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**Research area: General aims**

Energy // Energy use

**Key words:**

Corrugated board, energy, efficiency, concepts, costs

**TITLE:****Developing measures to improve energy efficiency for a corrugated board sector energy concept****Background/Problem area**

Manufacturers of corrugated board spend approx. 2% of their turnover for energy procurement. At a production capacity of 50,000 tpa, these costs amount to approx. € 500,000 per annum. These costs have risen drastically in the past few years and are burdening the added value chain which continues to experience tight margins.

In the manufacture of corrugated board, energy is used predominantly in the form of heat (steam). The greatest heat requirements are experienced in shaping the corrugation and in drying the glue as well for heating halls, storage rooms, staff rooms and hot water production. Electricity is consumed primarily to drive the corrugated board facility, in converting the board (cutting to size, etc.) and for ancillary equipment such as the production of compressed air, for example. The production locations usually have their own steam production facilities, whilst the electricity must be bought from outside providers.

A research demand therefore exists regarding the discovery of energy savings potentials in one's own production process. The complex marginal conditions of corrugated board manufacture must of course be taken into consideration. A research demand also exists in the further development of the manufacturing process and of the products themselves far beyond the state of the art with a view to bringing about a drastic savings of energy.

Owing to the fact that the manufacturing structure consists of many small parts, there is a need to conduct developments within the scope of joint research projects aimed at providing all corrugated board manufacturers with access to alternatives and improvements in the area of energy production and savings.

**Objectives/Research results**

The project objective is to develop measures for reducing the energy requirements in the corrugated board manufacturing process. Furthermore, process-related options and product concepts for energy savings are to be developed and tested together with the manufacturers and suppliers over and above the previous state of the art. These options and product concepts are to be made available to all corrugated board manufacturers in the form of a sector energy concept.

Generally speaking, the inclusion of process and product innovations for the continued improvement of energy efficiency and evaluation of availability and feasibility including sustainability by means of SWOT analyses is new and trend-setting for the sector energy concept.

**Application/Economic benefits**

The results will help Bavarian corrugated board converters make their energy production and consumption more efficient, save costs and thus consolidate and extend their leading position both in Germany and in Europe. In this way, a contribution will also be made to ensuring the continued existence of the production locations and working places there as well as to reduce sector-specific CO<sub>2</sub> emissions. The innovations that are worked out will serve to ensure long-term competitiveness, thus safeguarding the future of these companies.

**Project period: 01.04.2011 – 31.03.2012****Remarks**

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