

## 🔥 How can pellets be used ?



**Small scale residential pellet users (1-50 kW)** with a demand of less than 10 tonnes of pellets/year. Households use pellets for space heating by using pellets stove or boilers. The delivery of pellets is organized using bags or automatic blowing in systems where trucks blow the quantity needed for one year in a pellet storage room or container.



**Medium scale users (50kW-20 MW)** with a demand between 10 and 20.000 tonnes/year. Typical users in this size are companies, the service sector (hotels, schools, and hospitals) and bigger residential units.



**Commercial large scale users (>20MW)** with a demand above 20.000 tonnes/year. The typical users are industries and large district heating companies.

## POLICY RECOMMENDATIONS

### 🔥 An opportunity for the EU climate and energy policy

Woody biomass, including pellets, can play a relevant role in reaching EU climate and energy policy objectives. Policy initiatives are necessary to kick start market development.

- The coming EU strategy on heat should highlight the role of renewable energy sources to decarbonize the heat sector, including the role of woody biomass.
- Communication campaigns as well as temporary financial incentives are critical for market uptake. These should be organized at national / regional level with EU support, so as to raise consumers awareness on the benefits of switching from fossil fuels to renewables, including biomass.
- Subsidies to fossil fuels should end and a carbon tax instrument should be promoted to drive consumption to a low carbon economy. Sweden is a very good example. With the current low oil price there is a very good window of opportunity to increase fossil fuel taxes.
- The Renewable Energy Directive should be implemented properly, in particular articles 13 and 14 dedicated to renewables in buildings and to communication to consumers and trainings of installers. Beyond 2020, these measures could be strengthened.
- Policies promoting energy efficiency measures should be designed in a way that promotes renewable energy at the same time. For example, buildings renovation policy should integrate both energy efficiency and renewable energy solutions.



# HEATING WITH WOOD PELLETS

## An Opportunity For Europe

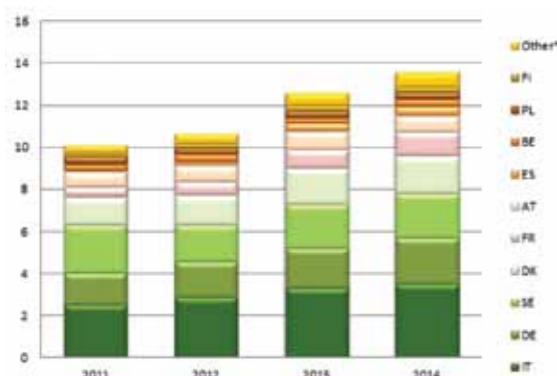
## WOOD PELLETS OFFER AMPLE OPPORTUNITIES

### 🔥 An opportunity to reduce fossil energy imports

There are serious concerns about EU's heavy dependency on natural gas, volatile fossil fuel prices and insecure fossil fuel imports, especially in these days of geopolitical turmoil at our borders. In this context pellets represent an alternative. Pellets are a fast, versatile and practical option which, alongside energy efficiency, alleviates our fossil fuels dependency by replacing oil and natural gas in the residential and tertiary sectors as well as for industrial processes.

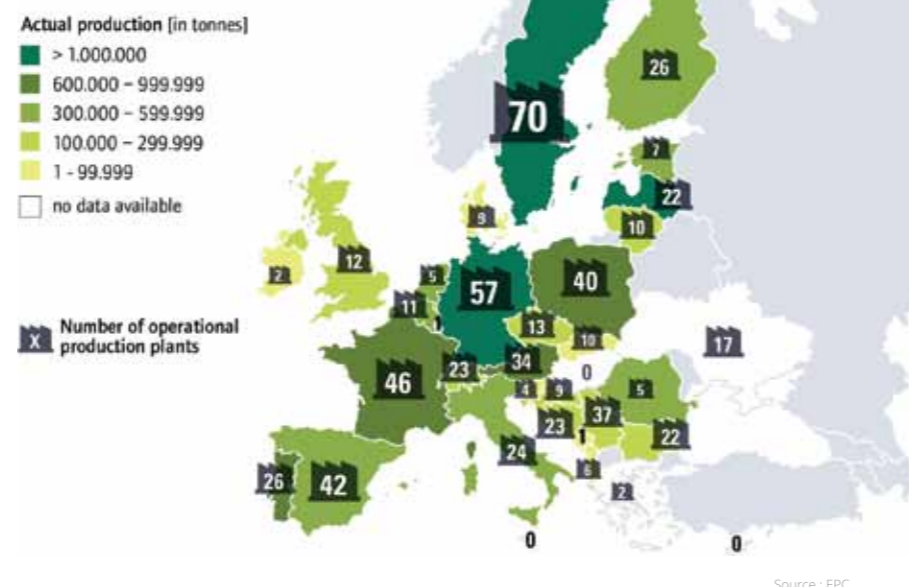
EU pellet production grew from 1 million tonnes in 2000 to 12 million tonnes today, while EU pellet consumption for heating is growing at an average of more than 1 million tonnes every year (from 2011). At the moment, the EU is the world's biggest pellet producer (50% of global production).

