



Energy Efficiency Partnership For Greater Washington

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Goal :

- Reduce Greenhouse gas emissions by 20% - 50% from existing buildings in greater DC Area. Note: Existing Buildings account for almost 40% of GGE

Concept:

-Businesses, banks, local governments and energy services companies providing a model for self-funded projects

Education, Research and Outreach:

[Virginia Tech](#), Founding Partner and unbiased facilitator will use program as outreach mechanism for Students, Civic Groups and Industry

Partners:

Hannon Armstrong

Pepco Energy Services

Virginia Tech

Arlington County

Leo A Daly

GVA Advantis

JBG Companies

National Building Museum



Pepco Energy Services

- **Pepco Energy Services, Inc.**
 - Diversified Energy Services Company (ESCO)
 - \$2.0 Billion 2007 Revenue
 - 430 employees
 - Unregulated Subsidiary of Pepco Holdings, Inc.
- **Pepco Holdings, Inc.**
 - Investment grade rating
 - \$14.2 billion Assets
 - \$3.6 billion Net Worth
 - \$8.4 billion 2006 Revenue

1 Rated MD DGS

Over \$600 Million in
Projects Since 1995

PA, VA, NC, NY, DC
Experience

Full Service ESCo

NAESCO Accredited
2006

NAESCO
Re-Accredited 2007

Over 100 Year History

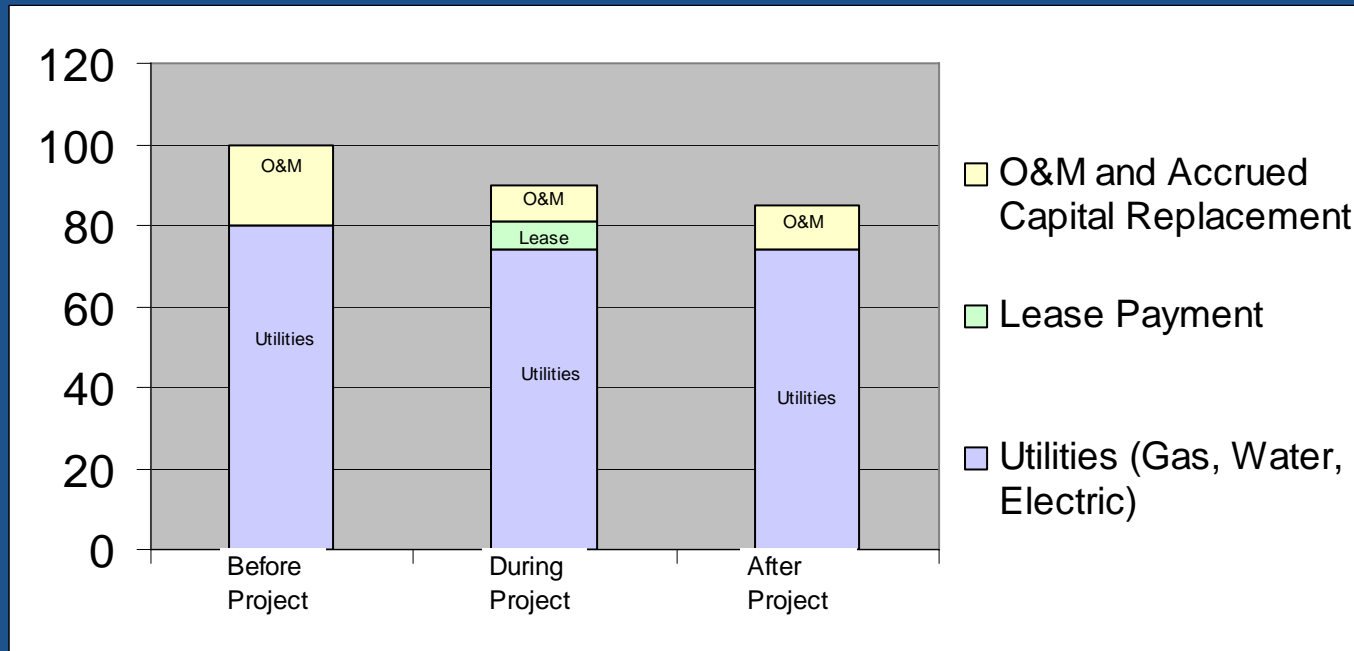
Performance Based Project Development

- **Replace Assets That Are Beyond Useful Life**
- **Provide Additional Capacity / Reliability**
- **Leverage Capital Improvement Budgets and Resources**
- **Reduce Maintenance Costs**
- **Generate Positive Cash Flow**
- **Increase Performance**
- **Incorporate Renewable Energy**

What is Performance Contracting?

