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# FOREST-BASED BIOECONOMY or Wood Value Chains

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# In forest-based context bioeconomy represents:



The utilization of forests in sustainable way to create products and services that help economics to replace fossil-based raw materials, products and services.



Whole forest-based value chain: from forest planning, forest management, forest harvesting, and use of other forest resources to the delivery of products and services to the market



# FOREST- BASED BIOECONOMY

- Forests and forest-based sector have a key roll in bioeconomy
- Demand should be properly balanced



## Wood as material

- Pulp and paper, wood products, biochemical, textiles, construction,...



## Wood as energy source

- bienergy sector



## Forest ecosystem services

- recreation, protection, biodiversity,

# Bioeconomy strategy in EU

Strategy addresses the production of renewable biological resources and their conversion into vital products and bio-energy.

It is needed to ensure that fossil fuels are replaced with sustainable natural alternatives as part of the shift to a post-petroleum society.

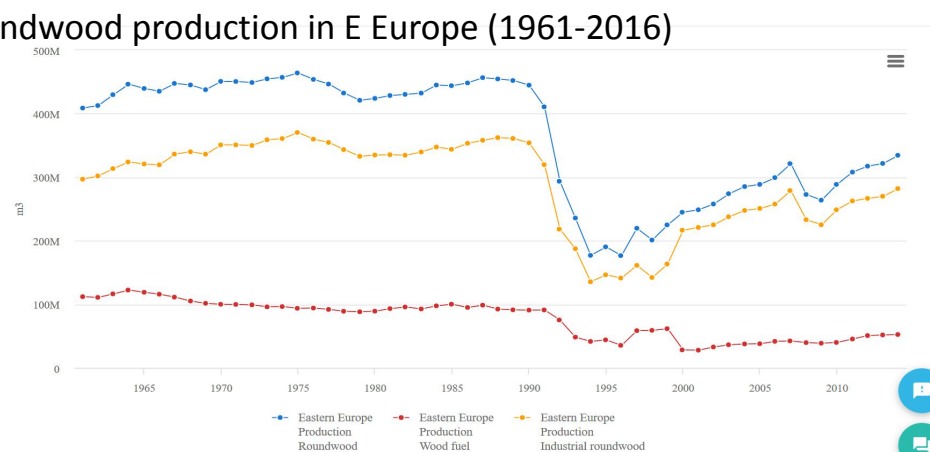
It is structured around three pillars:

- **Investments in research, innovation and skills;**
- Reinforced policy interaction and stakeholder engagement;
- Enhancement of markets and competitiveness.

