



# **Pepco C&I Energy Savings Program**

## **For**

# **Washington Adventist Hospital**

**June 24, 2014**



*C&I Energy Savings Program*

# Agenda

- Program Overview
- Incentives Available:
  - Existing Building
  - New Construction
- Application & Payment Process
- CHP
- Questions and Answers



# EmPower

EmPOWER Maryland energy savings goals is to reduce electric energy by 15% by 2015 delivered via the power grid to Pepco and Delmarva Power customer facilities in Maryland.



# Incentives for Existing Building Projects - Overview

## Equipment Upgrades

- Standard Incentives- Pre-determined measures and incentives
  - Light Fixtures & Controls
  - Packaged HVAC Units
  - Chillers
  - VFDs
  - Commercial Refrigeration & Kitchen Equipment
  - Specialized Controls
- Custom Projects
  - Incentives for equipment upgrades and systems not covered by Standard Incentives may be eligible for 0.16 per kWh saved for a minimum of 25,000 annual kWh savings



# Lighting Fixtures & Controls

## LED Fixtures & Lamps



MR 16 Integral LED Lamp	\$25
PAR 20 Integral LED Lamp	\$20
PAR 38 and PAR 30 Integral LED Lamp	\$30
New or Retrofit LED Exit Sign	\$25
Recessed, Surface, Pendant, or Track Head LED Fixture	\$60
Parking Garage or Gas Station Canopy LED Fixture	\$250
Parking Lot / Area Pole-Mounted and Wallpacks LED fixtures	\$150

# HVAC, Chillers and VFDs

Prescriptive and Alternative incentives are available HVAC, Chillers & VFD's

- **HVAC Incentives**

- Packaged Equipment up to 63 tons
- Dual enthalpy economizer controls
- Water source heat pump units, and evaporative-cooled air conditioning units
- Ground source heat pump units (geothermal)
- Packaged terminal heat pump units and air conditioning units

- **Chiller Incentives**

- Chillers up to 1000 tons

- **VFD Incentives**

- 2 hp and larger motors controlled by VFDs in HVAC systems and process (non-HVAC) functions



# Commercial Kitchen Equipment

- Incentives for new ENERGY STAR® qualified electric equipment for food preparation include:
  - Hot Food Holding Cabinets - \$200-\$300
  - Convection Ovens - \$350
  - Combination Ovens - \$1,000
  - Griddles - \$250
  - Fat Fryers - \$200
  - Steam Cookers - \$ 750



# Commercial Refrigeration Equipment

- Incentives for refrigeration equipment include:
  - Refrigeration and freezer equipment (ENERGY STAR® qualified) - \$75 to \$500 per unit
  - Ice Machines (CEE Tier 1 & 2) - \$50 to \$250 per unit
  - ECM evaporative fan motor: display cooler and/or freezer - \$50
  - ECM evaporative fan motor: walk-in cooler and/or freezer - \$50





# Specialized Controls

- Incentives for the use of specialized controls, which provide energy savings by preventing lighting or equipment from consuming electricity when not in use, include:
  - “Smart” Power Strips - \$15
  - Personal Occupancy Sensors - \$30
  - Vending Machine Controls - \$30 non refrigerated/  
\$75 refrigerated
  - Hotel HVAC/Receptacle Controls - \$70/\$80



# Existing Building Program enhancement

## Energy Savings Studies

- Walk thru Assessments – 75% up to \$1,000
  - Can be used as a preliminary assessment prior to the Detailed Study
- Detailed Comprehensive Studies – 75% up to \$20,000
  - Benchmarking required

## Bonus incentive

- The 10% BONUS INCENTIVE is applied to the prescriptive measures
  - The second project must be started within 6 months of completion of the first project
  - The bonus incentive may not exceed 1 qualifying projects



# New Construction & Major Renovation Projects



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# New Construction and Major Renovation Projects - Overview

## Program Offerings

- **Comprehensive Design Support (CDS)**
  - Multi-phase process starting in schematic stage includes: brainstorming, simulation, adding ECMs design.
  - CDS offers technical support from program energy experts and incentives to owners/customers and their design teams.
- **Modified Design Support**
  - Projects which have progressed beyond schematic stage, and also for projects <50,000 square feet participating in the LEED process.
- **Technical Assistance**
  - Available for projects which do not participate in design support. Program energy experts will propose ECM which will meet program guidelines for incentives and aid with calculations.



