

Success story

ERZO wins the InfraWatt Innovation Award 2016 for its investments to become an energy-efficient frontrunner



ABB helps the Swiss waste-to-energy plant achieve significant energy efficiency improvements

This year's worthy recipient of the important InfraWatt Innovation Award is the solid waste recycling company ERZO (Entsorgung Region Zofingen) in Switzerland. InfraWatt is an association that promotes and supports projects with the potential for increased efficiency in energy production and consumption, and the utilization of energy from sewage, solid waste, waste heat and waste water.

Through their commitment to systematic analysis and targeted identification of electricity and waste heat energy saving measures, ERZO have successfully actioned major energy efficiency initiatives that have achieved annual energy savings of 500 MWh – and ABB's control systems have been an integral part of these energy efficiency improvements.

The primary energy saving measures have been accomplished by lowering the plant's flue gas temperature, using heat exchangers that have reduced water-steam energy requirements and also resulted in electricity savings from the operation of the induced draft fan. Further reductions in electricity use have been obtained by installing frequency convertors in the washer pumps and other individual fan drives.

ABB was involved in the project in four main areas:

1. HMI modernization

The site's existing HMI AS500OS was upgraded to a state-of-the-art System 800xA – this not only extends the lifetime of the plant, but also increases the plant's operational efficiency, both technically and commercially. Through the virtualization of the new operating system, data and information can be stored, tracked, analyzed and utilized for improved management of the plant.

2. Control for flue gas cleaning

The control system for a new flue gas cleaning solution installed at the plant has been integrated into the existing Advant and 800xA system. It was essential that the associated power supply and distribution cabinets were well designed as there was limited space on site.

3. Control for replacement wet scrubber

The new 2-phase wet scrubber was integrated into the Advant and 800xA control system.

4. Alpiq-EZRO greenhouse project

It was recognized that 1,700 kW of waste heat from the plant's flue gas scrubber could be used for the purpose-built greenhouse next door. The waste heat is effectively used to heat the greenhouse, which means therefore that the greenhouse produces zero additional CO₂ emissions. ABB integrated the greenhouse heat exchangers into the control system, including system programming and commissioning activities.

Following on from these important initiatives, EZRO is already busy with further energy efficiency projects, which makes the award all the more valuable.

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