



EU CAP Network workshop 'Circular bioeconomy – valorisation of forest by-products'

Kouvola, Finland
26-27 March 2025

Valorisation of forest by-products

Nataša Lovrić
EU CAP Network, EIP-AGRI Support Facility

Introduction



What do we mean by valorisation of forest by-products in bioeconomy



Forestry by-products value chains & regional differences



Challenges and Solutions for the value chain development in bioeconomy

EU Bioeconomy

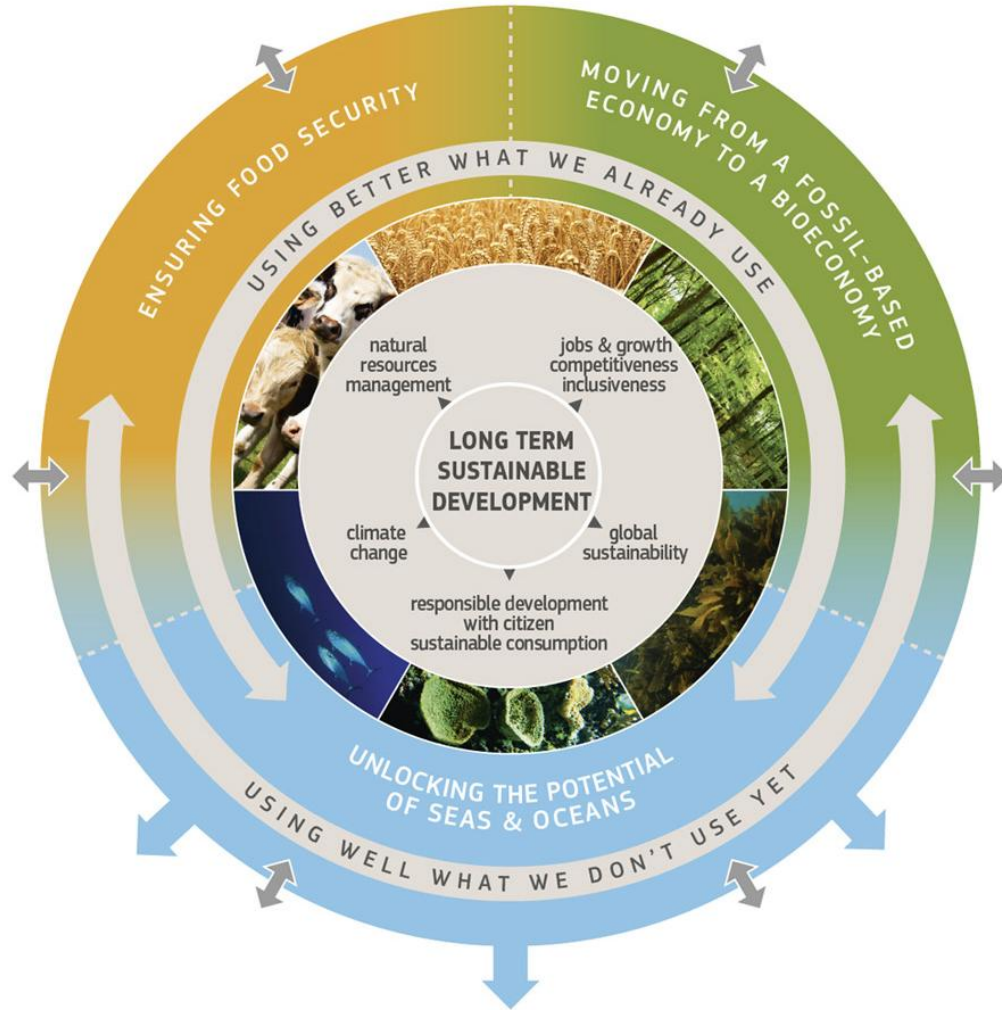


Image: European Commission

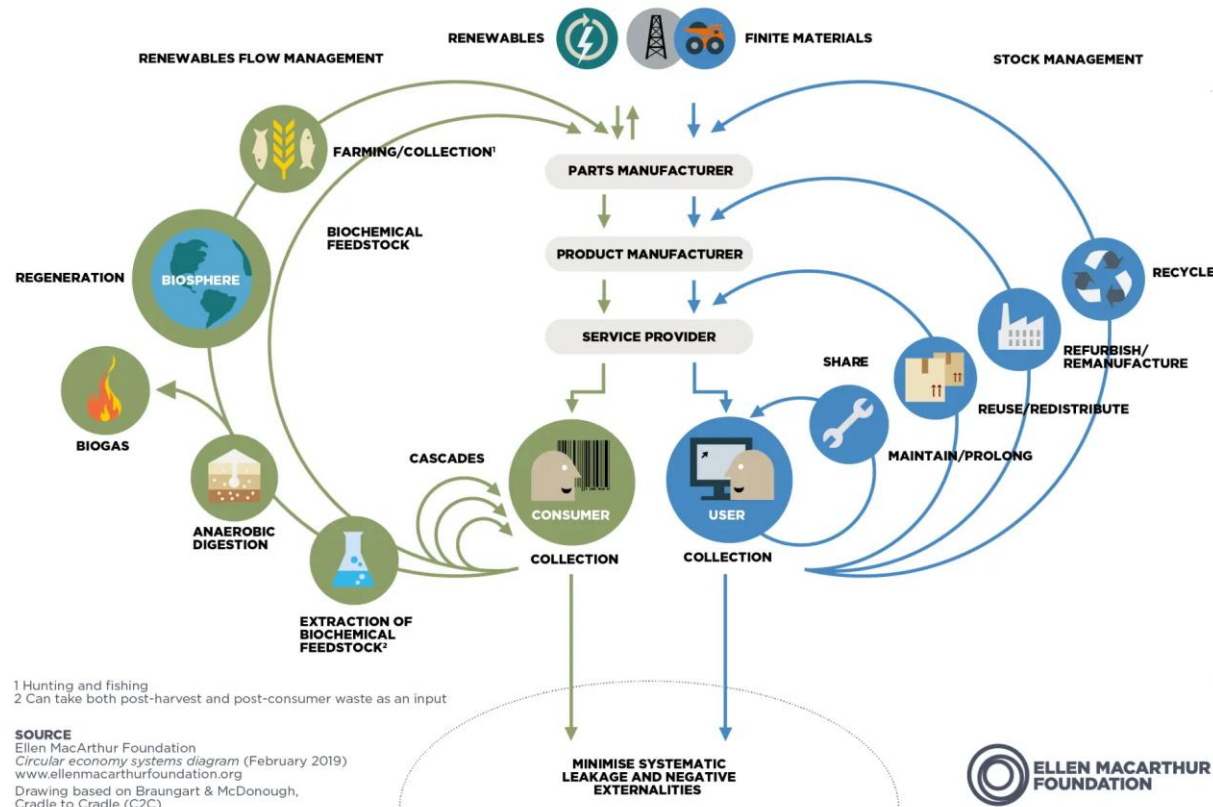
Sustainable use of renewable biological resources for economic activities, including the production of food, materials, and energy.

Role of Forests in Bioeconomy

- › A crucial role in the bioeconomy as a sustainable source of timber, biomass, and other forest-based products
- › Contribute to climate change mitigation, biodiversity conservation, and rural development
- › Forests cover over 40% of the EU's land area and play a significant role in carbon sequestration, biodiversity conservation, and rural development
- › Forest bioeconomy contributes to the sustainable utilization of these resources
- › European forests represent 5% of the world's forest area, employing over 3.5 million people and making significant contributions to the EU economy



Circular Economy Principles in Forest Bioeconomy



The transition to a circular economy is a key consideration in forest bioeconomy

Aim to minimize waste, maximize resource efficiency, and promote the reuse, recycling, and upcycling of materials

These approaches in the forest bioeconomy can optimize the use of forest resources, reduce environmental impacts, and create a more sustainable and resilient future

Understanding the forest-based bioeconomy concept

% of experts

- 1. A vision for the future: A necessary or desirable paradigm shift – an economy that is essentially built on the innovative use of sustainably sourced regenerative natural resources, as opposed to an economy based mostly on fossil resources.** 75%
- 2. A concept to analyze and describe real changes: The concept refers to observable current and expected future changes in the forest sector, such as the diversification of the end uses of wood, diminishing industry boundaries, or the commercialization of forest ecosystem services.** 11%
- 3. A synonym for the forest sector: The term does not mean something essentially new – it can be used interchangeably with the concept of forest sector.** 11%

