

50,000 tonnes of carbon emissions saved

Dalum Papir produces climate-friendly paper

Dalum Papir is one of Europe's leading manufacturers of paper based on recycled fibres. The factory produces around 140,000 tonnes of paper a year in an energy-efficient process. The paper from the factory has been rubber-stamped with the EU Ecolabel and with the German Blue Angel ecolabel.

World champion in climate-friendly paper

For Dalum Papir, environmental activities and core business are one and the same thing. The company is known as one of the world's most environmentally friendly paper manufacturers, producing fine printing paper based on a 100% recycling concept.

As the first Nordic paper manufacturer, Dalum Papir has been licensed to sell paper that carries the flower logo of the EU Ecolabel. To achieve this license, they had to prove that producing the paper contributes less to acidification, over-fertilisation, smog, respiratory irritation and global warming, than producing other paper types.

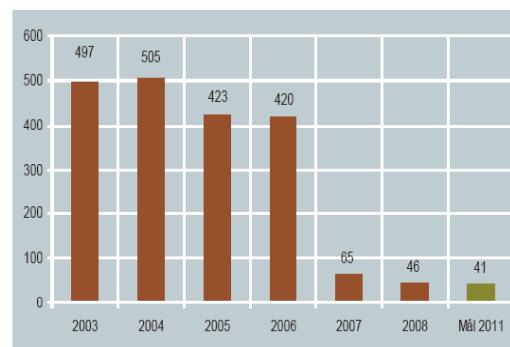
Dalum Papir's recycled paper also bears the German ecolabel, the Blue Angel. In Denmark, the EU Ecolabel and the Blue Angel are officially recommended as eco-friendly to purchasers of paper and printed matter.

Climate strategy boosts competitiveness

The efforts to optimise the company's energy consumption have been endorsed by senior management. Dalum Papir is pulling out all the stops to maintain its competitiveness against German, Austrian and French paper manufacturers in particular. An important element in the company's strategy to boost its position in the market is to have competitive key figures for energy consumption per tonne of paper produced, and to continuously improve these figures. An integral part of the strategy is to collaborate closely with energy consultants.

Dalum Papir's climate strategy addresses both energy efficiency and energy conversion. Together these elements have reduced the company's carbon emissions from 56,695 tonnes in 2003 to just 6,400 tonnes in 2008. This has reduced Dalum Papir's carbon emissions per tonne of paper from 497kg in 2003 to a mere 46kg in 2008, as can be seen from figure 1.

Figure 1



Specifikt CO₂ emission [kg CO₂/ton papir]

Conversion to biomass makes for carbon-neutral energy supply

In 2007, Dalum Papir completed a large-scale refurbishment of its power station. The primary boiler was rebuilt so that it could also burn wood chips. Today, wood chips account for around 95% of total fuel consumption, and the majority of Dalum Papir's carbon reductions over the past five years comes from replacing fossil fuel with carbon-neutral biofuel. Moreover, the surplus heat is being used as district heating for households in the nearby city of Odense.



The company has halved its energy costs

Next to raw materials and wages, energy is Dalum Papir's third largest cost. Since 1991, the company has reduced its total energy consumption per tonne of paper produced by more than 55%. Amongst other things this is due to conversion to less energy-demanding paper qualities. However, it is first and foremost the outcome of systematic energy efficiency efforts.

Each year, the company's energy managers meet and follow up on studies and investigations they have instigated. They evaluate completed projects and review documentation of results achieved. The company has excellent data and makes regular energy consumption surveys. This provides a good foundation for assessing new opportunities for energy-efficiency projects.

As Dalum Papir is covered by the EU's Emission Trading System, its energy savings, and thus its CO₂ emission reductions, present an extra benefit. The company can sell the carbon emissions saved as surplus allowances and thus receive money to invest in more energy-saving measures.

All projects documented and communicated

Dalum Papir places great emphasis on collaborating with professional energy consultants to document the outcomes of the projects they implement, and to communicate them in the company's environmental report. This enhances the company's credibility, and since the energy consultants are thoroughly familiar with the production equipment, they are able to make very precise calculations.

Dalum Papir has carried out more than 60 large energy-optimisation projects. The most important measures, by year and including the effect of the measure on the company's total energy consumption, are given below:

- 2008 Replacement of refiner (0.37%)
- 2007 Waste heat from flue gas sold as district heating (16%)
- 2006 Replacement of electric infrared dryer with a gas-operated dryer (1.4%)
- 2005 Reduced raw material processing time (0.62%)
- 2004 More efficient electricity generation on steam turbine plant (0.54%)



Facts about Dalum Papir

- Dalum Papir A/S was founded in 1874
- Produces paper and paper pulp Produces approx. 139,000 tonnes of paper annually
- The factory's product is fine paper made of recycled fibres
- Also sells approx. 86,000MWh of energy to the district heating grid
- Annual turnover: DKK 750-800 million (EUR 1-1.1 million)
- Number of employees: 250

CO₂ emissions in 2008: approx. 6,400 tonnes

- Energy consumption in 2008:
- Electricity: 38,159MWh
- Natural gas: 39,172MWh
- Wood chips: 328,781MWh
- Has worked with environmental, energy and climate issues since 1991.