



An Exelon Company

# PECO Smart Ideas<sup>®</sup>

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# ACT 129

## ✓ **Act 129**

- Signed into law October 2008 by Governor Ed Rendell
- Act 129 requires EDCs with more than 100,000 customers to reduce consumption and demand
- PECO filed plan consisting of 18 residential and commercial energy efficiency and demand reduction programs in July 2009
- Launched early with CFL discount program in October 2009

## ✓ **PECO Smart Ideas**

- PECO's suite of energy efficiency and demand reduction programs officially launched March 1, 2010

# ACT 129 Goals

## ✓ **Energy Efficiency (Consumption)**

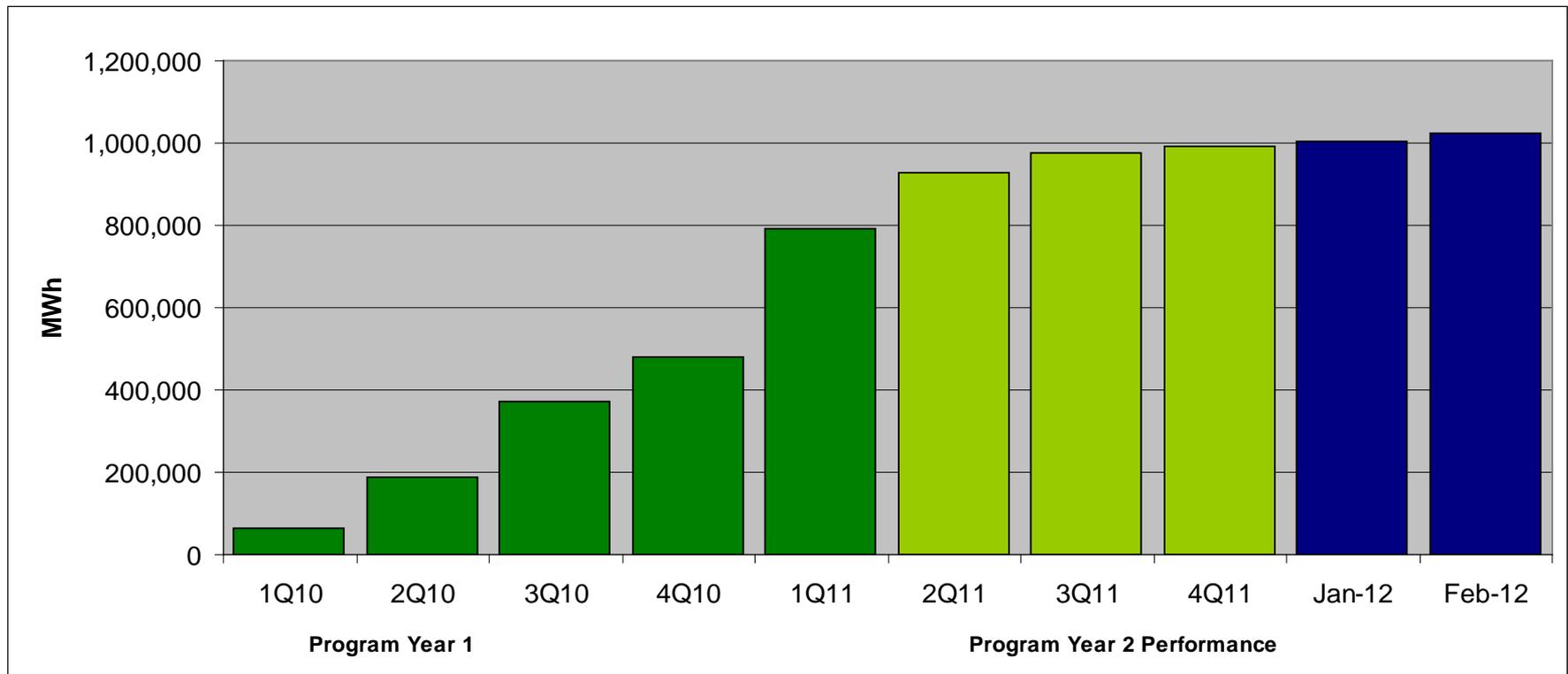
- Savings target of 1% by May 31, 2011
  - 394M kWh – met goal 6 months early in November 2010
- Savings target of 3% by May 31, 2013
  - ~1.18B kWh – on target to achieve goal
- Minimum of 10% target consumption reductions must be obtained from federal, state and local government, including municipalities, school districts, institutions of higher education and non-profits

## ✓ **Demand Reduction (Demand)**

- Reduce peak demand (top 100 hours of highest usage) by 4.5% by May 31, 2013
- 355 MW needed in summer 2012

# PECO Smart Ideas Results

Since October 2009, residential and customers have saved more than 1 million MWh of energy, and more than \$149 million in energy costs. This has the same environmental benefit as planting 1 million trees or not driving 1 billion miles.



