

## Tecogen Introduces Inverter-Based CHP Module to Europe

## Tecogen CM-100 will be applied to District Cooling System Upgrades in Eastern Europe

WALTHAM, Mass., Sept. 4 /PRNewswire/ -- Tecogen has signed its first long-term sales representation agreement in the European Union. Hydrochem Sp. z o.o., based in Warsaw will represent Tecogen's combined heat and power (CHP) products in Poland, and the Baltic republics (Lithuania, Latvia, and Estonia). Concurrent with the signing, Hydrochem has placed its initial purchase order for one (1) Tecogen CM-100 CHP "Premium Power" Module for shipment during the fourth quarter of this year.

Hydrochem (<u>www.hydrochem.pl</u>) in cooperation with the World Bank Mission to Poland, is under contract with the Ministry of Building to upgrade district heating systems for efficiency and reliability. These systems are common in Warsaw Pact countries and typically involve large central heating systems, often coal-fired, whereby hot water is piped underground to heat the buildings in a community. The central boilers are generally inefficient by today's standards, but also suffer from frequent electric power outages that disable pumps and other critical devices in the central plant, a serious issue when the outage is extended. Hydrochem intends to utilize the CM-100 as the key element in their upgrade program. The unit will operate in a conventional combined heat and power mode -- supplementing the central plant with its thermal energy -- while the module's electricity production offsets electricity imported from the utility. During a power outage, the module (or groups of modules, eventually) will power the essential electric loads to keep the district heating system operational. The initial CM-100 will be installed in a district heating system in Nasielsk, a town located 20 miles north of Warsaw.

In future plant upgrades, Hydrochem plans more extensive conversions by using multiple CM-100 modules to directly power electric air-source heat pumps retrofitted into the central plant. This approach will allow additional modules to be added to the plant, far beyond the normal limitation based on the plant's electricity requirements. This is because all the energy of CHP modules -- including both electricity and heat -- would be used to supplement the boilers. Since heat pump technology is used to transfer the energy from the plant's surroundings, the process will be far more efficient than possible otherwise. Overall, the system will produce hot water at twice the plant's existing efficiency and provide a proportional carbon/greenhouse gas benefit.

According to Hydrochem President Janusz Matejak, "The Tecogen CM-100, because of its microgrid technology, is the ideal CHP module for this application; the inverter-based power conversion allows the CM-100 module to operate in conjunction with the utility or seamlessly transition to powering the central plant during outages. In our cold winters it is essential to

keep the district plant operational."

"We are very enthusiastic about the opportunity Hydrochem has brought to us and to be introducing our new technology to Europe", adds Bob Panora, Tecogen President. "Hydrochem's application of our unit with the heat pump cycle transforms the CHP module into the most efficient water heater possible, well exceeding 100%, because of the thermodynamic effect of the heat pump cycle -- a highly innovative idea and one that could be used widely in heating applications elsewhere."

## About Tecogen

Tecogen Inc. operates in the distributed generation market and is a leading manufacturer of natural gas fueled commercial and industrial cooling and cogeneration systems. Tecogen has an installed base of more than 2000 units, which it supports through an established network of engineering, sales, and service support. Tecogen is based in Waltham, Massachusetts with service centers located in nine regions of the United States. For more information, please visit <u>www.tecogen.com</u>.

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