

CEPI'S ENERGY EFFICIENCY SOLUTIONS FORUM

Cepi's Energy Efficiency Solutions Forum (EESF) gathers the European pulp and paper industry, technology suppliers and relevant experts from research, financing and policymaking. Cepi's EESF aims to accelerate the development and implementation of carbon-reducing technologies and concepts by:

1. Awareness building and identification of knowledge gaps via EESF meetings and dedicated working groups in order to:
 - Facilitate exchange of knowledge
 - Provide insight on practical solutions
2. Promoting innovation in cooperation with the Forest-based Technology Platform (FTP) in order to:
 - Ensure that crucial R&D topics are included in European R&D calls
 - Stimulate common R&D projects within the European paper industry
3. Creating a favourable regulatory environment

The industry's objectives

The pulp and paper industry can and will contribute to reaching the 2030 goal and European carbon neutrality in 2050. This requires emission reduction in our production processes by both the implementation of technologies reducing energy consumption and the efficient use of fossil-free energy sources.



How to reach carbon neutrality by 2050?

Why?	CARBON NEUTRALITY BY 2050			
What?	Continuous energy efficiency improvements	Clean energy in mills	Valorisation & new products	Bridging the technology gap
	Science based targets/Climate targets roadmaps			
How?	Electricity-based energy efficiency Substitution of old technologies and machinery Operational optimization	Produce own renewable energy Purchase fossil free electricity Substitute fossil fuel and LPG consumption with bioenergy	Development of chemical recovery processes Circularity Valorisation of waste streams	Funding and scaling research projects Investment in CCS & BECCS Breakthrough technologies in manufacturing

New business models and financing tools

The huge investments needed in the technological innovations will not be possible without suitable financing tools, new business models and smart cooperation. Cepi's EESF thus draws attention to the

opportunities offered by, for example, EU Innovation Fund, Energy Service Companies (ESCOs), Power Purchase Agreements (PPAs, including heat and gas), a voluntary carbon market and Carbon Contracts for Difference (CCfDs).

The way forward

The way forward is to secure an enabling policy framework for the industry to realise its full potential to decarbonise manufacturing processes and further contribute to achieving the European climate neutrality target by 2050.

The pulp and paper industry today

The European pulp and paper industry has already made significant progress on the path to decarbonisation by very effectively reducing its carbon emissions by 36% from 2005 to date. The industry is the largest industrial generator and user of renewable energy. 61% of the industry's total primary annual energy consumption is biomass-based. Nevertheless, a significant share of carbon emissions is caused by fossil fuel combustion, therefore in order to meet the EU 2030 and 2050 climate change and energy targets, in view of implementing the EU's long-term strategy, a thorough rethink of the way business operates is needed. This rethink needs to be done now, as core technologies for the production processes in 2050 are being developed and invested in today.



Paper production consists of two processing parts:

1 The pulping processes currently applied are very effective and CO₂ neutral. They isolate high-quality cellulose fibres. The remaining lignin serves as a sustainable energy source feeding the process, while pulping chemicals are recovered. However, the increasing demand for bio-based feedstock to replace fossil feedstock for chemicals and materials requires pulping processes with a lower energy demand. This allows the lignin side stream to become available for new materials while maintaining a CO₂ neutral process.

2 The papermaking process generally consists of dispersing recycled and/or virgin cellulose fibres in water, the formation of the paper web and removing the water by pressing and thermal drying. On average, 70% of the energy required for papermaking is used for thermal drying.