# Comprehensive Design Support

## Comprehensive Design Support Incentives:

Phase I	Brainstorming	\$1,000
Phase II	Simulation analysis	1st 50,000 sf - \$0.10 / square foot Additional sf \$0.03 / square foot (refers to conditioned space)
Phase III	Incorporate efficiency measures into design documents	up to \$8,000 (based on types of measures)
Phase IV	Enhanced Commissioning	Up to \$8,000





# New Construction and Major Renovation Projects - Overview

- New Equipment Incentives are available for all buildings (not just those going through Design Support or Technical Assistance) and include:
  - Design-Based Lighting
  - VFDs
  - Packaged HVAC Units
  - Chillers
  - Commercial Water Heating
  - Commercial Kitchen /
  - Refrigeration Equipment
  - Specialized Controls
  - Custom Projects



# Design-based Lighting

	Incentive Criteria	Incentive
Tier 1	90% to 80% of program ASHRAE 90.1-2010 baseline wattage	\$0.40 per watt reduced
Tier 2	>80% to 70% of program ASHRAE 90.1-2010 baseline wattage	\$0.80 per watt reduced



# Continuous Building & Process Performance Incentives

- Once the energy efficient equipment and controls are installed, the next step is to educate and train employees and occupants.
  - O&M Training
  - Occupant Training





# Program Process



# Program Process

## Preapproval

- Required for all projects prior to purchase or install
- Preapproval letter will be issued to applicant s and must be signed and returned with expected completion date
  - Existing buildings have 6 months
  - New Construction have 1 year
- Project extensions are determine on a case by case basis

## Project completions

- Customer is responsible for notify program once project is completed
- Final invoices for labor and material are required
- All projects are subject to inspection
- Payment letter will be issued to payee and will receive check 6-8 for the dated letter





# Combined Heat & Power (CHP)



# Reasons CHP is a Winner!

- More efficient production of electricity and heat
- Decreased facility operating costs
- Can provide power and heat during grid outages
- Reduced emissions and GHG Footprint



# Six 65-kW Packaged CHP Units from Capstone



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# PHI CHP Program Rules

- Incentives are available to any non-residential Pepco or Delmarva customer who pays into the EmPOWER MD Fund
- Any fuel (natural gas, propane, bio-gas, oil, etc.)
- Any prime mover (gas turbines, steam turbines reciprocating engines, fuel cells)
- Any size (capacity rating)
- At least 65% overall efficiency
- All electricity generated must be used at host facility
- 5-year warranty
- $TRC > 1.0$
- “Reasonably efficient” host facility
- System must be operating by 12/31/16



# PHI CHP Program Incentives

- Up to \$2 million per project
- Design = \$75/kW
- Installation = \$175/kW
- Production \$0.07/kWh (for 18 months)
- Example: 500 kW system running 7,500 FL hours/year
  - Design:  $\$75 \times 500 = \$37,500$
  - Installation:  $\$175 \times 500 = \$87,500$
  - Production:  $\$0.07 \times 1.5 \times 7,500 \times 500 = \$393,750$
  - Total Incentive: \$518,750 (\$1,037.50/kW)



# Paying For CHP System Installations

- Power Purchase Agreement (PPA)
- Customers can Purchase, Lease, or Buy Output (via PPA)
- Key parameters:
  - Duration of the Agreement (e.g., 10, 15, 20 years)
  - Does it apply to both electricity and heat, or just electricity
  - Does it include or exclude fuel cost
  - Is(are) the payment rate(s) fully variable (\$/kWh), or is there also a fixed payment (\$/month)
  - How is the variable component indexed
  - Are all O&M costs over the Agreement duration covered





# Questions ?



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