

Case study

August 2011



Clayton County

County saves \$575,000 annually with performance contract

Jonesboro, Georgia

Like many county governments, Clayton County faced rising energy and facilities maintenance costs. Significant system upgrades were needed to improve energy efficiency, and enhance employee comfort and productivity.

Challenge

Clayton County particularly wanted to address inadequate cooling at the Department of Family and Children Services, temperature control issues at the County Archives building and urgent piping issues at the Annex III building. They also wanted to install a methane gas collection system at the landfill. Before selecting specific energy conservation measures and system upgrades, county officials completed a facilities audit to identify cost-effective projects.

Solution

After being selected by Clayton County to present a proposal, Trane developed a performance contract to replace or redesign HVAC systems for better temperature control and to reduce energy use and operating costs at the various facilities. Each building was modeled using TRACE™ (Trane Air Conditioning Economics) software. Light loggers were installed to verify lighting burn hours and identify the potential for lighting upgrades and controls. The methane recovery project at the county landfill used a LandGem model (Landfill Gas Emissions Model) with a safety factor to calculate the projected methane flow. Stamped engineering drawings were developed for all aspects of the project.



Clayton County courthouse is saving significant energy costs.

Integrated building control

The Trane proposal included modifying building automation systems at the H.R. Banke Complex and installing new Tracer Summit™ systems at the Department of Family and Children Services, Annex III, Behavioral Health, Central Library and the Health Department/County Archives building. The control system at the Justice Complex was updated to work with the design of the central chilled water plant. The library entry was rebuilt to minimize air infiltration and the loss of conditioned air. To reduce electrical costs and leverage the current rate structure, electric meters within the Justice Complex and the Lundquist Aquatics buildings were consolidated.

Efficiency upgrades

Other upgrades included replacing nearly 12,500 fixtures with high-efficiency lighting to enhance brightness and reduce energy expenses. Motion sensors control lighting in lobbies and conference rooms in six buildings. The methane collection system voluntarily installed at the landfill allows the county to capture carbon credits as a revenue stream. The performance contract also replaces plumbing fixtures in the County Archives building to decrease water use.

Results

Clayton County expects that infrastructure upgrades to its facilities will save \$575,000 per year. The renovation will save \$361,000 in annual utility costs and generate \$213,000 in annual carbon credit revenues. The energy-saving plan offers the added benefits of improving employee comfort and productivity and reducing the county's environmental impact. Upgrades are being completed at seven county facilities and the county landfill. The \$5.5 million renovation project is being funded with a performance contract that allows the use of future energy and operational savings to finance infrastructure improvement projects.

Eldrin Bell, chairman of the Clayton County Board of Commissioners, said, "We're excited about implementing these new energy efficient upgrades in our county buildings that will also improve the working conditions for our employees. We're especially pleased that we'll be able to pay for the upgrades through energy and operational savings toward building a greener county."

Les Markland, interim director of building maintenance, said, "The entire Trane team has demonstrated the highest level of professionalism and attention to detail. They developed a



New rooftop air conditioners are helping Clayton County taxpayers save significant energy while improving comfort and employee productivity.

comprehensive list of energy conservation measures specifically designed to address many of our facility needs and included substantial mechanical and controls work. Trane's coordination and project management were superb, ensuring that the project was implemented on schedule with minimal disruptions. They also began the measurement and verification process very early in the construction phase to ensure that the projected results were achieved.

We would highly recommend working with Trane for any energy services project!"

Clayton County is proceeding with Phase II of the project, which will include utilizing the methane in the landfill to power a 2.0 mega watt generation system to provide power to nearby County buildings, while selling excess power back to Georgia Power.



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