

## Charlottesville City and Schools Energy Savings Performance Contract (ESPC)



**Challenge:** The City of Charlottesville’s utility costs increased 35% in a single year. With the rising cost of energy, the city faced a potentially significant impact on budgets now and into the future. This project involved 32 buildings, which included all the major municipal buildings (city hall, courthouse, detention center, central fire station, library, parks and recreation, etc.) and nine schools, totaling 1,478,499 square feet.

**Solution:** RWE Clean Energy, was able to help the city decrease energy consumption and save taxpayer dollars by implementing lighting upgrades and water conservation measures.

In addition to those measures, a solar water heating system was installed in the city’s fire station. Since the fire station is occupied twenty-four hours a day, seven days a week, there is a large demand for hot water. The water heaters in the facility use natural gas to heat the water. The solar hot water system uses the energy from the sun to preheat the water. This allowed the city to reduce the amount of natural gas needed to heat the water to the appropriate temperature. When fully implemented, these changes will create substantial emissions reductions and valuable cost and capital investment savings

### ENERGY CONSERVATION MEASURES

- Lighting System Measurement
- Installed Solar Water Heater
- Water Conservation



### PROJECT DATA

#### LOCATION

Charlottesville, VA

#### CONSTRUCTION DATES

May 2008 to October 200

#### CAPITAL COSTS

\$5,390,201

#### ANNUAL SAVINGS

Energy: \$198,059  
Utility Cost Reduction: 10%

#### ENVIRONMENTAL BENEFITS

1,996 tons of harmful greenhouse gas emission reduced annually

Equivalent to:

- Preserving 12.6 acres of forest from deforestation\* or
- Conserving 4,210 barrels of oil\*

\*Sources:

- Leonardo Academy’s Cleaner & Greener<sup>SM</sup> Emissions Reduction Calculator  
<http://www.cleanerandgreener.org/resources/pollutioncalculator.html>
- U.S. Environmental Protection Agency, Greenhouse Gas Equivalencies Calculator  
<http://www.epa.gov/cleanenergy/energy-resources/calculator.html>