scheduling
- .....Thermostat Set Point
- .....Building Control System
- .....Revised Lighting Layout
- .....Compact Fluorescent Light Bulbs
- .....Lighting & Computer Controls
- .....Water Conservation

**BUILDING BACKGROUND**

**ING Office Building**  
West Chester, Pennsylvania

**Building Usage**  
Office Building

**Occupants**  
450-500

**Size**  
125,000 sq ft

**Stories**  
Three

**Year Built**  
1993

**Weekly Operating Hours**  
92 hours/week

**Start Year for Energy Management**  
2005

**Energy Efficiency Tackles**  
Retro-Commissioning, Operations & Maintenance

**Logos:** dvrpc (Delaware Valley Regional Planning Commission), Pennsylvania Department of Environmental Protection, and the City of Philadelphia.

This is part of a series of Energy Efficiency Case Studies developed by DVRPC in collaboration with the City of Philadelphia and the Pennsylvania Department of Environmental Protection. For more information, visit [www.dvrpc.org/Case-Studies](http://www.dvrpc.org/Case-Studies). ©2010. This document is provided as a service to the public. It is not intended to be used for any other purpose. The information contained herein is for informational purposes only and does not constitute an offer of any financial product or service. The information is not intended to be used for any other purpose.

**energy efficient**  
**TRAFFIC SIGNALS & STREETLIGHTS**

**20**

**MUNICIPAL IMPLEMENTATION TOOL #20**

DECEMBER 2010

**Logos:** dvrpc (Delaware Valley Regional Planning Commission) and the City of Philadelphia.

For more information

[www.dvrpc.org/EnergyClimate](http://www.dvrpc.org/EnergyClimate)

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