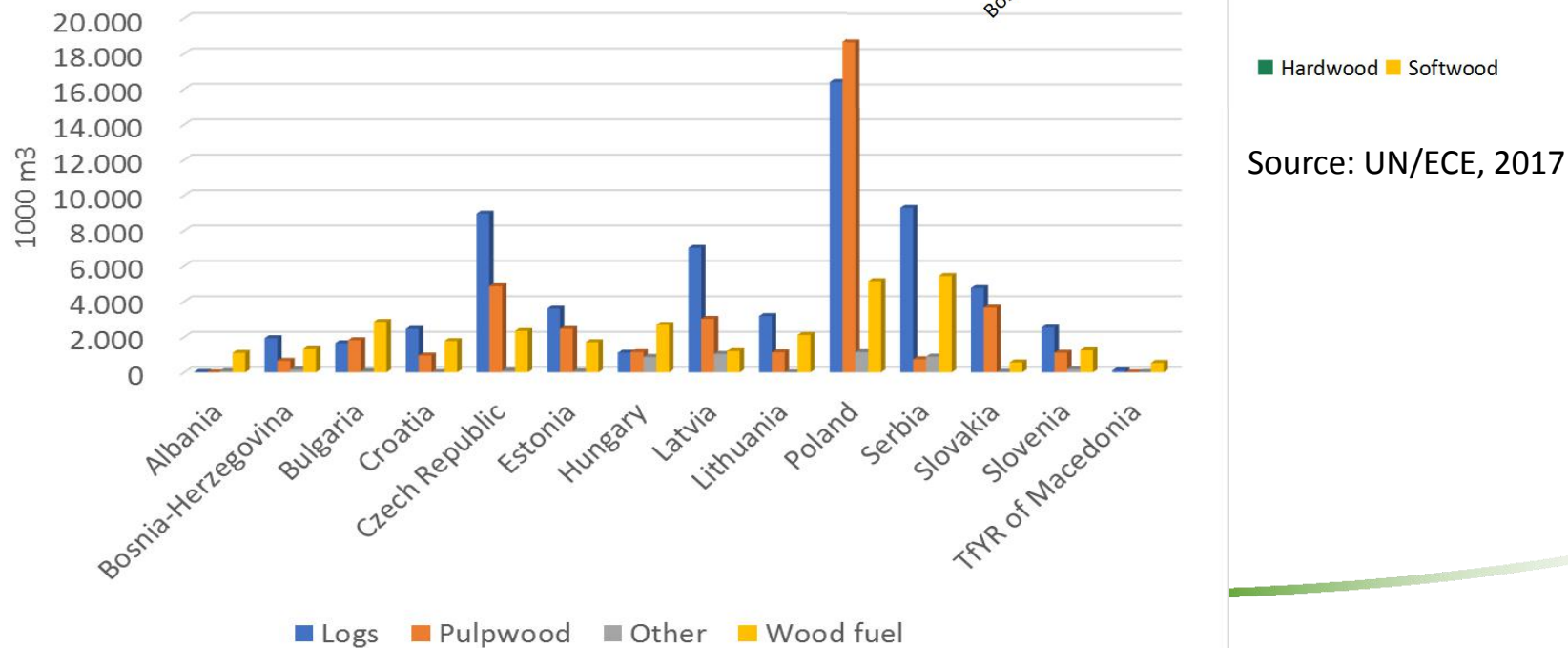
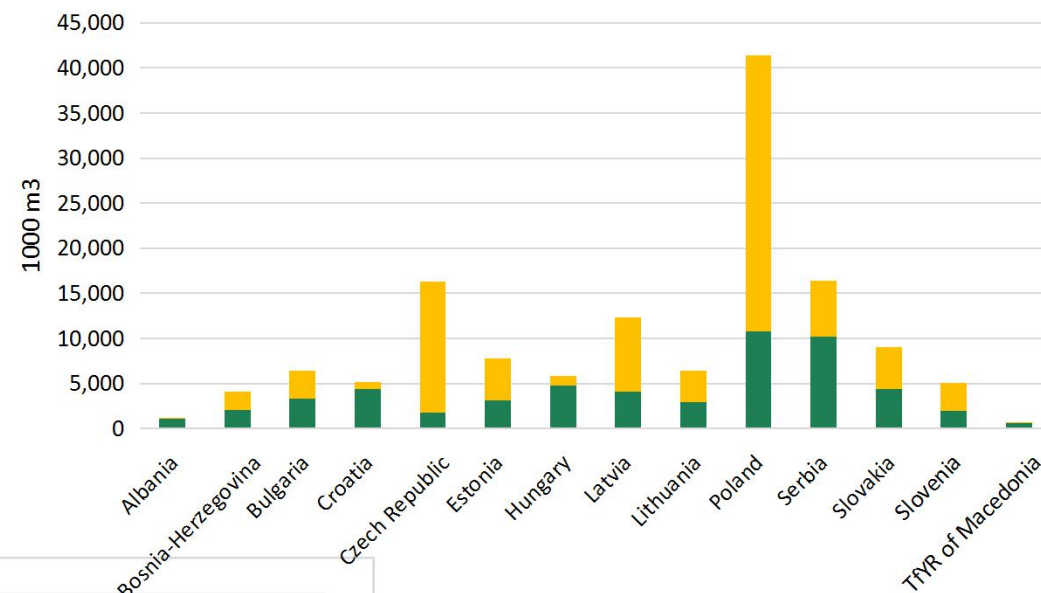


# Roundwood production in CEEC

Roundwood production in E Europe (1961-2016)