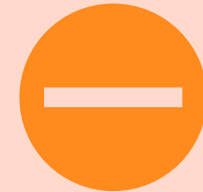
Integration into Circular Bioeconomy



HIGH-VALUE APPLICATIONS:
BIOENERGY, BIOCHAR,
BIOCHEMICALS



CASCADING USE PRINCIPLE TO
MAXIMIZE EFFICIENCY



LINKAGES WITH CAP & GREEN
DEAL POLICIES



Forestry By-Product Regional variations in EU

Share 0,546448087 25,68306011



South Europe: bioenergy focus

Northern focus: leading in biomass integration



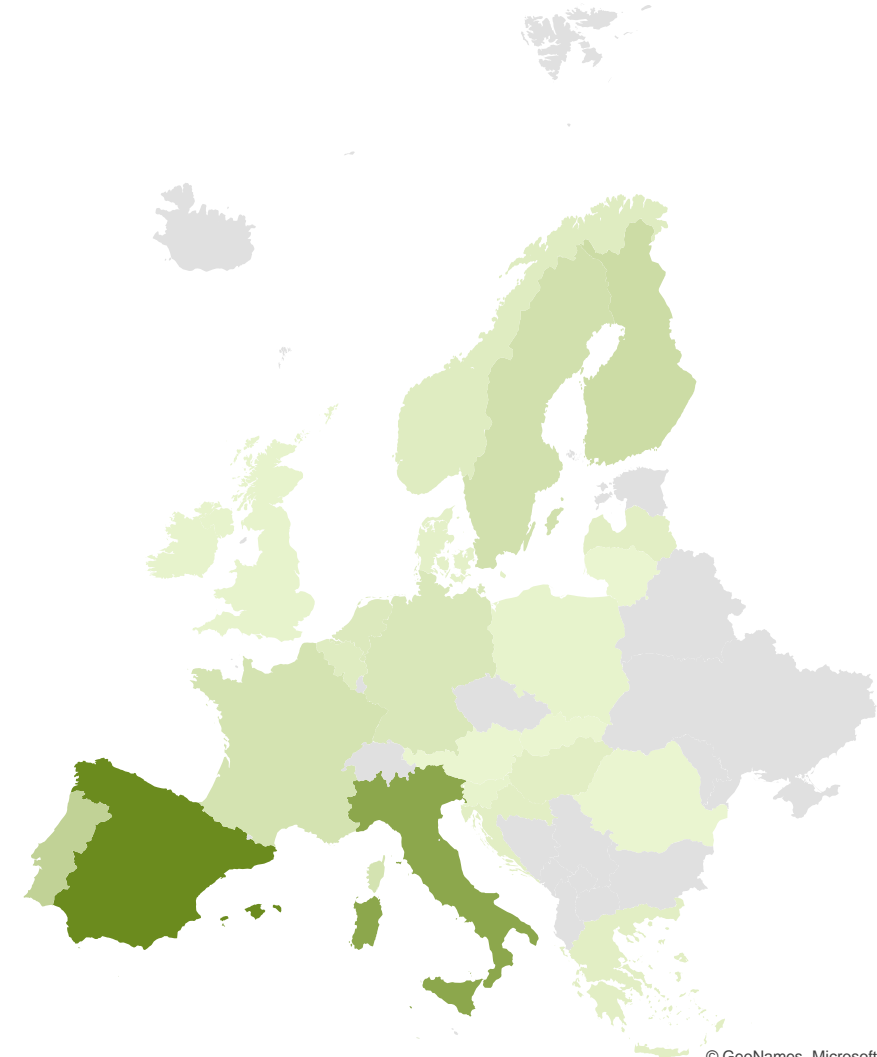
Challenges: forest fragmentation, seasonal fires, underdeveloped supply chains

