



# **EU FOREST-BASED INDUSTRIES 2050:**

A vision of sustainable choices for  
a climate-friendly future



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# STRATEGIC FRAMEWORK OF OUR VISION 2050

TODAY	GOALS	RECOMMENDATIONS
<p>Current state of the European Forest-Based Industry</p>	<p><b>Help decarbonise Europe 2050 by substituting critical or CO<sub>2</sub>-intensive raw materials and fossil energy with forest-based alternatives</b></p>	<p><b>Develop Markets</b></p> <ol style="list-style-type: none"> <li>1 Boost market uptake of existing and new sustainable Forest-based products</li> <li>2 Ensure the competitiveness compared to third countries</li> </ol>
<p><b>TOMORROW</b></p> <p><b>Objective: our vision for 2050</b></p> <p>To be the most competitive, innovative and sustainable provider of net-zero carbon solutions</p>	<p><b>Eradicate waste in the circular economy by closing material loops with a sector target of at least 90% material collection and 70% recycling rate</b></p>	<p><b>Ensure sustainable supply of raw material</b></p> <ol style="list-style-type: none"> <li>1 Increase secondary raw material supply from wood-based products</li> <li>2 Provide sufficient woody biomass from sustainably managed forests</li> </ol>
<p><b>Society in 2050 and the role of the Forest-Based industries</b></p> <p>Where do we live? How do we shop? What do we eat? What do we wear? How do we stay healthy? How do we power our way of life? How to we spend our leisure time? How do we create jobs?</p>	<p><b>Drive resource-efficiency in the FBI industrial value chain by enhancing productivity in all areas (including materials, manufacturing and logistics)</b></p>	<p><b>Innovate with Technology</b></p> <ol style="list-style-type: none"> <li>1 Establish the best framework conditions for the sector's strategic research and innovation agenda</li> <li>2 Focus on the strategic innovation challenges identified by the The Forest-based Sector Technology Platform</li> </ol>
	<p><b>Meet the increasing demand for raw materials by maximising new secondary streams and ensuring primary raw material supply from sustainably managed forests</b></p>	<p><b>Cross-Cutting Partnerships</b></p> <ol style="list-style-type: none"> <li>1 Data availability</li> <li>2 People, skills and sector attractiveness</li> </ol>
	<p><b>Satisfy the growing demand for climate-friendly products by increasing the use of wood and wood-based products in our daily lives</b></p>	

# THE EU FOREST-BASED INDUSTRIES TODAY: STATE OF PLAY

## WHO WE ARE?

- Wood working industries
- Industries manufacturing pulp, paper and other fibre-based products
- Furniture industry, which covers also other material providers such as metal, rubber, leather, bamboo
- Printing industry
- Bio-energy industry

## OUR IMPORTANCE FOR THE EU ECONOMY

- 420.000 enterprises for a total turnover of over 520 billion euros (around 18% of the bioeconomy)
- Around 3.5 million workers
- 143 billion euros each year added value to the EU economy

## OUR CONTRIBUTION TO CLIMATE MITIGATION

The EU's sustainably managed forests produce today an overall climate mitigation impact amounting to 13% of European greenhouse gas emissions

- Sequestration: of CO<sub>2</sub> by forest growth thanks to sustainable forest management
- Storage: the carbon storage effect of harvested circular Forest-Based products
- Substitution: the substitution effects of replacing carbon-intensive and fossil-based materials and energy with Forest-Based materials

# WHAT COULD BE **OUR ROLE** IN THE EUROPEAN SOCIETY & ECONOMY IN 2050?

## WHERE DO WE LIVE?



We provide resilient, reusable and recyclable products that can be disassembled from building systems at end of life.

Using wood-based products from sustainably managed forests instead of fossil-based or GHG-intensive materials, reduces fossil-based emissions.

## WHAT DO WE EAT?



We reinvent food packaging and the food industry thanks to Forest-Based flavourings, stabilisers, wood-based packaging materials, Forest-Based biomass converted into edible proteins and other nutrients.

Sustainable production of food and food packaging is essential to a climate friendly lifestyle.

## HOW DO WE SHOP?



We provide smart, resistant, compostable, light weight, reusable and recyclable packaging.

Paper and board will continue raising the bar and fibre-based packaging recycling rates are over 90%.

## WHAT DO WE WEAR?



We produce textiles made from wood fibre with little environmental impact.

Wood-based textiles is the area where material substitution is expected to deliver most benefits.

