THE DANISH PELLET BOOM
- PRECONDITIONS FOR SUCCESSFUL MARKET PENETRATION

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ABSTRACT: The Danish wood pellet market has been growing rapidly over the last two decades. New statistics shows that consumption has exceeded 400.000 tons/year in 2002. Two power plants are presently starting using biomass fuel pellets – 300.000 tons/year wood pellets and 150.000 tons/year of straw pellets respectively. The Danish annual consumption of biofuel pellets will therefore soon exceed 850.000 tons/year – making Denmark the largest European pellet market. Denmark will not only be the largest in terms of size but also the market with the largest variety of pellets and technologies. No other markets have so broad experience in using different raw materials and technologies from small-scale heat production to large scale CHP production. The purpose of this presentation is to give an overview of the Danish development and experiences, and present the technical, political and economical preconditions for this successful market penetration. The presentation will thereby give valuable inputs and tools to authorities and market actors from European pellet markets for enhanced development of the pellet markets.
Keywords: Pellets, market, implementation

1 THE DANISH PELLET MARKET IS BOOMING

The wood pellet market has been growing rapidly over the last decade. New statistics from the Danish Energy Authority shows that consumption has exceeded 400.000 tons/year in 2002. – see figure 1.

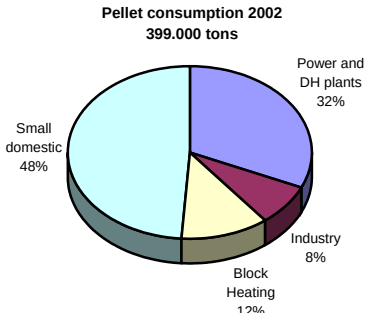

Figure 1: Consumption of wood pellets in Denmark in 2002. Source. [3]

The pellet consumption of district heating plants has remained constant during the last decade. The growing market has been due to a growth of small and medium-size consumers – se figure 2.

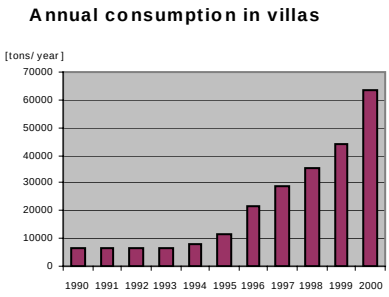

Figure 2: Development of pellets consumption in Danish villas 1990 – 2000. Source: Danish Energy Authority

Two power plants are presently starting using biomass fuel pellets – wood and straw pellets respectively.The 300 MWel Avedoere Power Plant with an annual consumption of 300.000 tons wood pellets and the Amager Power Plant with an annual consumption of 150.000 tons straw pellets.

The Danish annual consumption of biofuel pellets will therefore soon exceed 850.000 tons/year – making Denmark the largest European pellet market. Not only the largest in size but also with the largeste variety in terms of pellets based on different raw materials and technologies from small scale heat production to large scale CHP production.

2 ECONOMICS

The market for small plants and block heating is expected to continue the considerable growth in the years to come. Furthermore a Danish combined heat and power plant with a yearly consumption of 300,000 tons wood pellets is planned to go into operation in the near future. This will further expand total consumption.

The increased use of pellets amongst small and medium scale consumers is a result of constantly improved economic incentives for conversion to pellets heating. Rising oil prices and constant pellet prices has increased the savings for small consumers from 7 to 17 EURO/GJ in 2001. Due to recent drop in oil prices and rise in pellet prices the savings has been reduced to 10 EURO/GJ in the spring 2002 - see figure 3.

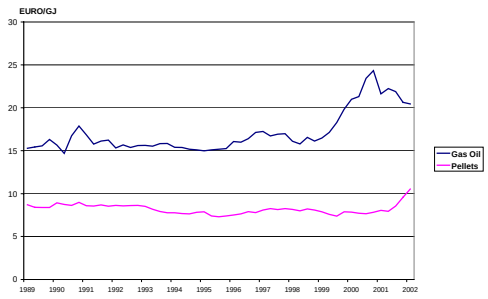

Figure 3: Development of fuel prices for small consumers – pellets ex. delivery. Source: dk-TEKNIK

The expansion of the market has been supported by a coherent national energy policy until November 2001, including installation grants for pellet boilers and taxes on fossil fuels. The installation subsidy has recently been removed as the economy of investing in a pellet boiler has improved. Prices and taxes of pellets and fuels are seen in figure 4.

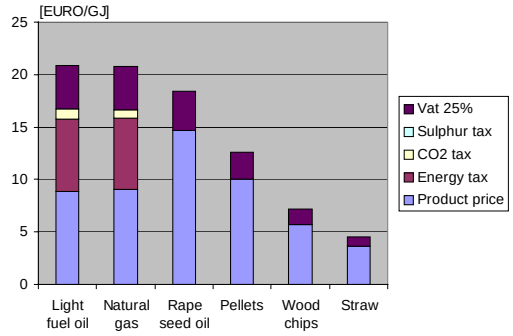

Figure 4: Prices and taxes of fuels for small consumers – pellets incl. delivery

3 THE IMPORT OF PELLETS IS INCREASING

Potential consumers of pellets are concerned about future security of supply – will pellet prices rise or will they remain low? This insecurity is often a considerable barrier for conversion to pellet heating.

The Danish pellet production is manufactured from dry shavings from the furniture and wood processing industry. This resource amount to about 150,000 tons a year. The amount depends the Danish export of wood based products. Danish furniture and pellet producers do not expect this resource of good dry material for pellet production to increase. Therefore import of pellets is inevitable. At present pellets are imported from the rest of Scandinavia, the Baltic and North America.

Despite rapidly increasing use of pellets and limited Danish resources – the price on wood pellets has remained low until the summer 2001 - implying that sufficient cheap resources were available outside Denmark. Danish pellet producers have assessed the foreign resources to be abundant and that the pellet price would remain low in the foreseeable future.

Unfortunately the Danish pellet consumers have experienced a dramatic increase of prices during the fall of 2001 and spring of 2002. Even the large district heating plants are now is facing higher prices when renegotiating long-term contracts. Therefore most Danish pellet producers are anxiously waiting for the next winter.

4 REFERENCES, AUTHOR AND COMPANY PROFILE

Mr. Bjerg is coordinator of the Pellets for Europe project funded by the European Commission. 17 expert centres from 12 European countries promote production and use of biomass fuel pellets across Europe. Results are disseminated and activities are promoted through the European Pellet Centre (www.pelletcentre.info), which will be launched by November 1st 2003.

Mr. Bjerg is a Danish expert on biofuel markets and biofuel applications. He is Project Manager at FORCE Technology (formerly dk-TEKNIK) in the Department of Fuels, Combustion and Residues (http://fuels.dk-teknik.dk). Mr. Bjerg is author of the Danish Wood Pellet Handbook, organiser of the annual Danish Wood Pellet Conference and consultant for Danish and International clients in the pellet market.

In the Department of Fuels, Combustion and Residues 14 experts on biofuels are employed in research, development and demonstration projects on biomass for energy and industry. Several of the biofuel experts are national representatives in international committees and working groups – i.e. IEA gasification, IEA combustion, ThermoNet and standardization of solid biofuels (pellets).

dk-TEKNIK has been managing the Centre for Biomass Technology since 1986 which collects and disseminate information to professionals on biomass technologies and markets.

FORCEs laboratory is certified on analysis of solid biofuels and ashes.

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