CHP for Large Business

Lakeland Hills YMCA Goes Green

All YMCAs pursue a common goal: provide services that promote youth development, healthy living and social responsibility for all.

The Lakeland Hills YMCA in Mountain Lakes, New Jersey, is no different. Continuously operating since 1972, and serving more than 10,000 members across 11 communities, the facility is a testament to the vitality of the Y and the strength of its mission.

Why did they choose CHP?

In order to continue providing foundational services to diverse communities, year after year, members of the Lakeland Hills YMCA decided to take a proactive approach to their energy cost management through the installation of a Combined Heat and Power (CHP) system.

This decision supported the Y's overall commitment toward sustainability and driving positive social and environmental change throughout its operations and supply chain.

The 75 kW Tecogen Combined Heat and Power module arrived, ready for duty, in July 2017. The full turnkey installation, performed by Tecogen technicians was complete by November 1st, 2017, just in time for the heating season.

> *"Titan Energy's responsiveness and concern for detail during the planning and execution of our co-generation project was greatly appreciated. Their effective coordination with the installer provided for a seamless transition in our co-generation project and I highly recommend the team to any prospective YMCA considering the merits of co-generation at their facility."*
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> **- Viktor Joganow, Lakeland Hills YMCA Chief Executive Officer.**

The Tecogen 75 kW CHP machine creates base-load electrical power and heat for the Lakeland Hills YMCA swimming pool and provides winter temperature control.

The concept behind CHP is simple: an internal combustion engine creates heat to be captured and used in a building, while the mechanical energy created by the engine spins a generator (instead of wheels) to create usable electricity fed directly to meet building demand.

"We're incredibly excited about this project. Not only will the 75 kW TecoPower system reduce the Y's power consumption from the utility by nearly half, and reduce greenhouse gas emissions by nearly the same, but it will also produce an excess of $35,000 annually in energy savings; all without requiring a single dollar of capital from the Y."

- Adam Teff, TitanGen General Manager

What is CHP?

For those without first-hand knowledge of CHP, the concept is straightforward: an internal combustion engine, like those found in personal automobiles but modified to run on natural gas, is used to create the mechanical force that spins a generator (instead of wheels). The electricity produced is "fed" into the building to offset electricity demand from the grid, which dramatically reduces the wasteful inefficiencies of traditional power production and consumption.

As the engine converts chemical energy (natural 2 gas) into mechanical energy (force) through the process of combustion, waste heat is recovered from the engine block and "fed" into the hot-water system to offset work normally performed by the facility's boilers. In the warmer months, this waste heat can be fed into an absorption chiller, which uses a complex chemical reaction to convert heat into cooling, instead of pulling electricity from the grid to power the conversion.

Is CHP technology from Titan and Tecogen the right fit for your facility? If your facility requires year-round hot water creation and significant electricity supply, the answer is likely yes.

In A Nutshell:

- System Size: 75 kW
- Electric Coverage: 72%
- Thermal Coverage: 55%
- PPA Term: 20-years
- Annual Savings: $36,500
- System Details: Tecogen CM-75 is capable of creating 75 kW and up to 500,000 BTUs of hot water production per operating hour. The system maintains full efficiency down to 50 kW and reduces greenhouse gas emissions associated with grid power and gas-fired boiler use by up to 40%. The Y utilizes the system 365 days per year to provide power to the building's switchgear and supply hot water to the thermal loop, domestic hot water and swimming pool.

Contact Me

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READY TO MAKE THE SWITCH?

If you're interested in finding an energy solution that's right for your business, give us a call at **860.436.2768**. You can also find out more online at **titanenergyne.com/on-site-generation/**.