## HOW DO WE STAY HEALTHY?



We make groundbreaking advancements in nanocellulose-, lignin-, and biochemicals-based material for new applications in the health and hygiene areas.

Forest-Based products provide the building blocks for novel health and care technologies.

## HOW DO WE SPEND OUR LEISURE TIME?



We offer continued use of printed materials for leisure and education purposes.

Forest-Based products are recyclable and their circularity is maximized thanks to boosting of recycling and collection.

## HOW DO WE POWER OUR WAY OF LIFE?



Renewable heat, steam and electricity, as well as secondary heat supplied to other users, biofuels for vehicles, boats and planes from by-products, side-streams and low quality biomass from sustainably managed forests as a source of bioenergy.

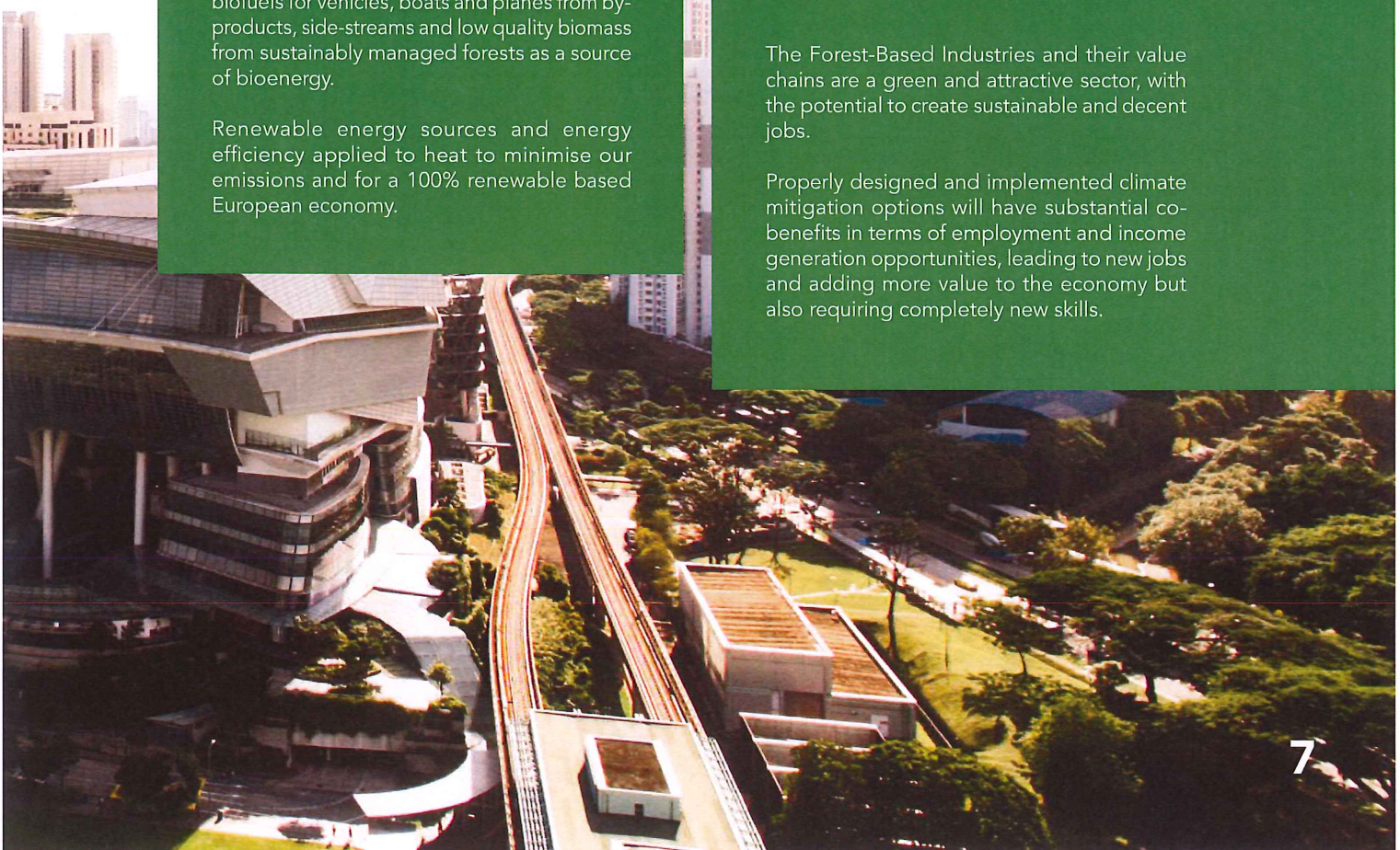
Renewable energy sources and energy efficiency applied to heat to minimise our emissions and for a 100% renewable based European economy.

