

Performance Contracting

Allegheny County Pittsburgh, PA

Project Cost: \$11.3 million

Annual Cost Savings: \$1.45 million

Facility Description: County Government, 100+ buildings with more than 3.4 million square feet

Contract Term: 10-Year Energy Savings Performance Contract



“There’s a lot of interesting technology out there, and we’re taking advantage of it through a guaranteed-savings arrangement that involves no risk to taxpayers. We had an independent third-party engineering consultant review the contract and validate the projected energy savings. NORESKO bears the financial risk if, by some chance, the entire cost of capital equipment is not covered by the energy-cost savings. .”

Tom Kelley
Deputy Director of Public Works
Allegheny County

Allegheny County expects to save over \$14 million in energy and operating costs over the next 10 years. The new energy-efficient equipment and retrofits required to realize these savings will not cost taxpayers a penny, because NORESKO arranged to finance them entirely from the energy-cost savings – with no down payment or up-front charges. The annual energy saved from the pilot project through the third phase of the program will exceed 13 million kWh of electricity, more than 15,000 MCF of gas, and more than 50 million gallons of water.

Under a master Energy Savings Performance Contract (ESPC), NORESKO provided

comprehensive energy services for more than 100 of Allegheny County’s facilities in three phases. NORESKO has guaranteed a total savings of more than 14 million over 10 years for the project.

NORESKO arranged financing and, in compliance with Pennsylvania’s Guaranteed Energy Savings Act 57, Title 62 (formerly known as Act 29), guaranteed that total energy savings in each of the 10 program years will exceed the cost of capital equipment and labor.

The pilot project, which is saving about 2.1 million kilowatt-hours (kWh) of electricity and 5,600 million cubic feet (MCF) of natural gas, included:

- Installing an energy management system at the Shuman Juvenile Detention Center
- Retrofitting the lighting system at the detention center
- Replacing two aging chlorofluorocarbon (CFC) based chillers with less environmentally harmful more efficient chillers, and refurbishing the cooling tower at the Shuman Center
- Installing a new refrigerator condenser and new gas kitchen equipment at the detention center
- Installing energy-efficient lighting and windows at the health department offices

Phase I was designed to conserve about 40 million gallons of water, 6.6 million kWh of electricity, and 8,700 MCF of natural gas annually. It encompasses:

- Retrofitting almost 20,000 lighting fixtures at the county’s five downtown Pittsburgh facilities
- Installing new energy management systems and controls at the four Kane Regional Medical Centers and the North Park Ice Skating rink, and programmable thermostats at various North Park facilities
- Replacing inefficient kitchen equipment at the Kane Centers

- Installing over 600 low-flow toilets, 1,100 faucet restrictors, 31 low-flow shower heads, and new laundry systems and front load washers at the four Kane Centers and Shuman Juvenile Detention Center
- Maintenance and repair work on the North Park water distribution system
- Replacing a cooling tower at the county court house
- Performing a cogeneration study for the downtown facilities and airport industrial complex

Phase II has saved more than 3.4 million kWh of electricity, 2880 MCF of natural gas and more than 5 million gallons of water a year. It addressed:

- Replacing or retrofitting more than 12,000 inefficient lighting fixtures at the new Allegheny County Jail and 48 park and recreational facilities
- Installing a new energy management system with direct digital controls (DDC), retrofitting more than 1,800 windows with 1/2 -inch lexan, and installing a water meter for the cooling tower at the new Allegheny County Jail
- Repairing the condensate piping system at the jail
- Converting the kitchen air handling unit to a variable air volume system at the jail
- Adding a chemical feed unit to the steam system to ensure preservation of the pipes at the jail
- Installing a new air handling unit for the print shop and battery back-up emergency lighting for a laboratory at the county office building
- Installing a new DDC energy management system at the county courthouse and county office building
- Adding new sprinkler piping in an air supply tunnel within the county courthouse
- Repairing a steam valve, cleaning ducts and the tunnel, and rehabilitating the supply air system at the county courthouse

Phase III has saved more than 1.5 million kWh of electricity. This phase consisted of:

- Replacing or retrofitting more than 5,000 inefficient lighting fixtures at the City-County Building
- Installing a new energy management system with direct digital controls (DDC)
- Variable frequency drives were used to convert a dual duct system to a variable volume system

NORESCO is the nation's most experienced energy service company providing comprehensive and proven energy-efficiency solutions and infrastructure development and operations strategies to a wide range of customers. A recognized industry leader installing and operating over \$1.4 billion of proven energy solutions in diverse markets across the nation, NORESCO has built on-site energy infrastructure generating more than 300 megawatts of power, and has helped customers improve energy efficiency saving over 31 billion-kilowatt hours of electricity and 71 trillion Btus of fuel.

