Case Study - University

Saint Peter's University is setting the standard for green energy performance.

Saint Peter's University in New Jersey, USA, is setting the standard for green energy performance in education by installing clean technology that reduces its carbon dioxide emissions by 6.4 million lbs (2,886 metric tons) per year. This will equate to the carbon saving benefit of a 615 acre pine forest.

The Jesuit University appointed clean technology business ENER-G Rudox to deliver a $6.3 million energy services contract at its West Campus in Jersey City. ENER-G Rudox partnered with a number of local contractors and consultants on the nine month program, which was completed in June 2012.

The university will generate its own 2,454 MWh secure supply of electricity from two natural gas driven 160 kW ENER-G Rudox tri-generation units – achieving more than twice the efficiency of conventional power generation.

Together with the installation of a 200 kW solar photovoltaic system this will reduce Saint Peter's dependence on grid generated power.

This highly efficient combined cooling, heat and power (CCHP) system, working in conjunction with a new absorption chiller, will also supply 13,110 MMBtu of heat – generating hot water for winter heating, and chilled water for use in the air conditioning systems during the warmer summer months.

There is no upfront capital cost to the university, with ENER-G Rudox funding the $6.3 million capital program. This is partially offset by two substantial grants from the New Jersey's Clean Energy Program, which in combination with Federal Tax Credits awarded to solar power and CCHP projects, total $1.86 million. Guaranteed energy savings over a 15 year contract are being underwritten by ENER-G Rudox.

A strategic upgrade of the heating, ventilation and air conditioning infrastructure, including new boilers and variable speed pumps, will also be implemented, together with the installation of a new building energy management system to achieve optimum comfort and overall energy performance. Other improvements include installation of energy efficient lighting.

Installation at St. Peter's University

ENER-G Rudox Inc. has shifted the cogeneration paradigm for education facilities and mission critical facilities. Producing "turnkey" modular systems allows us to reduce costs, improve quality, and deliver solutions that can scale with your facility.

As a result, installing cogeneration systems can offer the following results to education facilities:

- 10 - 30% reduction in energy costs
- 20 - 30% reduction in carbon footprint
- Increased reliability / added redundancy

This is one of many carbon abatement projects in the United States for ENER-G Rudox Inc., the US based subsidiary of ENER-G plc, a UK business that designs, develops, operates and finances energy efficient, sustainable and renewable solutions on a business-to-business basis globally.

ENER-G plc is a European leader in small scale combined heat and power, with its technologies used by the British Royal family at Buckingham Palace and Windsor Castle.

Chris Hayton, Business Development Director for ENER-G said:

"We are delighted to open our new ENER-G Rudox Inc. business in the US and to partner with Saint Peter's College and local engineering businesses and suppliers to deliver this complex energy services contract. We are very impressed with the engineering skills available here and will be creating new jobs as we fund further low and zero carbon projects across the Eastern Seaboard."

Saint Peter's adheres to the American College & University Presidents' Climate Commitment by adopting environmentally friendly solutions and analyzing and reporting on its sustainability progress.

The university purchases 100% of its energy from renewable sources and has worked steadily to reduce energy consumption by almost one third.

ENER-G Rudox's cogeneration experience in the market dates to 1984 when we began designing, financing, manufacturing, installing and maintaining cogeneration systems.

ENER-G Rudox delivers small-scale 4kW to 5MW CHP solutions to customers around the world and it offers the broadest product range on the market, incorporating more than 2,700 installed cogeneration systems across the globe.

Our systems can be powered by a variety of different fuels including: natural gas, biogas, propane, biodiesel or pure plant oil (PPO).

The applied cogeneration technology enables the organization to generate its own electricity, radically reducing carbon emissions. This method is highly energy efficient (85%) as it recovers heat created in the electricity generation process and avoids transmission losses because the energy is used locally.

Cogeneration is almost twice as efficient as conventional power generation as the majority of heat is recovered and used on site, rather than wasted into the atmosphere. The typical payback period on our cogeneration technology varies between two to four years.

About ENER-G Rudox

ENER-G Rudox develops, delivers and finances sustainable energy solutions and technologies on a business to business basis worldwide.

We offer a "one-stop-shop" for all commercial and industrial energy requirements, from combined heat and power (CHP), renewable electricity generation from biogas, heat pump technologies, efficient lighting, controls, metering and data solutions and energy from waste.

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