

Sweden

Island of Björkö in Sweden

In the pulp and paper industry, the effective use and reuse of resources is one of the basic conditions for sustainable production. The Andritz Pulp and Paper Business Area'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.

A man with white hair, wearing a dark suit, white shirt, and red tie, stands in a forest. He is looking towards the camera with a slight smile. The background consists of trees and a mossy log.

**“ANDRITZ’S
SOLUTIONS FOR
HEAT RECOVERY
AND ENERGY
GENERATION ARE
VERY COMPELLING.”**

Kenneth Eriksson, President and Group Executive Officer, SCA Forest Products



The new Andritz High Energy Recovery Boiler (HERB) enables Östrand to generate 500 Gigawatt hours of green electrical energy per year – enough to make it virtually energy self-sufficient.

CERTIFIED GREEN ENERGY

Interview with Kenneth Eriksson

President and Group Executive Officer, SCA Forest Products

SCA is a global company that develops, produces, and markets personal care products, tissue, packaging, publications papers, and solid-wood products. It produces products in 40 countries and markets in some 90 countries. SCA manages 2.6 million hectares of forest land (the biggest in Europe) and is one of only a few companies in the world able to offer certified paper products based on totally chlorine-free pulp. Andritz delivered a new type of recovery boiler to SCA's Östrand (Sweden) mill which started up in October 2006. We spoke with Kenneth Eriksson, President and Group Executive Officer of SCA's Forest Products business area, about renewable energy and Andritz's contribution.

Personal background

I was trained as a mechanical engineer and have been involved with the pulp and paper industry since 1971 when I began my career with MoDo Mekan (equipment division of MoDo Paper). I came to SCA's Östrand mill in 1979 as a project manager and then became maintenance manager. I left the company for nine years to head up a company (the former Sunds Defibrator) that supplied process technology and production machinery to the industry. I rejoined SCA in 1995 as President of SCA Graphic Sundsvall (the pulp and papermaking units which produce publication papers) and in 2000 was named President of the Forest Products business.

The Östrand project

The Östrand mill is a very important part of the value chain from the forest to our customers. Our plans for the mill required additional recovery boiler capacity, and the old boiler had become a bottleneck. To rebuild the boiler would have forced us into a very long shutdown, and we could not have generated higher steam values with the old technology.

Our team traveled the world to investigate the most energy-efficient technologies. What we saw convinced us that a boiler at Östrand could go higher in temperature and pressure than anything that had been attempted before, so we put the challenge before Andritz.

We were very impressed with Andritz's solutions. In addition to high steam production which improves our electricity yield, we wanted to get as much hot water production as possible. There are several unique features in this boiler to get the maximum energy from the black liquor biofuel.

After two years of work and a 150 million Euro investment, our new Andritz High Energy Recovery Boiler (HERB) enables us to generate 500 Gigawatt hours (GWh) of electrical energy per year. That is enough to make Östrand virtually energy self-sufficient.

The boiler was delivered exactly on time. The costs are all within line. And, we didn't have one serious accident throughout the entire project. Andritz has done a very, very good job and has had excellent project management. We have to take our hats off to them and say we are very happy.

Compelling solutions

Andritz's technical solutions for internal heat recovery were very compelling. We were convinced that the electricity yield would be high. But what really appealed to us about Andritz was the way they solved the boiler expansion challenge. Although the initial design capacity is 3,300 t/d at 515°C and 105 bar, it is currently operating at 2,500 t/d. In the future, it can be expanded to process 4,400 t/d at the same temperature and pressure. We were very impressed when Andritz proposed to expand the boiler by moving the sidewall, instead of the conventional approach of moving the front wall. It is clearly superior to what has been done before.

Black is green

Before the Andritz boiler started up, Östrand was producing 242 GWh of electricity. The new boiler and turbine-generator boosts this to 468 GWh. Since the energy is being generated from biomass, we earn Green Certificates, which bring additional economic credit for reducing CO₂ emissions.

SCA is financing some rather futuristic research and development programs for energy technology, but I think the most important step we have seen so far is what we have achieved at Östrand – to increase the pressures and use well-developed technologies to get maximum energy from the black liquor. We are in a capital-intensive industry. We cannot jeopardize our economics on such an important part of our process with an unproven technology.

Energy challenge

The high electricity costs in Sweden helped to steer us toward the HERB technology. The price of electricity has tripled within the last four years. There is no way our global customers would allow us to pass these price increases on to them.

