austriamicrosystems Elektra Award 2009

Entry Environmental Award

Semiconductor plants are designed to fulfil the highest quality and reliability requirements and, because of this, energy efficiency is not one of the key aspects considered with the construction of semiconductor fabrications. Due to the increasing awareness of climate impact, in 2008 austriamicrosystems started to investigate all sources of carbon dioxide emissions, such as the emission of greenhouse related gases and carbon dioxide. These two factors alone use high energy, whilst increasing energy costs, in semiconductor manufacturing plants. After this investigation the reduction of energy/special gas consumption, and it's demand resulting in high emissions, needed to be addressed.

Besides implementing state of the art technology for treatment of special gases with high GWP (Global Warming Potential), austriamicrosystems began a program to reduce the energy consumption of their production facilities.
Based on data achieved last year, the implementations of measures that directly lead to a significant reduction in the consumption of the electrical energy were put into place.

The improvements included better management of bulk gases and pumping capacities, the recycling of water/energy and better utilisation of clean room capacity. An exact quantification of consumption, as well as a full understanding of how all the different systems interact, was paramount. The results speak for themselves:

A better management of bulk gases lead to a saving of more than 1000 MWh per year, improvements with different pumps including retrofits resulting in an additional saving of 850 MWh per year. Better utilisation of clean rooms brought another 500 MWh per year energy reduction. In total, austriamicrosystems have been able to save nearly 2.4 GWh per year in electrical energy. This means a huge reduction of carbon dioxide emissions has been achieved, by approximately 772 tons every year.

Up to now, austriamicrosystems have saved approximately 5% of the total electrical consumption of the whole plant for measures, at the technical infrastructure only. Further improvements, especially on production equipment itself, are now under evaluation.

To minimize the carbon footprint of a semiconductor plant is a big decision to make, which is dependant on the availability of state-of-the-art abatement technology. austriamicrosystems has 100% access to all special gas emitting equipment. Combined with very high efficiency of the applied abatement technology, the emission of gases like perfluorinated hydrocarbons and fluorinated hydrocarbons (PFCs and HFCs) has been reduced to an absolute minimum. This process proves that it is possible to reduce carbon dioxide emissions, to less than 10%.

Information on Environmental Policy: http://www.austriamicrosystems.com/Environment

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Environmental Award

We are inviting companies to demonstrate how their business strategies are reducing the impact on the environment of their products, manufacturing processes and commercial practices. The judges will be looking for evidence of how good environmental practice has permeated across the company by being inclusive of staff at all levels of the organisation.