- A self-funding, fixed-term procurement process
- A budget-neutral way for publicly funded institutions to procure needed energy improvements
- Present Value of future guaranteed savings pays for Energy Conservation Measures (ECMs)
- Customer enters into a tax-exempt lease at a low interest rate
- Pepco Energy's guaranteed savings are greater than the annual lease payments
- 42 states (PA GESA) and the Federal Government employ enabling Performance Contracting legislation

How A Performance Contract Works



Project is self-funded by Energy Savings

Performance Contracting Benefits

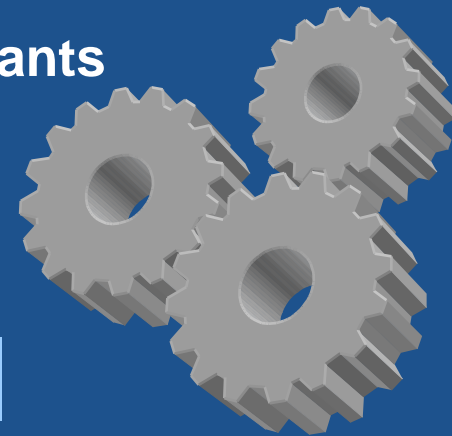
- **Replace Assets That Are Beyond Useful Life**
- **Provide Additional Capacity / Reliability**
- **Leverage Capital Improvement Budgets and Resources**
- **Reduce Maintenance Costs**
- **Generate Positive Cash Flow**
- **Increase Comfort**
- **Incorporate Renewable Energy Component**

Reduce Energy Consumption by 20 – 50%

Integral Project Approach

All Stakeholders Are Integral To Project Success....

- Facilities and Maintenance
- Director of Operations
- Construction and Planning
- Procurement
- Custodial Staff
- Occupants and Employees
- Administration
- Executive Board
- Consultants



A Partnering Approach

Comprehensive Design-Build Approach

Solicit Customer Feedback &
Incorporate Preferences

- Preliminary Study
- District's Needs, Wants and Must Haves
- Investment Grade Energy Audit
- Final Design Submittals
- Implementation/Construction
- Commissioning
- Training
- Operations & Maintenance

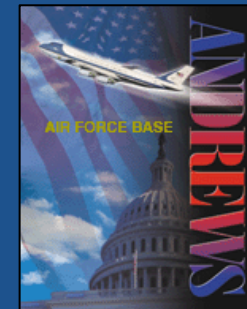
Project Finance

- **Typically a Lease Purchase Arrangement**
 - Cost-effective, proven structure
 - Seamless to customer
 - Owner retains asset
- **Other Sources**
 - CIP
 - Bonds
 - Rebates / Grants (if available)



State/Government Projects

- Penn State University (Altoona & State College)
- Baltimore City Government Buildings
- Salisbury University
- AAFB, NIH, NASA
- NC Dept of Administration
- Veteran Affairs Hospitals (7 in PA)





Sample Performance Based Projects

Landfill Gas to Energy

- Methane Gas is Harvested from Landfill
 - Gas is processed to purify
 - It is then burned to produce electricity
- Considered a Renewable Source
- 5MW in Operation
- 6MW in Construction
- 14MW in Development by PES throughout Mid-Atlantic



Baltimore City Public Schools

- \$27M in Guaranteed Energy Cost Savings over 15 year term
- 32 Schools Upgraded
 - Lighting
 - Water Conservation
 - Replacement of Heating and Cooling
 - Energy Management & Controls
 - New Windows
- Pepco Energy to also Maintain Installed Equipment for Contract Term



Salisbury University

- **Fifteen (15) Year Contract**
- **Energy Conservation Measures at 45 buildings throughout campus**
 - New Central Chiller Plant
 - High Efficiency Lighting
 - Upgrades to Plumbing Fixtures
 - Building Envelope Improvements
- **Over \$5M in Guaranteed Savings**
 - Equivalent Energy needed to power 1600 homes will be saved annually
- **Salisbury University part of UMD System**
- **Pepco Energy to Maintain installed Equipment**



National Institutes of Health

- \$38 million Project
- Installed One of the Largest Co-generation Power Plants ever Built for the Federal Government
- \$55 million of Cost Savings Over 15 Years
- 75 Buildings – Over 300-acres
- 23-megawatt Gas-fired Co-generation Plant and Substation
 - Cut Energy Costs by \$55 million Over 15 Years
 - Provides 180,000 pph of Dry, Saturated Steam
 - SCADA Controls System
- Pepco Energy Owns, Operates, and Maintains the Facility through 2014



Successful K-12 Projects

- Howard County Public Schools
- Baltimore City Public Schools
- Prince George's County Public Schools
- Montgomery County Public Schools
- **Roanoke County Public Schools**
- Ridley School District, PA
- Wetzel County Public Schools
- Marshall County Public Schools



ROANOKE COUNTY PUBLIC SCHOOLS



- Open “partnership approach”- Procurement- Richard “Butch” Kelly
- Detailed energy audit of 32 school buildings which included:
 - ✓ Lighting
 - ✓ Water
 - ✓ Direct Digital Controls - Web based with remote access
 - ✓ Plug Load survey
 - ✓ Vending Miser Analysis
 - ✓ Review of potential HVAC Improvements
 - ✓ Almost \$400,000 a year in savings
 - ✓ Pays for a \$3.5 million energy improvement project over a 10 year

ROANOKE COUNTY PUBLIC SCHOOLS



ROANOKE COUNTY PUBLIC SCHOOLS ENERGY CONSERVATION MEASURES

ECM #	ECM Description	Cost	Annual Savings	Simple Payback
1	Lighting	\$ 1,281,341	\$ 189,365	6.8
2	Water	\$ 493,844	\$ 49,087	10.1
3	EMCS Upgrade	\$ 2,026,914	\$ 129,501	15.7
4	Plug Load	\$ 152	\$ 24,147	0.01
5	Vending Miser	\$ 28,293	\$ 6,216	4.6
TOTAL PROJECT		\$ 3,830,545	\$ 398,316	9.6

Contact Information



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