

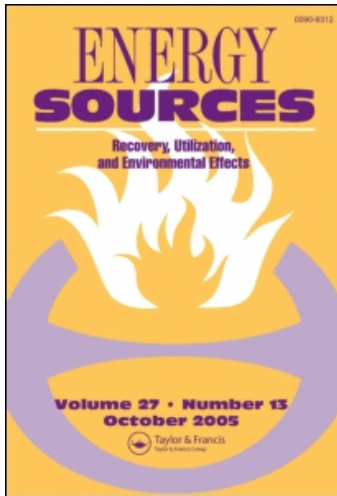
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### Wood Pellets—Tomorrow's Fuel for Europe

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# Wood Pellets—Tomorrow's Fuel for Europe

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**Abstract** *Wood pellets are an economic, sustainable, and environmentally friendly alternative to the fossil fuels available. Both new and residual wood is used to supply the pellet production, and new raw material resources are constantly being developed. As well as residual wood, scrap wood such as tree tops and thinner trunks are readily used in pellet production. In the near future, the growing of energy-rich woods on fallow agricultural areas could provide even more resources for pellet production in many countries.*

**Keywords** combustion, Europe, renewable energy, wood pellets

## Introduction

The emissions of CO<sub>2</sub> and other greenhouse gases is one of the greatest environmental problems of our time. At the United Nations Climate Change Conference in 1997 in Japan, it was agreed that total world-wide emissions should be reduced by 5.2% by the year 2012. The European Union has undertaken the major reduction of 8% compared to the 1990 level. Today only 6% of the European Union's consumption of energy is covered by renewable energy, but the EU Commission Renewable Energy White Paper, published in December 1997, prescribes a doubling of the proportion of renewable energy by the end of the year 2010. Biomass is the sector that must be developed the most and fastest. It is estimated that in 2010 it should amount to 74% of the European Union's total consumption of renewable energy (Serup, 2002).

Wood pellet is a fuel product compressed from milled wood. The use of wood pellets has increased sharply in the 1990s, i.e., in Sweden, Denmark, and Austria, and already earlier in North America. In Finland, the Technical Research Centre of Finland (VTT) studied pelletization already in the 1980s, but the projects were then brought to a standstill mainly due to a decline in oil prices, and hence, lack of competitiveness. Today, pellets offer a useful form of heating for one-family houses, competing with oil and electricity heating systems. Pellet combustion is also a feasible alternative at district heating stations and even at power plants. For the time being, the availability of pellets has been a problem, but several pellet plants have been established in Finland in the recent years. The availability of utilization equipment has also improved.

In the past three years, the number of pellet production plants has been significantly extended in Germany: 290,000 tons of wood pellets were produced in 28 pellet plants in

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