



## 2006 New Jersey Clean Energy Leader

### Atlantic County Utilities Authority (ACUA)

# YOUR POWER TO SAVE Project of the Year

#### PROJECT INFORMATION

##### Organization

- Atlantic County Utilities Authority

##### Project Name

- ACUA and Alternative Energy, The Economical and Environmental Choice

##### Locations

- Atlantic City, NJ
- Egg Harbor Township, NJ

##### Project Contact

- Richard Dovey, President

##### Technologies

- Wind Power
- Photovoltaic Systems
- Geothermal Heating and Cooling
- Landfill Gas to Energy
- Biodiesel Fuel
- Hybrid Vehicles

##### Estimated Barrels of Crude Oil Saved

- 51,000 per year

##### Annual Energy Savings

- \$635,250+

##### NJCEP Incentive/Rebate

- Jersey-Atlantic Wind Farm - \$1.7 million
- Landfill Gas to Energy Project - \$513,000
- Solar Array Project - \$1.95 million
- GeoBuilding's HVAC system - \$48,000 from NJ SmartStart Buildings® Program
- Biodiesel Project - \$29,000
- Hybrid Vehicles - \$16,000



“ We hope to continue developing clean energy projects and serving as an industry leader for renewable energy initiatives. ”

Richard Dovey  
President  
ACUA



#### Background

The Atlantic County Utilities Authority's clean energy projects consisted of several initiatives, forming a comprehensive, energy efficient, and environmentally friendly alternative to reliance on fossil fuels. These components include: five 1.6 megawatt GE turbines which will produce 8.0 MW of electricity; a 500-kilowatt solar generation project consisting of 2,700 photovoltaic panels grouped in 5 arrays; a landfill gas to energy project; a biodiesel project that incorporates the ACUA diesel fleet of 106 vehicles; the purchase of 4 hybrid Ford Escape vehicles and 1 hybrid Chevy Silverado truck; and a geothermal heating and cooling system at its GeoBuilding.

#### Challenge

ACUA is an environmental leader who strives to utilize new technologies, innovations, and employee ideas to provide high quality and cost-effective environmental services. Furthermore, ACUA is responsible for enhancing the quality of life through the protection of water and land from pollution and the maintenance of waste management services and practices. However, their everyday reliance on fossil fuels posed a significant concern.

The generation of energy from fossil fuel sources results in the challenges of air, land, and groundwater pollution. In addition, the rising cost of fossil fuels greatly reduces the cost effectiveness of relying on these fuels as a source of energy. These issues, arising from the continued use of fossil fuels, directly conflicted with ACUA's mission.

#### Solution

In order to address this conflict, ACUA needed to develop an energy plan that minimized reliance on fossil fuels and increased usage of alternative energy sources. Through the establishment of partnerships with technology groups, corporate leaders, and governmental entities, such as the New Jersey Board of Public Utilities and its Office of Clean Energy, the ACUA was able to implement a comprehensive energy strategy.



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ACUA's energy initiatives included five 1.6 megawatt GE turbines installed in Atlantic City.

The ACUA's energy projects ranged from the construction of the five 1.6 megawatt GE turbines which produce 8.0 MW of electricity, to solar power generation systems at wastewater treatment facilities, the purchasing of hybrid vehicles, and the use of biodiesel fuels.

Their dynamic partnerships also led to the creation of a landfill gas to electricity system at the ACUA Environmental Park. Through the utilization of a methane capture system, the ACUA collects greenhouse gases emanating from their landfill; burns them; and creates enough energy to power their entire Environmental Park, including the administrative GeoBuilding, recycling center, maintenance building, scale house, and transfer station. On-site use accounts for approximately one eighth of the total capacity of this project, and all excess power is sold to the PJM grid.

Additionally, the GeoBuilding's utilization of a geothermal heating and cooling system further decreased the Authority's dependence on fossil fuels. These energy conservation projects helped ACUA save the equivalent of more than 51,000 barrels of crude oil per year and more than \$635,250 in energy costs.

### Benefits

Actions taken by the ACUA in pursuing alternative energy sources have directly reduced the amount of pollution being released into the environment. Solar and wind energy generation both have very minimal environmental impacts and the reduced demand for energy from power plants that continue to use fossil fuels for energy production means a reduction of greenhouse gases. The landfill gas to electricity program reduced the amount of methane being released into the atmosphere by 4,850 tons in 2006. This amount expressed as carbon dioxide equivalent equals 88,513 tons of emissions.

By developing several alternative energy components into its business structure and infrastructure, ACUA has also been able to incorporate sustainability into its everyday operations; improve customer loyalty through demonstrable environmental stewardship; protect against the price volatility of fossil fuels; and remain independent from a sometimes unreliable electric grid distribution system.

ACUA has brought renewable energy to the forefront by being the first to construct a commercial scale wind farm in the State and on the Northeastern Coast, in addition to completion of several other clean energy initiatives. By introducing these projects in New Jersey, ACUA stands as a model for other states. For their innovation and leadership, ACUA was named the 2006 YOUR POWER TO SAVE Clean Energy Project of the Year by the New Jersey Office of Clean Energy.