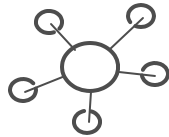




Food and Agriculture
Organization of the
United Nations



ENABLING A SUSTAINABLE **BIOECONOMY** THROUGH WOOD VALUE CHAINS



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SUSTAINABLE WOOD *for a* SUSTAINABLE WORLD

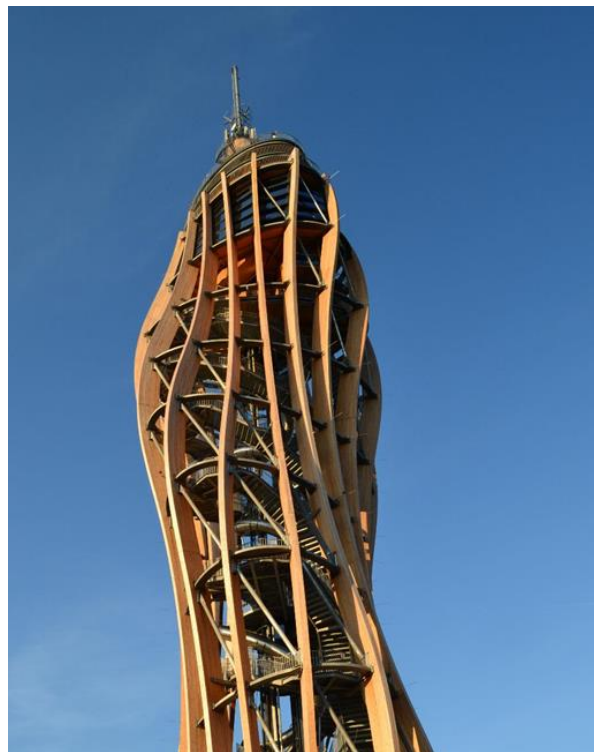


BIOECONOMY



The bioeconomy is the production, utilization and conservation of biological resources, including related knowledge, science, technology, and innovation, to provide information, products, processes and services across all economic sectors aiming toward a sustainable economy.

WHAT IS **BIOECONOMY**?



- ✓ Normally includes agriculture, fisheries, agro-food industries, forests and wood industry, all the other processing of bio-based materials, from construction to textiles, chemicals, pharmacy, cosmetics, energy, etc.
- ✓ No international definition of bioeconomy
- ✓ No international convention or agreement
- ✓ No international statistics

“WHY DEVELOPING A SUSTAINABLE BIOECONOMY IS URGENT ?



- Limited amount of natural resources
- Quantity of extracted raw materials multiplied by 10 during 20th century
- Urgently tackle climate change
- Reduce waste



**BIOECONOMY ENABLE NATURE-BASED
SOLUTIONS TO CLIMATE CHANGE AND ;**

SUSTAINABLE BIOECONOMY

- Use of renewable materials
- Inclusion of small and medium producers
- Processing and reuse of residues
- Cascading and circularity

