ENVIRONMENTAL SUSTAINABILITY

The Andritz Group is committed to promoting environmental protection and conserving natural resources.

Due to the standardization of all core processes, all plants and systems delivered to Andritz customers around the world comply with the highest environmental standards. This is essential as most countries have implemented environmental impact assessments as well as comprehensive environmental regulations.

In the **Pulp and Paper Business Area,** the effective use and reuse of resources is one of the basic conditions for sustainable production. Andritz's developments in improving fiber yield, minimizing water consumption, increasing energy efficiency, reducing chemical consumption in bleaching, and waste recycling, all contribute markedly to the industry's sustainability. For example, the process of making pulp requires large volumes of water. In the last 20 years, technologies developed by Andritz have reduced the amount of water required to produce a ton of pulp by 60%. Another example is that Andritz systems help recover and reuse up to 99% of the chemicals used in making pulp. In 2006, Andritz completed a very important project for SCA's Östrand mill in Sweden. The project is centered around the Andritz HERB (High Energy Recovery Boiler) that operates at highest temperatures and pressures. It enables the mill to generate 500 Gigawatt hours of electrical energy per year – enough to make the mill virtually energy self-sufficient. The energy is being generated from biomass which emits no fossil-fuel based carbon dioxide into the atmosphere. Thus, the technologies developed by Andritz help customers to further reduce emissions and maximize energy production.

The **Hydro Power Business Area** has been providing hydropower plants with modern equipment and extensive services for more than 160 years now. Hydropower is the leading source of renewable energy, supplying the world with about one-fifth of its electricity. It is clean, leaves behind no waste and neither emits pollutants nor significant amounts of dangerous greenhouse gases.

Through the use of renewable energy sources and highly efficient technologies, Andritz already can ensure a future-oriented electricity generation. Thus, Andritz machines secure the daily power supply of about 100 million people and facilitate to save approximately 23 million tons of CO_2 annually.

In the **Rolling Mills and Strip Processing Lines Business Area,** conserving raw materials and minimizing emissions is the driving force of one of the core process areas. The Andritz acid recovery and regeneration systems completely recycle the acids used in the pickling process. The latest Andritz technology provides a zero-effluent process for mixed acids. More than 99% of the acids are recovered and can be reused. All Andritz process lines employ technologies to substantially diminish or completely eliminate the emission of substances into the environment. In particular, Andritz developed technologies to substantially reduce the emissions of NO_x from waste gas streams in the furnaces and pickling lines.

The **Environment and Process Business Area** supplies complete process lines which convert liquid sewage sludge into granulate. With a calorific value of approximately 10 to 13 MJ/kg, this granulate can be used as a substitute for fossil fuels in heat and power generation systems, thus reducing CO_2 emissions. With its own optimization of the combined drying/incineration process of using dried granulate as fossil fuel and the energy generated in the incineration process as heat for the drying process, a self-sustaining reduction of CO_2 is achieved.

The **Feed and Biofuel Business Area** is the world market leader for plants and systems for the production of environmentally friendly biofuel pellets out of renewable materials, such as wood, peat, and agricultural by-products. In this way, highly valuable fuels are generated from materials, which would otherwise have to be disposed of, and the effect on CO_2 emissions is neutral. Andritz also supplies pelleting equipment for industrial and household waste. The pellets produced offer an environmentally friendly alternative to fossil fuels in heating power plants. ■

Andritz recovery systems generate “green” electricity from biomass making pulp mills virtually energy self-sufficient.
(Photo: Detail of the recovery boiler at UPM-Kymmene‘s Wisaforest pulp mill, Finland)

Andritz hydropower plants secure the daily energy supply for more than 100 million people worldwide, thus considerably contributing to a reduction in CO_2 emissions.
(Photo: Impeller for E.ON Wasserkraft‘s Reisach power station, Germany)