

Imerys and the Nordic paper industry

What is the first thing that you think about when you hear people talk about the Nordic region? It can be a number of very different things, green forests, long dark cold winters, the midnight sun, fashion conscious cities, high taxes and even beautiful blondes the list goes on and on. A surprisingly large number of people actually think of paper.

Above: The silent beauty of the Nordic region.

Inset images right: Imerys Paper and Packaging – Husum plant, Sweden.

The term "Nordic region" includes not only Scandinavia and Finland but also Iceland, Greenland and some other small island states. "Scandinavia" on the other hand is only Denmark, Norway and Sweden, so it excludes Finland. Just to be clear, the Nordic region referred to in this feature encompasses Denmark, Finland, Norway and Sweden. These four countries had a total population of 25 million and a GDP of nearly €1000 billion in 2009. This is roughly 6% of the population and 10% of GDP in Western Europe.

The Nordic area has always been strong in the traditional industries of forestry and paper making. The building of paper mills was a key element in the early industrialisation of the region. Timber was plentiful and there were many rivers

suitable for hydroelectric energy production and ease of transportation. Over the years the industry consolidated from single independent factories to regional, national and international groups, such as UPM, Stora Enso, SCA, M-real, Holmen, Norske Skog, etc. The Nordic paper companies control, in the region of, 13% of today's global papermaking. This means close to 50 million ton.

Papermaking in the Nordic region today is almost 25 million ton/year (2010 figures). This represents 27% of total Western European paper production and 7% of global production. The numbers are even higher in the Graphic Paper segments where the corresponding numbers are 33% and 10% respectively. Paper consumption in the region is a more modest 4.4 million ton.



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This clearly shows that papermaking in the Nordic countries is primarily intended for export. In fact, some 20 million ton, or 82% of the production is exported. We often speak of Western Europe as being a large net exporter of paper, in reality all this comes out of the Nordic region. The "rest of Western Europe" is even a net importer of almost 7 million ton!

The export market for paper has become increasingly difficult as it has moved further away from the Nordic region. There has been a major shift in the world paper

consumption pattern with the rise of China and other emerging economies. Most of the increased demand is supplied from new paper mills close to the customers, This is based on supply of pulp, or wood chips, from Eucalyptus or Acacia plantations in tropical countries like Brazil or Indonesia. Here the "harvest cycle" for trees used to make pulp tends to be only six-eight years compared to the thirty+ years (for Birch, much longer for Softwoods) in Sweden or Finland. This makes pulp from the southern hemisphere very competitive, even in the Nordic area.

The forestry industry is very important for the Nordic economy. All the Nordic countries are export oriented in general. Forestry still represents 20% of Finnish, 13% of Swedish and 2% of Norwegian exports. In Finland the forestry industry employs 13% of the working population.



The Nordic countries try to lead the way in equality between the sexes. Imerys is still very male dominated. In Sweden and Finland combined we have 21% women working for the company. This is reasonably well in line with the 23% of women working in Swedish industry as a whole, but far from the almost 50/50 split of the entire Nordic job market. Imerys globally is behind its Nordic subsidiaries at 14.8% women employed.

The Nordic wood costs are also increasing as a result of a strong demand for bio-energy. This is a cold area with ambitions to reduce its carbon dioxide emissions so there are plenty of markets and projects for renewable energy from the forests, from advanced petrol or diesel replacements for cars, to simply burning wood waste for direct heating. All these activities contribute to a continual increase in wood prices. At the high end of the energy market is electricity. The Nordic countries stand out from the rest of Western Europe as an unusually high proportion of electricity is generated using hydroelectric and nuclear power. Cheap energy used to be the reason why energy intensive industries, such as mechanical pulp production, thrived. In recent years the electricity market has been deregulated and today it is an openly

traded commodity on the “Nordpool” exchange. With private companies being able to export energy to continental Europe through underwater cables, it is no surprise that the one-time advantage of cheap local electricity has now pretty well disappeared.

For the paper industry these changes have been quite challenging. In the last few years, every paper company has been striving to reduce cost throughout the supply chain. In addition to this the paper groups have taken out surplus capacity to such an extent that 12% of the Nordic capacity five years ago has now been shut down. This trimming and slimming, or trashing and slashing as some would say, has improved the industry's competitiveness. The current industry has 27 million ton capacity, a healthy average size of production units and all mills are



The Nordic region is geographically located between latitude 55° and 71°. This is about as far north as the US state of Alaska. Thanks to the Gulf Stream the climate is much milder than in Alaska. The impact on long hours of daylight in the summer is however the same.

very efficiently operated. However, the drive for continued cost reduction will still have to be kept alive.

Imerys' strong presence in the region is a good fit. One of the most significant ways to reduce paper making cost is to use less of the expensive and energy intensive pulp by replacing it with mineral pigments. This can be achieved through increased coat weights, applying surface pigmentation or simply through using more filler.

The Nordic industry is already well advanced in use of pigments in papermaking. Imerys statistics suggest that almost 3.5 million ton of pigments were used across the 25 million ton production in 2010. This makes the Nordic area a pigment leader with an average of 14% pigment in paper, twice as much as the global average.

Imerys is well represented in the Nordic area. The European Pigments for Paper sales management is based in Helsinki, We serve the industry with kaolin, GCC and PCC through our assets in Uddevalla, Falkenberg, Halmstad, Gävle, Köping, Tunadal, Husum, Sunila and Mussalo. The product portfolio is extensive, covering coating and filling with GCC, PCC and kaolin. In all, 28 different pigments were sold in 2010, with over 80% of sales from the top 10 products. We supply in excess of 1.2 million ton of dry pigments to Nordic paper mills. Almost 50% of this is produced locally in Sweden and Finland where Imerys has over 100 employees.

Pigments are much cheaper than the fibres that are used to make paper. The price of pigments obviously vary depending on grade, as does the cost of fibre, but typically a mineral pigment is less than a quarter of the cost of fibre. For an average size mill in the Nordic area there could be nearly €2 million saving per year by increasing the pigment use by 1%.