



2006 New Jersey Clean Energy Leader

New Jersey American Water (NJAW) Clean Energy Business Leader of the Year

PROJECT INFORMATION

Organization

- **New Jersey American Water**

Locations

- **Various Sites Throughout New Jersey**

Project Contact

- **Scott Connor, Engineering Manager**

Technologies

- **High Efficiency Water Pumps**
- **High Efficiency Lighting**
- **502 kW Solar Photovoltaic System**
- **Azimuth Solar Tracker Systems**
- **Desiccant Dehumidification System**

Estimated Annual Savings

- **5,471,406 kilowatt hours**
- **\$1,024,483**

Clean Air Benefits (Emission Reduction)

- **3,268 tons of CO₂**
- **8 tons of N₂O**
- **23 tons of SO₂**

Payback Period

- **Less than 7 years**

NJCEP Incentive/Rebate

- **\$2 million**



“ We remain focused on conservation and promote energy efficiency technologies in our facility development and site projects. ”

*Scott Connor
Engineering Manager
New Jersey American Water*

Background

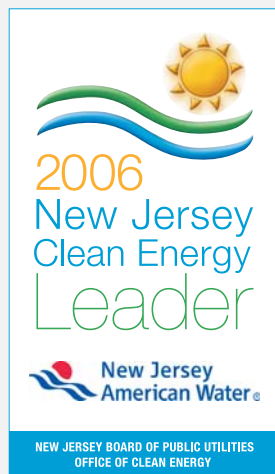
New Jersey American Water (NJAW) is the Garden State's largest water utility, serving more than 2 million customers. Due to the continual increase in the price of producing water, NJAW has had to find a way to cut costs while at the same time increasing efficiency. NJAW formed partnerships with Dome-Tech Solar and New Jersey's Clean Energy Program to develop a strategy and identify ways to accomplish this goal.

With almost \$2 million in incentives from the NJCEP, NJAW was able to support solar energy projects – including a 502 kW system – and implement high efficiency lighting measures. In total, New Jersey American Water implemented over \$5 million in energy efficiency and conservation programs and renewable energy projects.

As a result of their initiatives, NJAW has become a model for both New Jersey and out-of-state utilities that are looking to develop their own energy efficiency strategies. For its numerous endeavors, New Jersey American Water was named the 2006 Clean Energy Business Leader of the Year by the New Jersey Board of Public Utilities' Office of Clean Energy.

Challenge

In order to keep industry costs down, NJAW needs facilities' pumps and purification systems to operate as cost-efficiently and productively as possible. Another area of concern is that most of NJAW's energy is consumed by pumps to distribute the water. With that in mind, NJAW started an energy efficiency and conservation program, starting with the screening and development of cost-effective energy conservation opportunities (ECOs).



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Canal Road Treatment Plant in Franklin, NJ.

Solution

New Jersey American Water's energy conservation and renewable energy programs have consistently resulted in the reduction of energy usage and waste. Through continued investments, NJAW has managed to significantly lower the emission of greenhouse gases, resulting in cleaner air and a healthier environment. The dynamic implementation of green technologies combined with enhanced efficiency measures serves as the backbone for New Jersey American Water's energy program. The integration of renewable energy technologies and efficiency measures into NJAW's system includes the installation of a desiccant dehumidification system which utilizes the waste heat from natural gas engines, water pump optimization, and the replacement and installation of high efficiency motors and lighting upgrades.

Additionally, NJAW has made a strong commitment to the environment by installing the largest ground mounted solar photovoltaic system in New Jersey at its Canal Road Water Treatment Plant in Franklin, NJ. The 502 kW system consists of over 2,800 solar panels and provides nearly 15% of the plant's energy needs.

Benefits

These energy conservation projects have helped NJAW to save more than 5,471,400 kilowatt hours and over \$1 million annually. The projects have also reduced carbon dioxide emissions by 3,268 tons, nitrogen oxide emissions by 8 tons, and sulfur dioxide emissions by 23 tons each year.

By producing a portion of their energy, NJAW has fixed the cost of this power for the next 30 years. They will also receive nearly double the value of the energy for the sale of RECs (Renewable Energy Certificates) which they receive for producing clean energy. The overall payback period for this project is less than 7 years.

NJAW continues to make strides in the clean energy field. They are self-funding conservation efforts; have long-term commitments that include 500 kW of projects being developed at other NJAW sites; and, due to the success of their projects, are expanding their original 502 kW solar system to 700 kW.

To learn more about New Jersey's Clean Energy Program, and to find out why **clean energy is smart business**, go to NJCleanEnergy.com.