Source: FAOSTAT, 2017



Source: UN/ECE, 2017

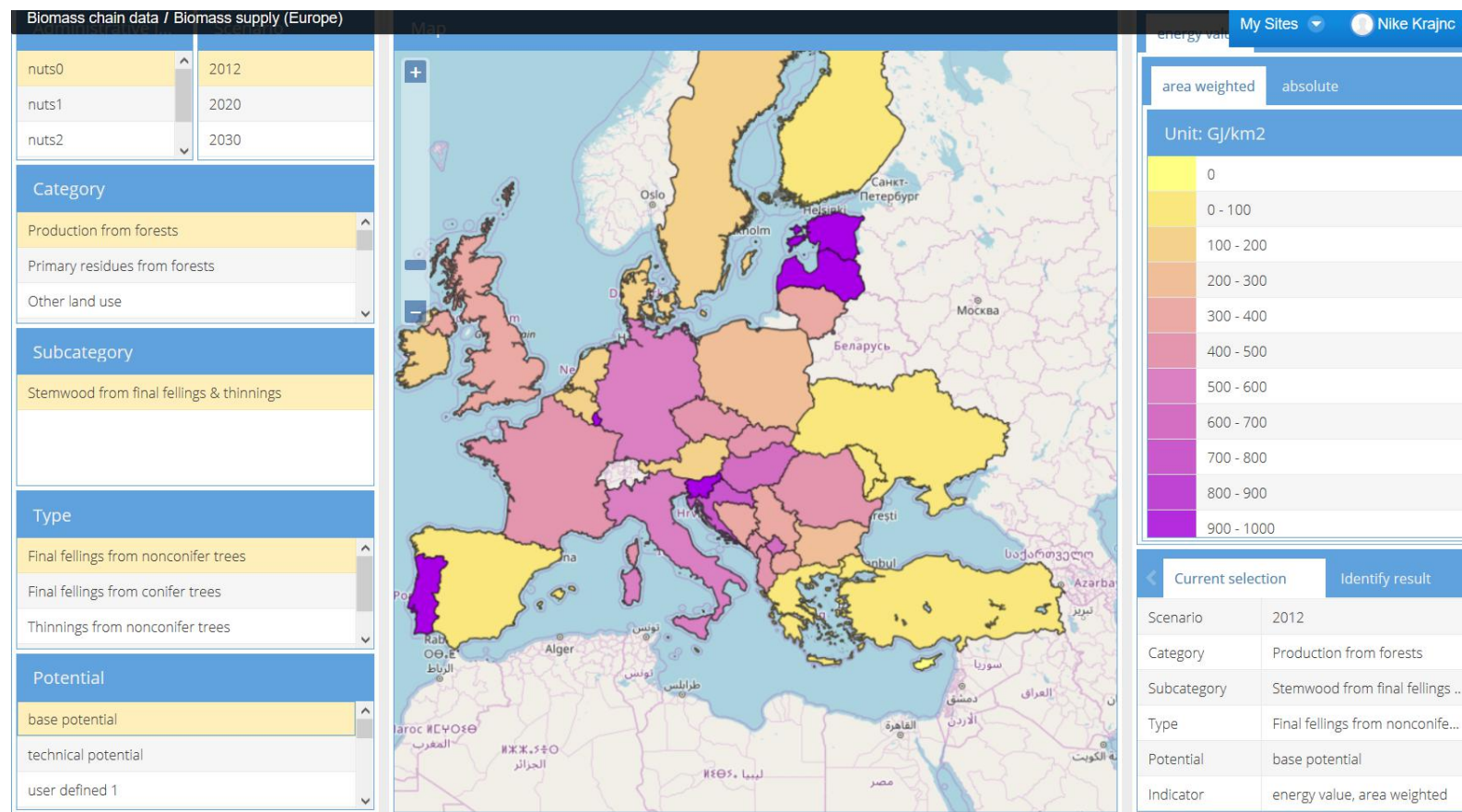


# **Investments in research, innovation and skills**

## **LOOKING FOR:**

- 1. POTENTIALS - RESOURCES**
- 2. TECHNOLOGIES**
- 3. TOOLS**
- 4. MOBILIZATION OF FOREST OWNERS**
- 5. MARKET ANALYSIS**

