

# BIOENERGY AND SOLID BIOMASS

Energy generated from all forms of biomass represents around 60% of the European renewable energy mix. This figure illustrates the importance of this energy source in the production of zero-carbon heat and electricity and highlights the key contribution of biomass to the decarbonisation of the European energy system.



At the industrial level, biomass is currently used by some sectors which have high thermal energy demands, as it is often a cheaper alternative to fossil fuels. Due in large part to how certain industries such as the forest-based sector (pulp and paper, sawmills, etc.), use internally generated residues and byproducts, forest biomass is, as of today, the main source of renewable industrial process heat. However, it is crucial to recognize the significant amount of variability that falls under the term “biomass” when it comes to larger prospects for its role in industrial process heat. Indeed, bio-based materials may take on a variety of forms, and there are several ways to turn those materials into process heat, such as torrefaction, gasification, or liquefaction, on top of direct combustion.

Therefore, biomass can in theory satisfy the majority of industrial process heat requirements since it can be transformed to create biomass-based fuels that are relatively comparable to the fossil fuels now in use. Nevertheless, it is challenging to make “feedstock independent” statements about the cost competitiveness of biomass, since some of those pre-processing technologies are not yet commercially available and the price of the feedstock might vary significantly.

Moreover, when it comes to solid biomass, there is a whole range of diverging opinions between the different stakeholders involved in the decarbonization of energy intensive industries. Industrial players see solid biomass as one of the best assets to decarbonize their activities due to its low cost, versatility, abundance in Europe, the local development it enables, its well-developed value chains, etc. The other major advantage of biomass is that it contains carbon, which is a crucial element in some industrial processes (steel production, lime production, chemical processes, etc.). Therefore, some sectors have already invested heavily in adapting their processes, such as the cement industry, which is one of the biggest GHG emitters. The sector has set an ambitious target of 60% alternative fuels by 2030, and 90% by 2050, more than half of which will be biomass waste.

However, the important role of biomass seems to be under-recognized by some political groups and non-governmental organizations. Indeed, recent reforms to the review of the Renewable Energy Directive (REDIII) call into question the 'renewable energy' status of primary woody biomass, defined as any type of feedstock from the forest regardless of its quality. Such changes would have dramatic effects on the decarbonization potential of certain industries, would reduce biomass feedstock availability and would greatly penalize front-runners who have already invested heavily in the use of woody biomass for energy.

# TRADE

## ASSOCIATIONS

**Bioenergy applications in industries such as pulp and paper are common, as they use biomass to produce steam. Bioenergy is a great solution for industrial heat processes.**

## ENERGY INTENSIVE

# INDUSTRIES

**Biomass is already playing and will play a huge role in decarbonising industrial heat production.**

## POLICY

# MAKERS

**Biomass might sometimes have a negative public image, but this seems to be less the case when it is processed and not burned as is.**