

A Guaranteed Energy Savings Partnership



County of Allegheny

and

N  **RES CO**
An **EQUITABLE RESOURCES** Company

Guaranteed Savings Program

- Guaranteed Savings Act 29 of 1996 Permitted Energy Savings Contracts (currently Act-57, title 62).
- No out-of-pocket costs to Allegheny County to implement program.
- ESCO guarantees that the Energy and Maintenance savings resulting from the project will be **greater** than the program costs in each guaranteed year of contract.
- Allegheny County is using this program to leverage existing utility budgets to fund much needed building improvements.

Guaranteed Savings Program

- What Types of Energy Services Were Provided Under Program?
 - Identification and Evaluation of Energy Conservation Measures
 - Engineering and Design
 - Renovation Construction
 - Equipment and Software Purchases and Installation
 - Training
 - Financing

Guaranteed Savings Program

- What Factors Influenced Allegheny County’s Decision to Pursue a Performance Contract?
 - Limited funds were available for capital improvement to buildings
 - HVAC equipment was outdated
 - Deficiencies in indoor environment such as “lighting levels, indoor air quality and comfort control”
 - County employees would benefit from a technical training program
 - Existing equipment purchased via lowest “cost-bid” and not “life cycle cost”
 - Deferred maintenance problems

Guaranteed Savings Program

- Action Steps that Moved the GS Program to Reality:
 - Internal Review -Tested ideas with key decision makers
 - Organize Task Force - Key decision makers and facility operators
 - Professional Service Contract - Independent energy experts
 - Advise and Solicit Letters of Interest - Required by statutes
 - Two Part Selection (RFQ then RFP) – Task force and experts
 - Negotiate Master Contract and Master Lease

Allegheny County Project Awards and Publication



- **Awards Received**

- **Association of Energy Engineers’ “Regional Award for Corporate Energy Management”.**
- **Honorable Mention “Multi-Building” category -- 2000 *ENERGY USER NEWS* -- Building Awards**

- **Publications Written Stories**

- **“Allegheny County to Save \$13.7 Million with ESPC” - *ENERGY USER NEWS* - 7/00**
- **“Pennsylvania’s Energy Efficiency Success Stories” - *Power Boosters Safe Energy Communication Council, Fall 1999***
- **“Overhauls aim to save energy and cash” - *TRIBUNE-REVIEW, May 19, 1999***
- **“Guaranteed Savings - \$10 million contract puts *NORESCO* in the green” - *Pittsburgh Business Times - Energy and the Environment Special Report , February 4 - 10, 2000***

Financial Summary

Pilot and Phases 1, 2, & 3

- **Project Cost: \$ 9,715,420**

- **Guaranteed Savings: \$ 1,311,712**

- **Measured & Verified Savings: \$ 1,626,044**

- **Deviation between M&V and Guarantee: \$ 314,332**

- **Annual Consumption Savings**

- **Electric (kWh): 13,028,427**

- **Water (k-Gal): 60,177**

- **Natural Gas (Mcf): 11,708**

- **Steam (M-Lbs): 36,358**

Pilot Project (1999) - Installed Technologies

County of Allegheny

3333 Forbes Avenue

- Energy Efficient Lighting
- New Low-E Glass Windows

Shuman Center

- Energy Efficient Lighting
- (2) New Trane Chillers
- Cooling Tower Refurbishment
- New DDC Energy Management System
- New Refrigeration Condensers
- New Kitchen Gas Ovens

3333 Forbes Avenue - New Low-E Windows

County of Allegheny

Old Windows



New Low-E Windows



Shuman Center - New Chillers

County of Allegheny

Removal of old Chiller



Installation of new Chiller



Phase 1 (1999) - Installed Technologies:

County of Allegheny

Kane Hospitals

- Energy Efficient Lighting
- Direct Digital Control Systems w/ Variable Frequency Drives
- New Toilets and Flush Valves
- New Refrigeration Compressors
- Clothes Washers
- New Natural Gas Kitchen Equipment

North Park

- Energy Efficient Lighting
- Under Ground Water Piping Replacement
- New EMS at Skating Rink