# Potentials for development of forest-based bioeconomy



<http://www.s2biom.eu/en/>

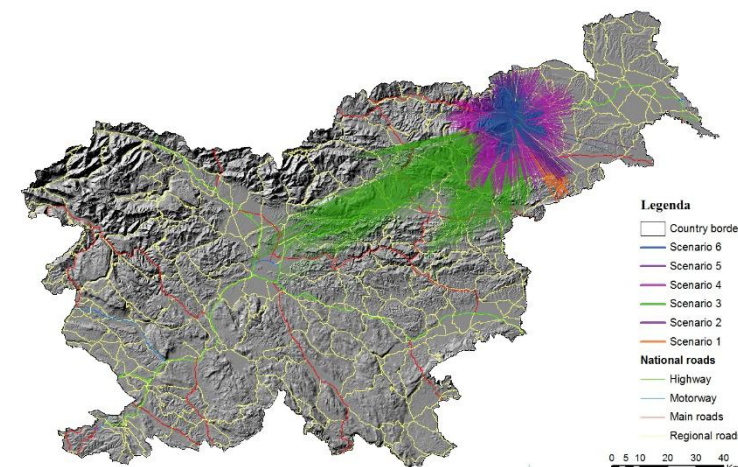
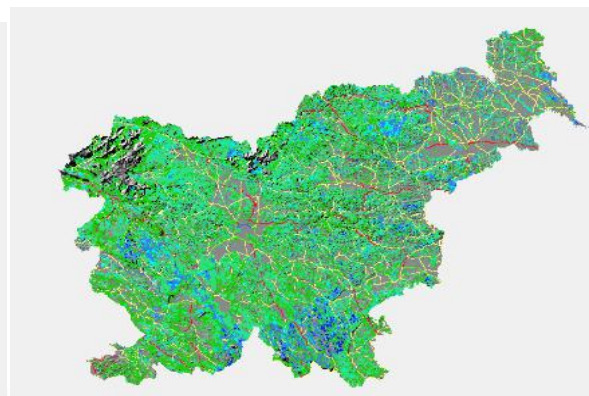
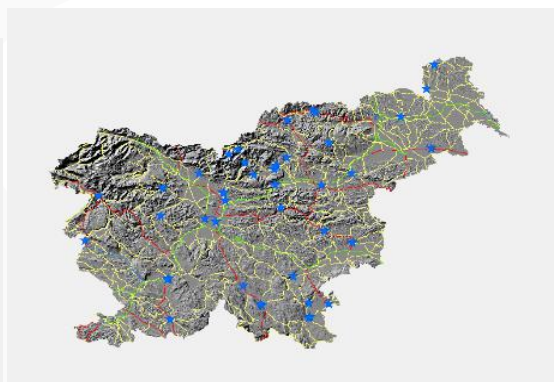
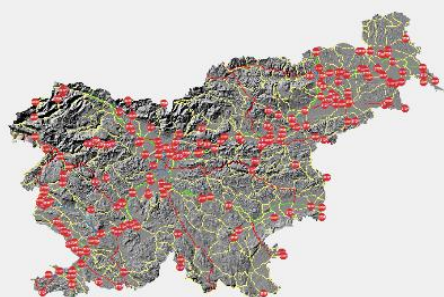