## HOW DO WE CREATE JOBS?



The Forest-Based Industries and their value chains are a green and attractive sector, with the potential to create sustainable and decent jobs.

Properly designed and implemented climate mitigation options will have substantial co-benefits in terms of employment and income generation opportunities, leading to new jobs and adding more value to the economy but also requiring completely new skills.



# 2050 INDUSTRY GOALS AND CONTRIBUTION TO EU PRIORITIES

## 1 Help decarbonise Europe 2050 by substituting critical or CO<sub>2</sub>-intensive raw materials and fossil energy with forest-based alternatives

We boost markets for innovative fibre-based products, both in traditional and new market segments, so that they can replace fossil fuel based products. We also decarbonise by using green chemicals, composites and renewable energy carriers as well as enhancing the energy efficiency of our processes.

## 3 Drive resource-efficiency in the FBI industrial value chain by enhancing productivity in all areas (including materials, manufacturing and logistics)

We will significantly reduce our carbon footprint and make a significantly more efficient use of natural resources in our processes, as well as responsible sourcing by precise and publicly approved traceability (chain-of-custody) throughout the value-chain, including recovery of materials.

## 5 Satisfy the growing demand for climate-friendly products by increasing the use of wood and wood-based products in our daily lives

Building further on the current trend of using sustainable wood-based products in our daily activities and by developing innovative, high-added value products, we will grow the FBI markets by 3% annually!

## 2 Eradicate waste in the circular economy by closing material loops with a sector target of at least 90% material collection and 70% recycling rate

Paper for recycling and recovered wood will go hand in hand with primary raw materials in the circular bioeconomy and will be an even more important part of the Forest-Based Industries raw-materials supply.

70% would be the average for all wood used, but the recycling rate of paper is already 71.6% today!

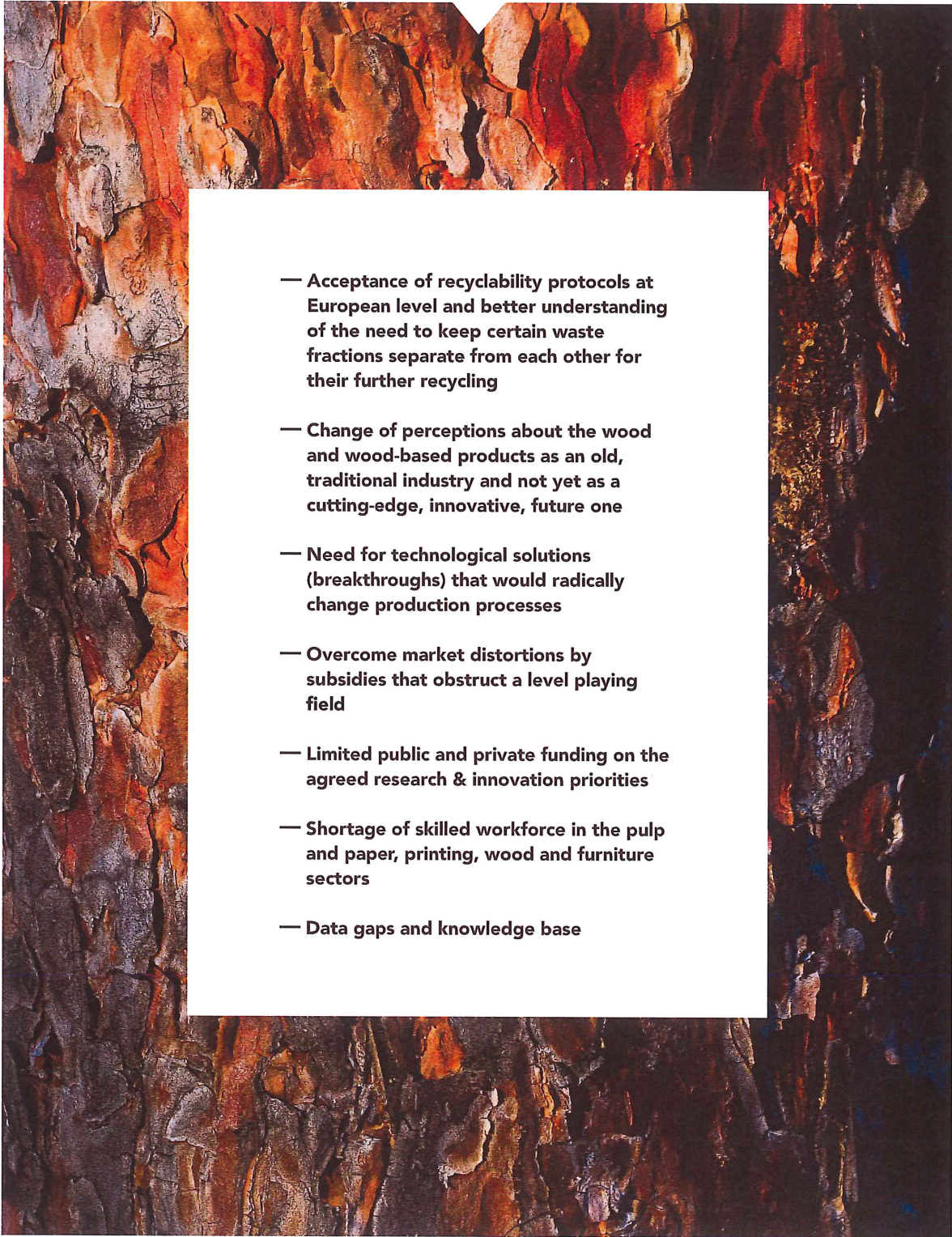
We will also make sure that waste is minimised wherever possible, and that valuable natural resources are used in the most efficient and economic fashion possible.