# PECO Smart Equipment Incentives

## ✓ Current program

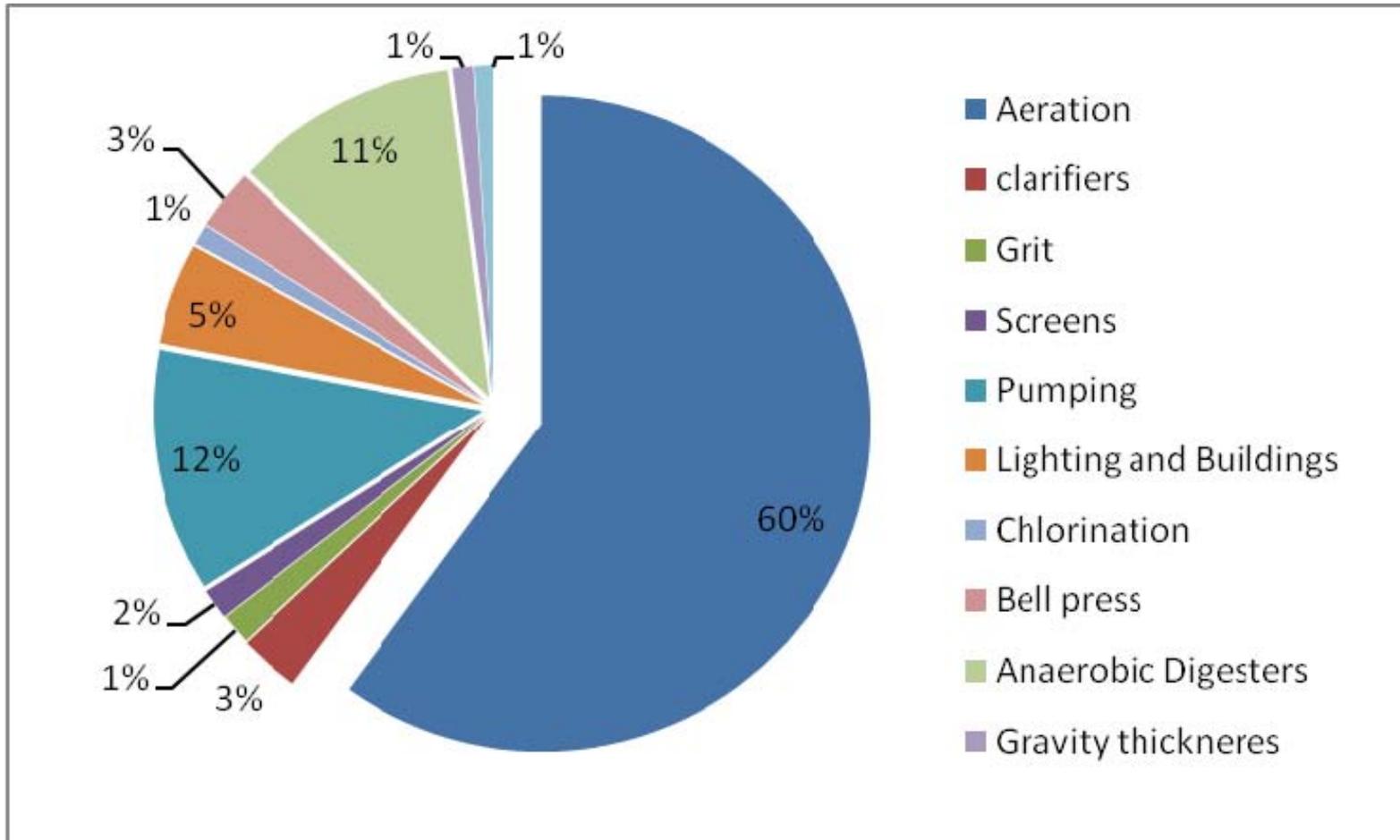
- Runs from March 2010 through May 2013
- To date, commercial and industrial customers have saved over 240 million kWh and received over \$20 million in incentives
- New applications (300+) are now on wait lists and cannot be guaranteed funding under the current program

## ✓ Phase 2 program

- PA PUC hearing, March 2012: PA utilities requested an accelerated schedule to develop Act 129 Phase 2 plans
- Current discussions support continued incentives for EE projects
- Scope of new utility programs will be defined in next 6 - 8 months