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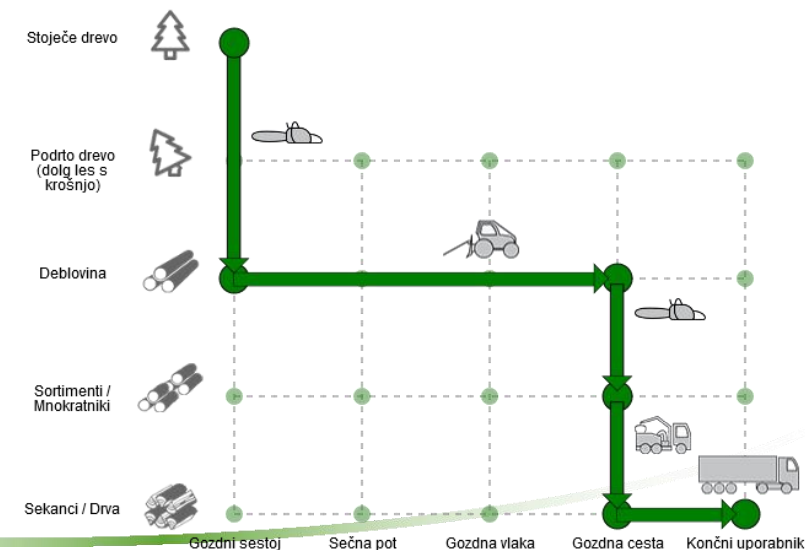
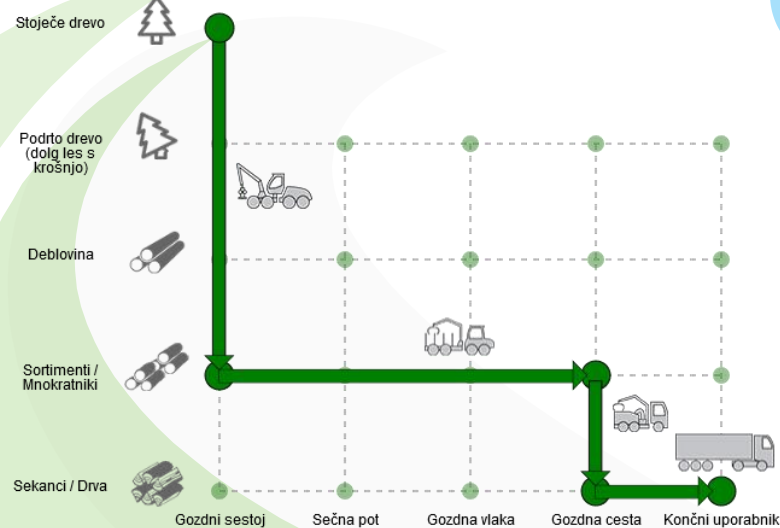
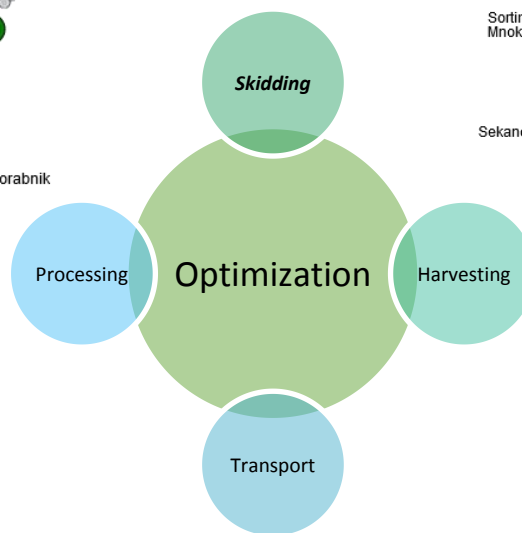
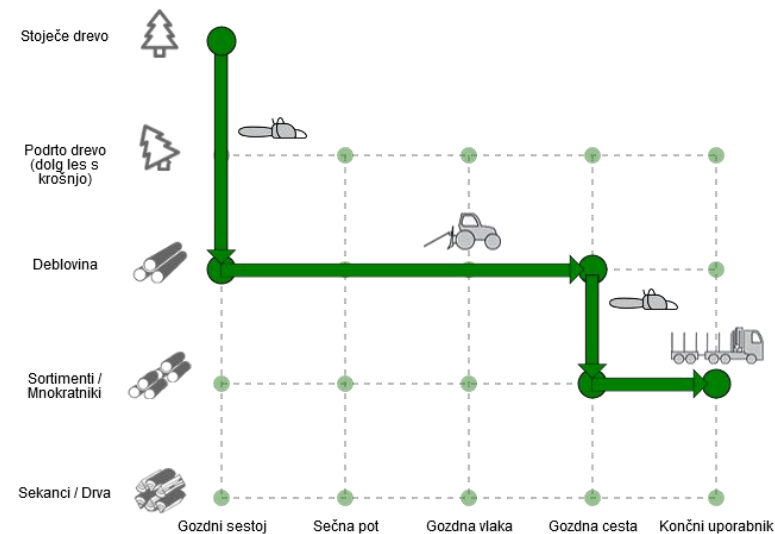
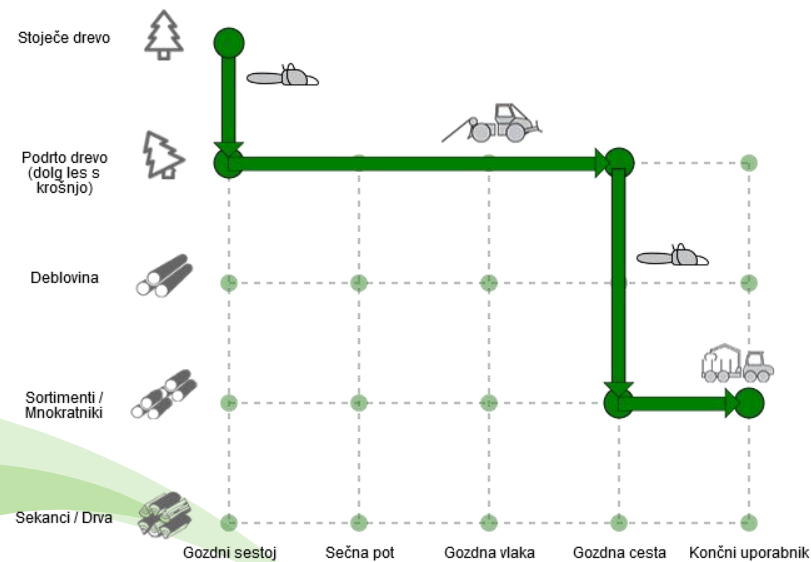
# Potentials on national scale