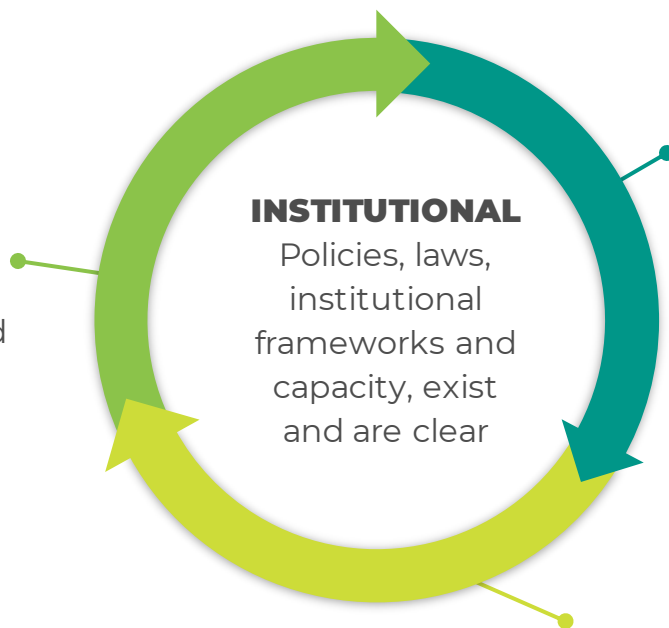


BIOECONOMY PATHWAYS

MOVING TOWARDS SUSTAINABLE FOREST VALUE CHAINS

ENVIRONMENTAL

Landscape and site productivity and environmental values are sustained



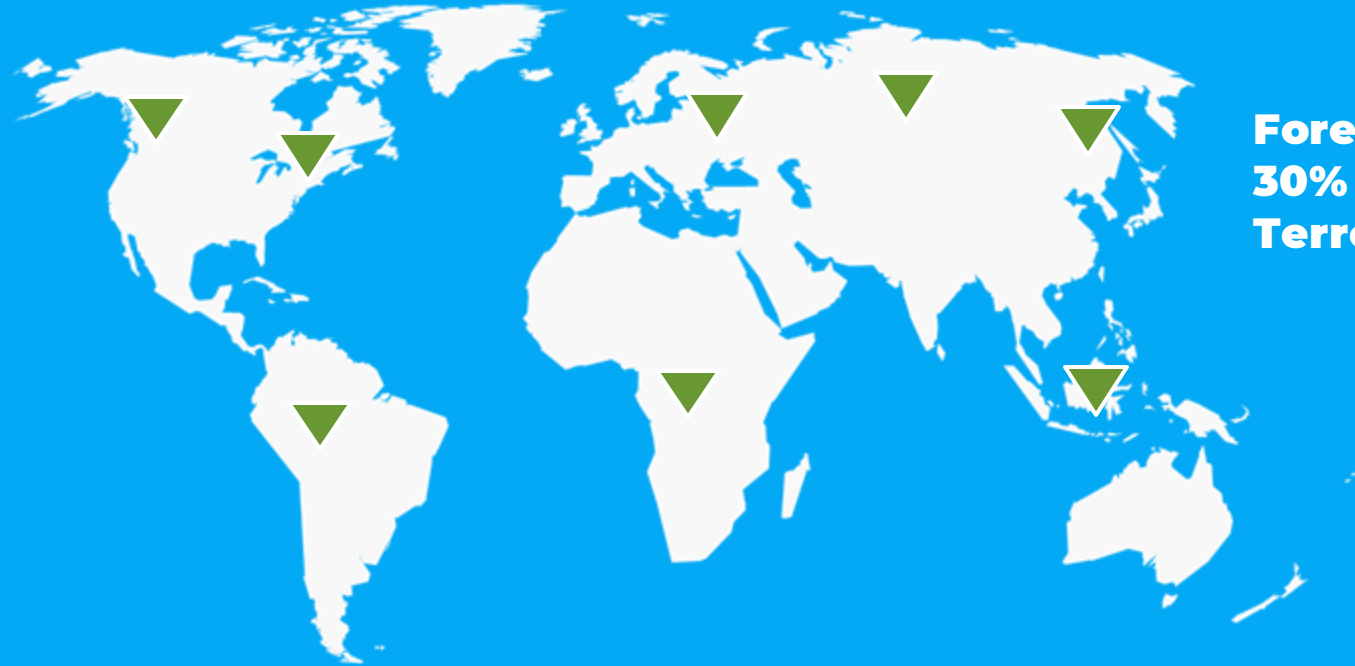
SOCIAL

Human and labor rights are respected

ECONOMIC

Firms throughout the chain are profitable

HIGH POTENTIAL



**Forests Cover
30% Of
Terrestrial Area**

Forest growing stock is estimated at **531 billion m³** (FAO/FRA 2015)



“HOW DOES THE **FORESTRY SECTOR** CONTRIBUTE TO THE BIOECONOMY?”



GLOBAL WOOD **MARKETS** TRENDS

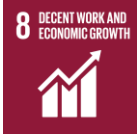
- ▶ Annual growth of wood products' markets between 3 and 6% in 2009-2017
- ▶ Rapid increase of production and trade of wood-based panels and wood pellets (construction and energy sectors)

FOREST VALUE CHAINS AND THE **SDGs**



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SUSTAINABLE
DEVELOPMENT
GOALS



