

Municipal Waste Bunker Protection, MälarEnergi Västerås



In Sweden, virtually no waste goes to landfill dumps anymore. Over the past decade, Sweden has become better at recycling, but has also greatly increased the capacity to make energy out of the waste.

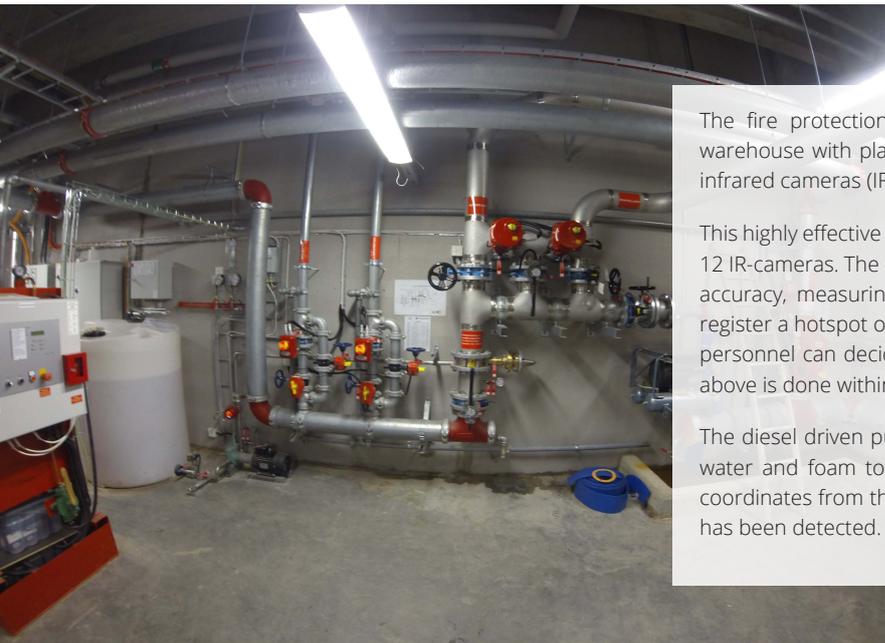
Up until 2008, Swedish incinerators were mainly fuelled by domestic waste, but since then, imports have grown steadily. By 2015, Sweden is expected to import 1.5 million tonnes of waste from countries with less efficient energy recycling.

Consilium Incendium AB has supplied the fire protection system for the new combined heat and power plant (CHP) "Unit 6" at MälarEnergi in Västerås, Sweden.

The waste used at MälarEnergi is transported by big cargo ships from Ireland and UK containing household waste, which has undergone a first sorting before being tightly packed in 1-2 ton heavy plastic bales.

Once at MälarEnergi, a second sorting will take place, separating metal and glass from the rest - before the rest is grinded to "credit card"-size bits.

The energy created at this CHP is enough to provide 140,000 people in and around Västerås with hot water and electricity.



The fire protection supplied by Incendium covers two bunkers and one 13.000 m² warehouse with plastic baled waste. These areas are protected with foam monitors and infrared cameras (IR).

This highly effective fire protection system consists of 13 electrically operated monitors and 12 IR-cameras. The cameras are constantly sweeping over the waste surface and, with high accuracy, measuring the temperatures and temperature trends. When the IR-cameras register a hotspot or a fast increasing temperature trend, an alarm is activated and personnel can decide to manually start the system or cancel the alarm. If nothing of the above is done within 120 seconds, the fire extinguishing system will start.

The diesel driven pump starts and electrical operated valves open automatically, feeding water and foam to the two monitors closest to the detected fire. These monitors use coordinates from the IR-camera system to automatically oscillate over the area where fire has been detected.

Personnel can at any time take over the fire fighting system by using joystick panels in one of the four different control rooms in the CHP plant.

Thanks to the IR-cameras, the visibility of the protected areas is increased even if these are filled with smoke. At the warehouse it is also possible to use a portable radio control to operate the monitors, valves and pump.

The foam used in this system is a detergent allowing the water to better penetrate the waste, due to lower surface tension.