## 4 Meet the increasing demand for raw materials by maximising new secondary streams and ensuring primary raw material supply from sustainably managed forests

With support from research and innovation, an increase in the sustainable harvesting possibilities in Europe by at least 30% from today's levels is envisaged.



# TO MAKE OUR VISION BECOME REALITY, WE WILL NEED TO **OVERCOME SOME CHALLENGES**

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- **Acceptance of recyclability protocols at European level and better understanding of the need to keep certain waste fractions separate from each other for their further recycling**
  - **Change of perceptions about the wood and wood-based products as an old, traditional industry and not yet as a cutting-edge, innovative, future one**
  - **Need for technological solutions (breakthroughs) that would radically change production processes**
  - **Overcome market distortions by subsidies that obstruct a level playing field**
  - **Limited public and private funding on the agreed research & innovation priorities**
  - **Shortage of skilled workforce in the pulp and paper, printing, wood and furniture sectors**
  - **Data gaps and knowledge base**

# PATHWAYS & SOLUTION AREAS

## DEVELOP MARKETS

- Consumption of FBI products will grow thanks to a mix of increased consumer awareness and supportive product policies, based on robust assessment of GHG product footprint over the entire lifecycle.
- On the supply side, the competitiveness of the industry will be preserved by the combination of industry-led innovation and global level playing fields.

## ENSURE SUSTAINABLE SUPPLY OF RAW MATERIAL

- Provide woody biomass from sustainably managed forests in the right quantity and quality by optimizing woody biomass growth and ensuring sufficient provision of woody biomass to the markets.
- Increase secondary raw material supply from wood-based products.

## BOOST INNOVATION

- The Forest-based Sector Technology Platform in its 2040 Vision and the 2030 Strategic Research & Innovation Agenda providing the first 10-year scheme towards the realisation of the FBI Vision for 2050.
- Need of a framework on research, innovation and development of the sector, including the need to assess the potential for strategic investment projects across Europe and additional funding required to de-risk and deploy investments.

## CROSS-CUTTING PARTNERSHIPS

- A set of horizontal issues are cross-cutting the three pathways on markets, resources and technology and will need to be addressed by each.
- These include the availability or further development of science-based data and methodologies, the social dimension and skills agenda for the workforce as well as awareness-raising and communication in the value chain.

# PARTIES INVOLVED

## SIGNATORIES



Confederation of European Paper Industries (CEPI)



The European Confederation of Woodworking Industries (CEI-Bois)



The European Panel Federation (EPF)



The European Furniture Industries Confederation (EFIC)



Bioenergy Europe



The Forest-based Sector Technology Platform (FTP)



Intergraf

## SUPPORTERS



Confederation of European Forest Owners (CEPF)



The European State Forest Association (EUSTAFOR)



Federation of the European Parquet industry



European Organisation of Agricultural, Rural and Forestry Contractors (CEETTAR)



The united voice of farmers and their cooperatives in the European Union

The European Forest Institute (EFI) provided a science-based contribution to this report.