New methodology for estimation of wood potentials for new investments:

- Calculation of actual market quantities of wood is based on the market quantities of round wood, which include estimated present use.
- Theoretical market potential is maximum quantity of wood which could be harvested and offered on market (including home use) and meanwhile also ensuring sustainable forest management.



# New technology solutions along forest value chain



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# Development of tools to support value chains

Development of innovative Decision Support System (DSS) that facilitate low carbon and low cost wood supply chains

Novel generation of decision support tools for economically feasible wood harvesting while considering all forest functions (social, economic and environmental)

## Pillars of sustainability of wood mobilisation

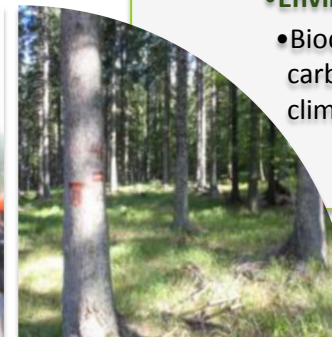
### •Economic

- Costs, profits, subsidies



### •Environmental

- Biodiversity, carbon sink, climate,



### •Social

- New jobs, local development,



### •Cultural

- Traditions, use of wood, use of forests



# Identified ideas for cooperation

**New logistic concepts in wood biomass production chains**

**Development of innovative Decision Support System (DSS) that facilitate low carbon and low cost wood supply chains**

**Decision support tools for economically feasible wood harvesting while considering all forest functions (social, economic and environmental)**

**Recycling of biofuel ashes in forestry**

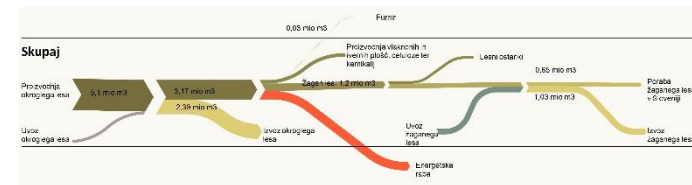
**Renewable Bioenergy from Short Rotation Coppiced (SRC) Plantation**

**Bio-ethanol 2G from forests residues**



# Slovenian forestry institute is looking for new partnerships in the field of:

- New logistic concepts in wood biomass production chains
- Development of innovative Decision Support System (DSS) that facilitate low carbon and low cost wood supply chains
- Novel generation of decision support tools for economically feasible wood harvesting while considering all forest functions (social, economic and environmental)
- Development of efficient wood biomass supply chains
- Assuring high quality of wood fuels
- Wood market analysis
- Monitoring prices of wood in the region





# Thank you for your attention

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