# Understanding Energy Usage

Typical electricity usage distribution at wastewater treatment facilities:



# Cost Reduction Opportunities

Most water/wastewater facility projects are “custom”

PECO custom incentive is 8 cents per kWh saved in the first year

Example: 1,000,000 kWh x \$0.08 = \$80,000

## ✓ Wastewater

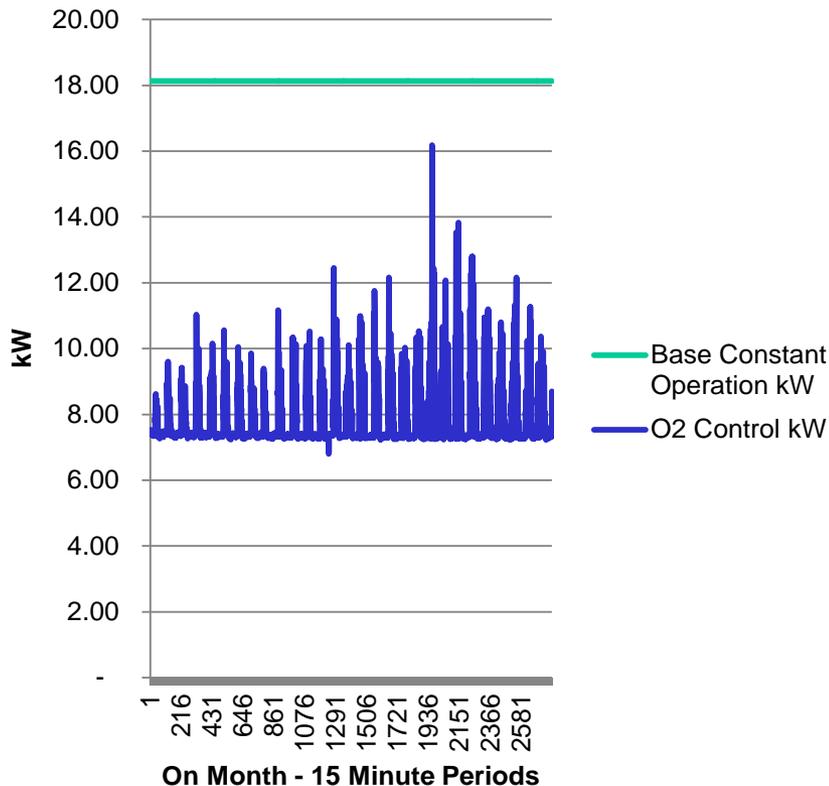
- Aeration management
  - Control
  - Equipment (VFD)
- Transfer pumping management
- Hydraulic management (VFD)
- Digester energy recovery
- Powered trickle filters
- Lighting

## ✓ Water

- Pumping efficiency
  - Pump right sizing
  - Wire to water efficiency
  - Variable speed drives
- Hydraulic management
- Distribution Pumping
- Lighting
- Other

# WWTF Secondary Aeration Blower

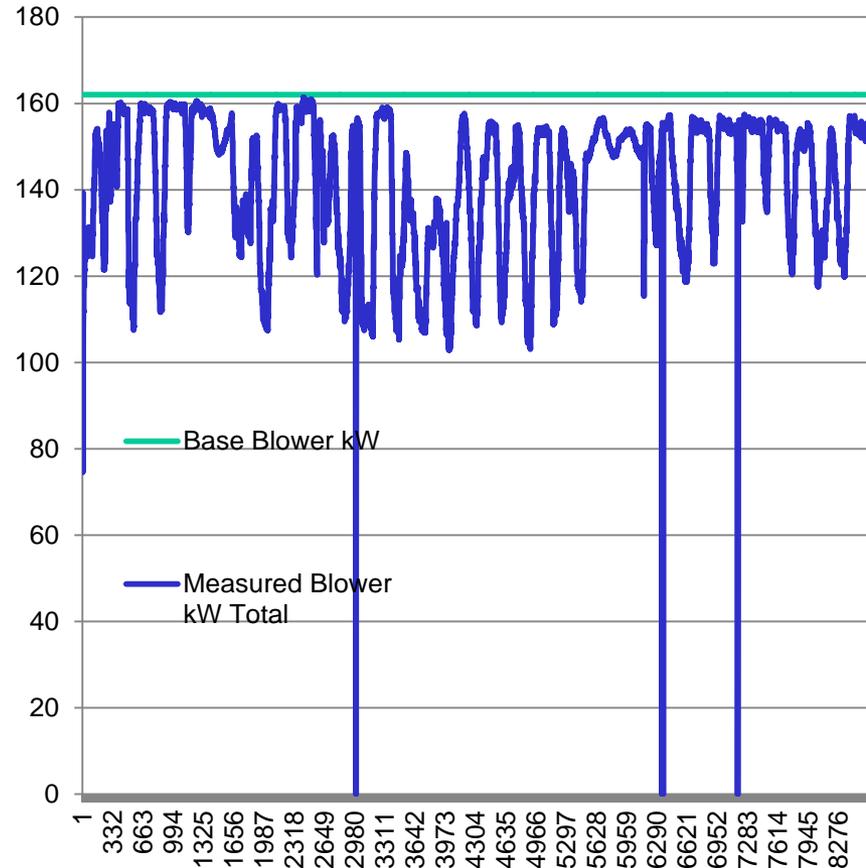
Blower kW - No control vs  
Variable Speed Drive with O<sub>2</sub>  
Control