District heating, CHP plants, and pellet production



Need for investment in harvesting & logistics

Advancements in bioplastics and bio-based chemicals



Key Challenges in Valorisation



Resource management & waste valorisation



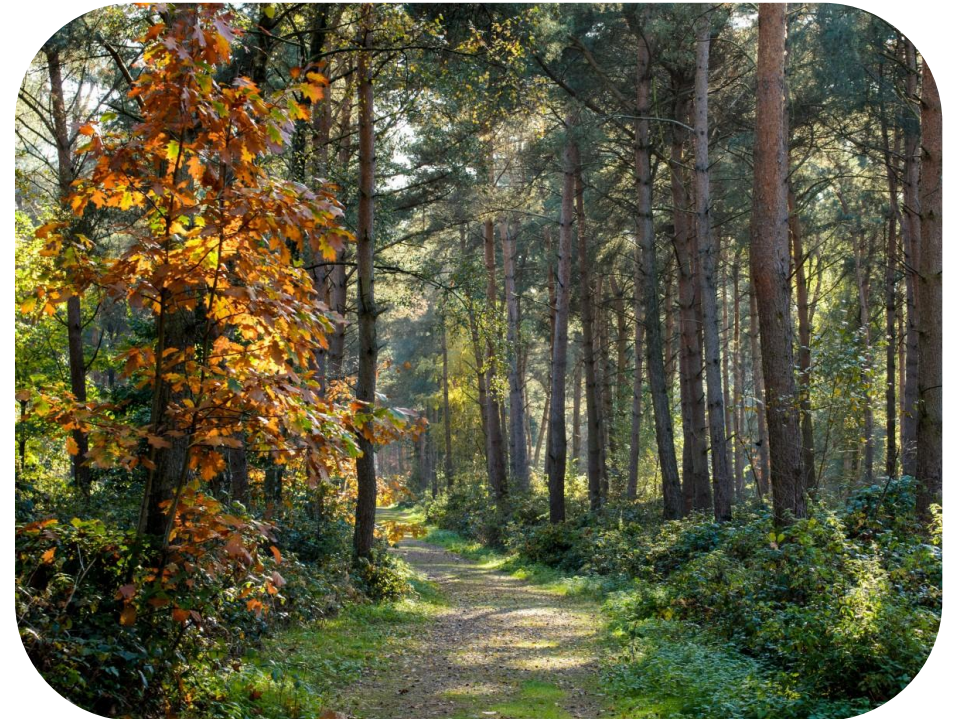
Socio-economic sustainability



Scaling innovative solutions



Market access & policy barriers



Most Common Solutions

Production changes
& new practices

Value chain
innovations

Technology
solutions
(biorefineries,
biochar, bioplastics)

Gaps in bioplastics
& chemicals



Main Thematic Areas for this WS



Wood & biomass management



Sustainable agriculture & forestry



Biotechnology innovations



Circular supply chain enhancements

Why Focus on These Building Blocks?



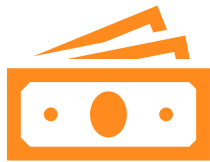
1. Traditional Value Chains:
Optimizing existing forestry by-product use



2. Innovative Value Chains:
Developing new bio-based products (bioplastics, biochar)



3. Business Models: Supporting sustainable, cooperative models benefiting rural economies



High-value products maximize economic and environmental benefits



Innovation ensures better integration of forest owners into the bioeconomy



Strengthening business models enhances sustainability and profitability



Policy support and collaboration are essential for success

Why Focus on High-Value Products Instead of Energy?

Energy valorization is well-established (e.g., bioenergy in Sweden & Finland).

High-value products (bioplastics, bio-based chemicals) offer greater economic potential.

Supports diversification and competitiveness for forest owners.

Aligns with EU bioeconomy and circular economy strategies.

Advantages of High-Value Products



Expanding market opportunities for bio-based alternatives.



Reducing dependency on fossil-based materials.



Generating higher revenues for forest owners.



Driving innovation in material science & biorefineries.



Supporting EU climate goals & circular economy strategy.

WHAT COULD HELP?

Strengthen

**National and regional
level policy alignment
with EU strategies**

Increase

**collaboration between
research & operational
projects**

Scale

**infrastructure for
valorisation**



Some food for thought



- How can forest owners better engage in high-value product markets?



ENHANCE FUNDING & PARTICIPATION FROM UNDERREPRESENTED REGIONS FOR PRIVATE FOREST OWNERS

- What policies or incentives are needed to support this transition?



STRENGTHEN CIRCULAR ECONOMY VALUE CHAINS AND INCLUDE PFO'S

- How can we strengthen business models to benefit rural communities?



LEVERAGE FORESTRY BY-PRODUCTS FOR SUSTAINABILITY FROM PRIVATELY OWNED FORESTS

EU CAP Network workshop 'Circular bioeconomy – Valorisation of forest by-products'

26-27 March 2025
Kouvola, Finland

All information on the workshop is available on the event webpage:

<https://eu-cap-network.ec.europa.eu/events/eu-cap-network-workshop-circular-bioeconomy-valorisation-forest-products>

