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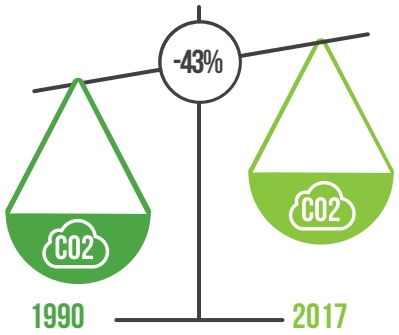
ENERGY & CLIMATE

Our relatively low Greenhouse Gas (GHG) emissions are notably the consequence of the shift from mechanical to chemical pulp processes, driven by market developments and product evolution, but also of the growing use of less carbon-intensive or even carbon-neutral sources of energy, such as bioenergy, and by investments in state-of-the-art production technologies.

The sector is becoming increasingly energy self-sufficient by using its own process by-products and residues to generate renewable energy in its Combined Heat and Power (CHP) installations and biomass boilers.

SIGNIFICANT PROGRESS HAS BEEN MADE IN THE LAST YEARS



Over the past five years, we have achieved a reduction of our total (direct and indirect) carbon emissions by 43% per tonne of product from 1990 to 2017.

NEW DES PULPING TECHNOLOGY!

An industry consortium is currently working on developing a radically new, sustainable and techno-economically feasible pulping technology for wood based on deep eutectic solvents (DES), a new class of natural solvent which has the unique ability to dissolve wood components at low temperature and atmospheric pressure.

The technological breakthrough expected through the development of such new DES pulping technology could reduce process energy intensity by at least 40% and investment costs by 50% compared to traditional chemical pulping technology.

Provides is a research and innovation project (RIA) within the Biobased Industries Initiative. Contact us to read more about PROVIDES and DES.

IMPLEMENTING THE PARIS CLIMATE AGREEMENT

The Paris Agreement to maintain global temperatures well below 2°C will increase pressure towards reducing carbon emissions.

The European forest fibre and paper industry has already confirmed its vision to decarbonise by 80%, while creating 50% more added value in its 2050 Roadmap.

Contact us to learn more about our vision outlined in our 2050 'Investment Roadmap' of a low-carbon bioeconomy.

Our 'To our Roots and Beyond' project goes even further in demonstrating how in practice we are turning this vision into reality with case examples in the area of renewables and energy efficiency.

Learn more about this at www.cepi-rootsandbeyond.org

FACING THE FUTURE: MITIGATING CLIMATE CHANGE AND DRIVING THE TRANSITION TO A LOW-CARBON CIRCULAR BIOECONOMY

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New production technologies
-7 MILLION TONNES CO_2 BY 2050

ENERGY EFFICIENCY

Improvement in processes and investments in state-of-the-art technologies are expected to continue, driven by competitiveness and productivity. The transition to industry 4.0 will also deliver efficiency gains.

Low- to no-carbon energy sources
-8 MILLION TONNES CO_2

FUEL SWITCH

Driven by economic, environmental and political reasons, the industry is in the process of switching from carbon-intensive energy to that which emits less carbon dioxide, in particular renewable energy.

Leveraging on-site cogeneration assets
-2 MILLION TONNES CO_2

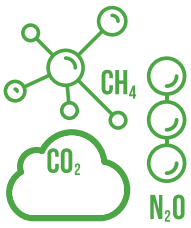
DEMAND-SIDE FLEXIBILITY

Having the possibility to adapt our electricity consumption (demand-side flexibility) offers a range of advantages, such as reduced consumption costs, enhanced generation adequacy and greater accommodation of intermittent renewable energy sources. Provided relevant market and regulatory arrangements are in place, a lot of market potential can be achieved.

Innovative and disruptive solutions
-5 MILLION TONNES CO_2

EMERGING/BREAKTHROUGH TECHNOLOGIES

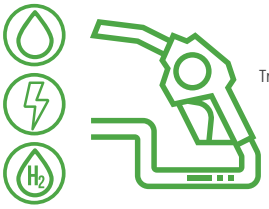
In addition to some of the breakthrough concepts identified in the **Two Team Project** such as the **"Deep Eutectic Solvents"** technology, now under development, other innovative and disruptive solutions could complement the emission reduction effort by some 5 million tonnes of CO2.



Over the coming 35 years
-11 MILLION TONNES CO_2

INDIRECT EMISSIONS

As European power production acclerates its decarbonisation, the forest fibre and paper industry's indirect emissions from purchased electricity will decrease by **11 million tonnes over the coming 35 years.**



Transport efficiency and alternative transport fuels
-4 MILLION TONNES CO_2

TRANSPORT

Emissions reduction will also come from the combination of improving transport efficiency and using alternative transport fuels, such as biogas, advanced biofuels, electricity or even fuel cells. This should lead to reducing the sector's transport footprint by 4 million tonnes of CO2 emissions.

THE EUROPEAN FOREST FIBRE AND PAPER

59% of the industry's total primary annual energy consumption is **BIOMASS BASED.**

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2050 INVESTMENT ROADMAP

Contact us to learn more about our 2050 'Investment Roadmap' to a low-carbon bioeconomy