Morgue

- Energy Efficient Lighting

Phase 1, continued - Installed Technologies

County of Allegheny

Courthouse

- Energy Efficient Lighting
- New Cooling Tower
- Historic Lighting Upgrade

Shuman Center

- Domestic Plumbing -
Showers
- Domestic Hot Water Loop
Controller

County Office Building

- Energy Efficient Lighting
- Direct Digital Control
Energy Management System

Court House Cooling Tower Room

County of Allegheny

Cooling Tower Room - Before



Cooling Tower Room - After



Court House Cooling Tower Equipment

County of Allegheny

Cooling Tower - Before



Cooling Tower - After



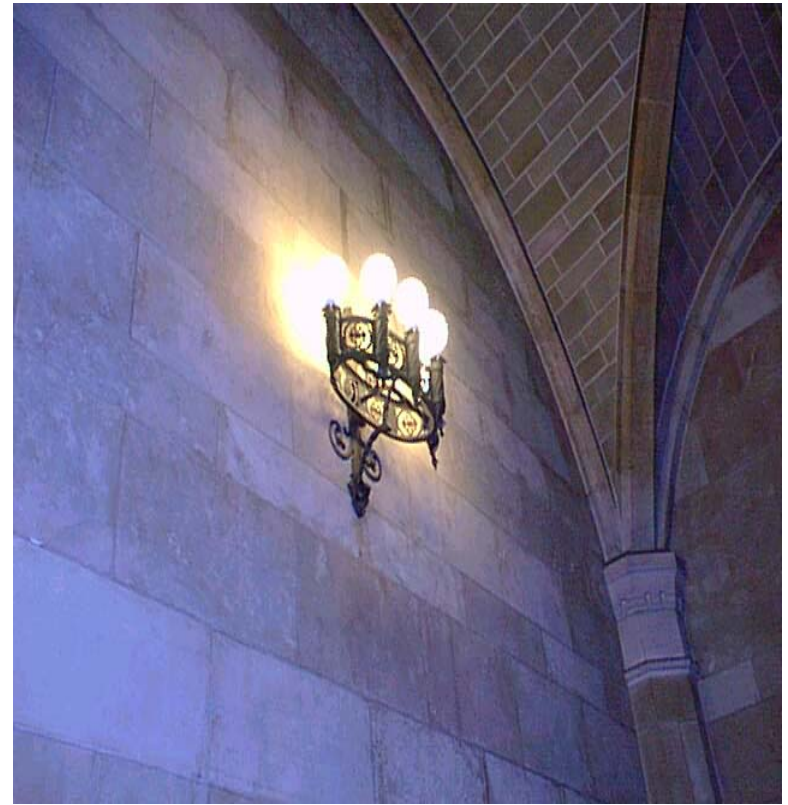
County Courthouse - New Antique Globes

County of Allegheny



Historic Lighting Renovation

County of Allegheny



Historic Lighting Renovation

County of Allegheny



Phase 2 (2000) - Installed Technologies

County of Allegheny

New County Jail

- Energy Efficient Lighting
- Direct Digital Control System
- Lexan Windows
- Cooling Tower Deduct Water Meter
- Kitchen - AHU conversion to VAV
- Condensate System Repair
- Chemical Feed to PACT System

Parks & Clack Facility

- Energy Efficient Lighting

CCH and COB:

- New Print Shop AHU
- Direct Digital Control System
- Steam Valve Repair
- Duct & Tunnel Cleaning
- Laboratory Battery Back-up & Emergency Lighting System

County Court House - Duct Cleaning - Phase 2

County of Allegheny



Allegheny County Jail - Condensate Tank

County of Allegheny

BEFORE



AFTER



Phase 3 “CCB” (2001) - Installed Technologies

County of Allegheny

County Occupied Portion

- Energy Efficient Lighting
- Direct Digital Control System
- Dual Duct Variable Air Volume Conversion

City Occupied Portion

- Energy Efficient Lighting

Allegheny County “City-County Building (Lighting)

County of Allegheny



Downstream Services

- **Outside Consulting Fee**

- Energreen (Pilot, Phase I and Phase II)
- Third Party Review of NORESO M&V Reporting

- **EMCS Training and Maintenance**

- Annual calibration of Systems
- Periodic software upgrades

- **Energy Manager**

- NORESO to review building operation practices to maximize energy efficiency.
- NORESO will be interacting with County's new utility database to oversee utility consumption trends and monitor overall energy performance.

Energy Savings Wrap-up

- **The Program is Working Better Than Anticipated:**

<i>Guaranteed Savings:</i>	<i>Achieved Savings:</i>
<i>\$ 1,311,712</i>	<i>\$ 1,626,044</i>
- **Current Utility Rates Have Served To Magnify The Savings Even Further**

A Guaranteed Energy Savings Partnership

County of Allegheny

Questions and Answers

David Robb
Senior Account Executive
NORESCO
412.722.9845

Tom Donatelli, P.E.
Director, Public Works
Allegheny County
412.350.4005