- ✓ VFD installed
- ✓ O<sub>2</sub> sensor and feedback control added
- ✓ Minimum speed set to maintain mixing
- ✓ ~ 50% kWh savings:
- ✓ \$7,500 incentive

# Blower VFD and O<sub>2</sub> Control

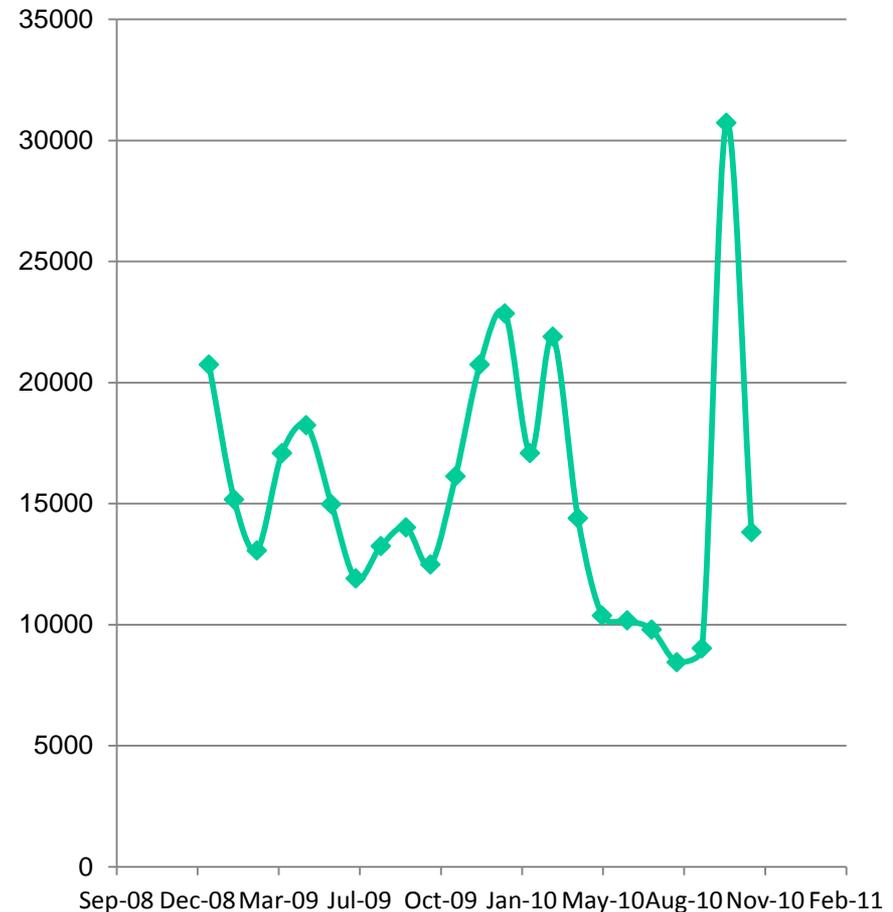
- ✓ Blower O<sub>2</sub> control
- ✓ Baseline constant 162 kW
- ✓ Post control varied 105 to 162 kW
- ✓ 219,000 kWh, avg. 25 kW savings
- ✓ \$18,177 incentive



# VFDs on Pump Station

- ✓ VFDs installed on duplex pump station
- ✓ Savings (not including Sept 2010) ~3000 kWh/month (20%)

## Pump Station Bill kWh



## PECO Smart Ideas

- ✓ 1-888-5-PECO-SAVE
- ✓ [peco.com/SmartIdeas](http://peco.com/SmartIdeas)