Energy will become more and more expensive. Oil will be less available in the future. What we see more of are integrated heat recovery systems. We have the possibility to capture the heat that our mill normally sends out into the air and into the water, and to use that in a good way for the local community. For example, our paper mill in Ortiken provides hot water to the city's central heating system. ■

TECHNOLOGY PROVIDERS ARE KEY TO THE SOLUTION

Interview with Marco Mensink

Energy & Environment Director for the Confederation of European Paper Industries (CEPI)

As energy costs skyrocket, and wood prices increase at double-digit levels, the European pulp and paper industry (PPI) struggles to compete in global markets. Marco Mensink, Energy & Environment Director for the Confederation of European Paper Industries (CEPI), discusses competitiveness issues and the importance of technology suppliers in this interview.

Can you tell us about your position at CEPI and your background?

I am responsible for coordinating and developing the paper industry's positions to the EU institutions with regards to energy and environmental issues. Before joining CEPI, I worked for the Royal Netherlands Paper and Board Association (Royal VNP) and as a Senior environmental consultant for Ernst & Young.

What is the most urgent issue facing the European paper industry right now?

The most urgent is energy costs. The pulp and paper industry is the fourth largest energy user in the EU industrial sector. Energy has overtaken personnel costs so that 15–25% of the total costs of goods are related to energy. Keep in mind that the pulp and paper industry is competing in a global market. We cannot pass through these price increases like the utilities do. Energy price has become a key factor, along with markets and raw materials, for determining where investments will be made – on a global basis.

Why are energy costs rising so rapidly?

It is a combination of factors. Overall global economic growth, especially in the emerging markets, is driving oil and gas prices. The demand for energy in Europe continues to increase. If we continue business as usual, energy consumption will be 15% higher in 2030 than it was in 2000. It is projected that we will need 700 Gigawatts of new capacity to secure Europe's electricity supply to 2030. Given such a scenario, there is no question that longer term energy prices will stay at high levels.

“The pulp and paper industry is already the largest producer and user of bioenergy.”

Marco Mensink



“Business as usual” for energy in Europe is not sustainable – for climate reasons, for competitiveness, or for security of supply. The EU started the liberalization of energy markets and now must finish the work, as highlighted in the just published Energy Sector Inquiry. And politicians have to push for energy efficiency and the use of renewable energies, but must do it in a balanced way.

What about subsidies for renewable energy, do they help?

The pulp and paper industry is already the largest industrial producer and user of bioenergy in Europe. The problem is that there are other industries that want to use the same biomass for fuel.

Governments subsidize the fuel alternative so that it is economically attractive to transport wood four times the distance for bioenergy than for industrial wood use. This has created a huge market distortion. Wood prices have risen an average of 20–25% in 2006. In some regions, the increase is as high as 50%.

When presented with the choice of putting one ton of wood into bioenergy (fuel) or one ton of wood into the production of paper, the paper industry contributes eight times more added value to the European economy than the bioenergy industry – and preserves from six to thirteen times more jobs.

What are the possible solutions?

The pulp and paper industry and the bioenergy industries have to resolve the potential conflicts and live together on a long-term basis. We need government policies that reflect the interests of all the industries involved and look at the total picture: job creation, economic growth, sustainability, and environmental impact. The policies should balance the support for renewables (biomass, hydro-power, solar energy, and wind energy), energy efficiency, and the use of certain subsidies. Perhaps a meaningful subsidy would be to provide incentives to get the forest residue (wood stumps, green chips, and other residues) out of the forests. Mobilization to get maximum wood from our forests is the right approach.

What role can technology suppliers play?

For the EU, the suppliers of technology to the pulp and paper industry are key to the solution. Research and technology will save us by cutting emissions and cutting costs. If we offer rewards for the frontrunners, and take away the institutional barriers, we can bring the most promising technologies along quickly.

The supplier trend has been “faster-wider-bigger.” Suppliers need to intensely focus on energy-efficiency. They need to develop the low-energy or low-CO₂ machinery of the future. This is a huge task and responsibility.

Another key message is that we need to rethink the way we produce energy. In this possible “war on fiber” we should demonstrate to our governments that if they want to really support bioenergy, they should support the pulp and paper industry. The paper industry can offer a bio-solution for climate change. By further developing “bio-refineries,” we can produce energy, and produce second-generation biofuels and chemicals – and then combine it with the fiber we need. Either we do this ourselves, or the refineries and chemical companies will start using fibers for second-generation biofuels and other products.

Are you positive or negative about the pulp and paper industry in Europe?

I am positive. The European pulp and paper sector is still a hugely competitive sector, leading in the world. We have a strong base for technology development. And, we can keep this asset for a long time. We have big challenges, but we have big opportunities. ■