#### Evolution of EU wood pellet consumption for heating (in millions of tonnes)



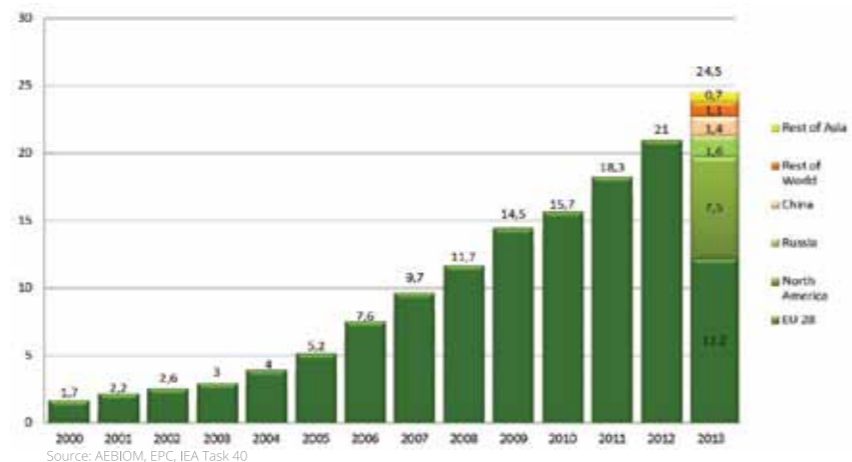
Source: AEBIOM, EPC

#### European wood pellet production in 2013



Source: EPC

#### Estimated world wood pellet production (in millions of tonnes)



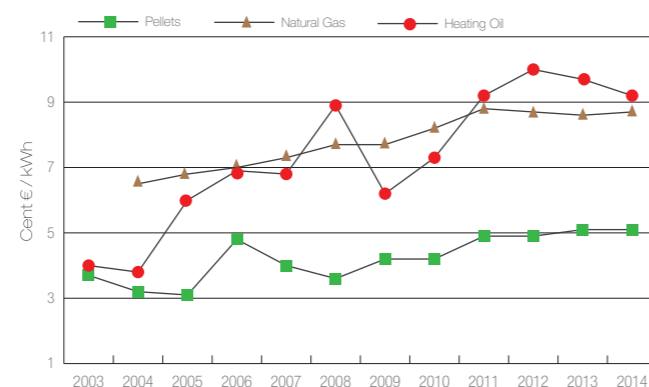
Source: AEBIOM, EPC, IEA Task 40

### 🔥 An opportunity to reduce heating bills of European households

The main driver for market development is the fact that wood pellets are substantially cheaper than heating oil and natural gas.

The conversion of existing fossil heating systems to pellet heating systems can play a significant role in reducing the dependence of Europe on oil and gas imports.

#### Average annual prices for heating fuels in Austria



Sources: e-control, IWO, BMWFJ, proPellets Austria; May 2014

### 🔥 An opportunity for jobs along the entire value chain

The pellet industry generates jobs both for the entire fuel production and supply chain and for the manufacturing of pellet stoves and boilers. About 500.000 pellet stoves and 100.000 pellet boilers were produced and sold in Europe in the year 2013. The EU industry is a world leader on this market through its technology know-how and its experience.

### 🔥 An opportunity for environmental protection and greenhouse gas reduction

Pellets reduce greenhouse gas emissions by 70-95% compared to the average EU energy mix in heating, based on recognized life cycle analysis. Modern stoves and boilers have reached very high conversion efficiencies and very low emissions of particulate matter (PM), CO and NO<sub>x</sub>. In contrast to oil and gas there is almost no environmental damages caused by the pellets production and supply chain.

## WOOD PELLET IDENTITY CARD

### 🔥 Description of pellets

- Solid fuel produced from wood residues and by-products.
- Invented during the 1970's oil crisis.
- Cylindrical form with a diameter of 6-8 mm.
- High density and high energy content
- Clean, easy to use, versatile
- The heating value of 2 tons of pellets equals to 1000 liters of heating oil.



### 🔥 What are pellets made of?

In Europe, pellets are produced mainly from sawmill industry residues: shavings, chips and sawdust. Fiberwood, tops of trees and thinnings from forestry operations that are not suitable for sawtimber may also be used and currently represent less than 20% of the used raw material.