45.000.000 jobs

SDG 8: Decent Work and Economic Growth



More than 56% of paper recycling in the world

SDG 12: Responsible consumption and production



Up to 75% emission reductions in building sector

SDG 13: Climate action

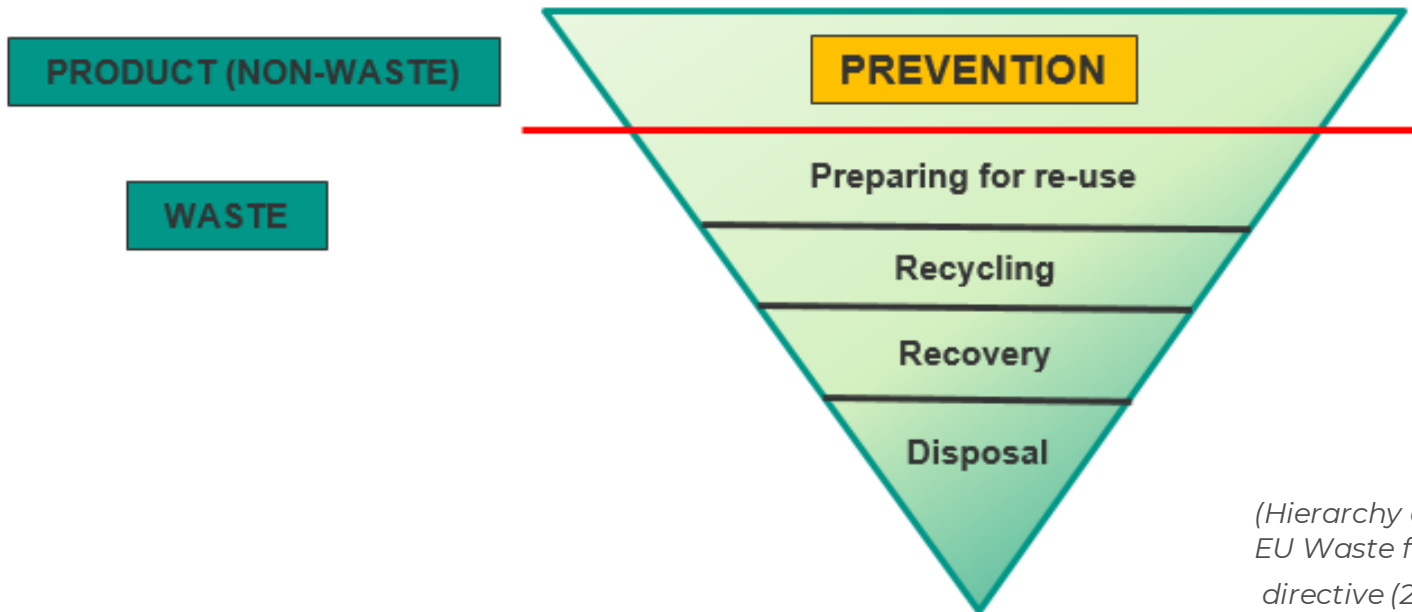


Forest are home of 80% of terrestrial biodiversity

SDG 15: Life on land

CASCADING USE

Cascading use: **more** products with the **same amount of wood**.



*(Hierarchy defined by
EU Waste framework
directive (2008/98/EC)*



KEY OBJECTIVES OF CASCADING USE

- **Decouple** economic growth from quantitative resource use
- **Extract** and generate more added-value from wood
- **Convert** more forest biomass “waste” into bioproducts
- **Improve** environmental footprint and recyclability
- **Give evidence** of sustainable production to meet citizens and consumers’ expectations

HOW TO EXPAND A WOOD-BASED SUSTAINABLE BIOECONOMY?



CASCADING USE

RESOURCE-EFFICIENCY

CIRCULARITY



From less resources, more products, more diversified Bioeconomy

FOREST-BASED INDUSTRIES CONTRIBUTE



AN EXAMPLE:

**EU/JRC
ASSESSMENT
IN 2016**

15% of EU bioeconomy jobs



19% of EU bioeconomy



4% of EU value-added



ESSENTIAL REQUIREMENTS FOR ENABLING THE BIOECONOMY

- ✓ Cross-sectoral policies institutions favoring sustainable production and responsible consumption
- ✓ Clear market signals
- ✓ Life-cycle analysis and management of uncertainty
- ✓ Capacity building and operational means for traceability systems

RECOMMENDATIONS FOR ENHANCED FOREST-BASED BIOECONOMY

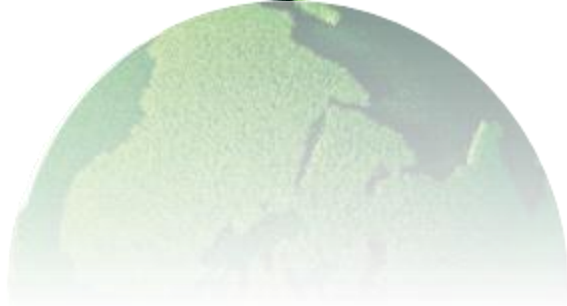
- ✓ **Developing** research and market for amplifying the resource base and diversification of species (softwood-hardwood)
- ✓ Investing in technology development and transfer for **increased efficiency** in the wood industry and for **new value chain segments** (downstream processing, etc...)



RECOMMENDATIONS FOR ENHANCED FOREST-BASED BIOECONOMY



- ✓ Size and performance of wood industry for provision of residues in **industrial clusters** with possible economies of scale, fostering investment in increased material efficiency
- ✓ FAO data used for **monitoring** the evolution of forest-based bioeconomy (**FAOSTAT** on wood products + **FRA** reports)
- ✓ Setting up a monitoring framework to assess **dimension, performance** and **sustainability** of forest based bioeconomy



THANK YOU !

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