



**THE EUROPEAN WOOD WASTE
PLATFORM : WOOD WASTE RECYCLING
FOR CIRCULAR BIOECONOMY**

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‘Absorbing the Potential of Wood Waste in EU Regions and Industrial Bio-based Ecosystems – BioReg’

Sources of wood waste

Demolition wood



Industry



Municipal waste





MODEL REGIONS

Västsverige; Gothenburg (SE)
 Vorarlberg; Styria (AT)
 Karlsruhe; Baden-Wurttemberg (DE)
 Lombardy, Emilia-Romagna, (IT)
 North-West England (UK)

RECIPIENT REGION

Normandy (FR)
 Lubelskie (PL)
 Alentejo, Lisboa (PT)





European Wood Waste Platform – BIOREG

The first multi-stakeholder platform in Europe is dedicated to wood waste **to facilitate the identification and selection of best practices and success factors among European demonstrator (successful) regions** which have set up pertinent mechanisms all along the value chain of wood waste management (collecting, treatment, valorisation such as reuse, wood waste to materials, wood waste to Energy) and outputs management (gas, ash, other waste from valorisation processes)





The platform aims to:

- **improve wood waste management** in Europe along the value chain by increasing its collection rate and reducing bad practices such as landfilling or combustion without smoke treatment.
- **replicate the most relevant industrial ecosystems** in deficient regions, by following the logic of a cascading system and the circular economy.
- **provide information** on the expected evolution of the regulatory and normative framework at a national and European Scale (regulatory watch), or structural trends (cascade use, carbon storage, circular economy, etc.).





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The analysis of: <https://www.bioreg.eu/platform/>

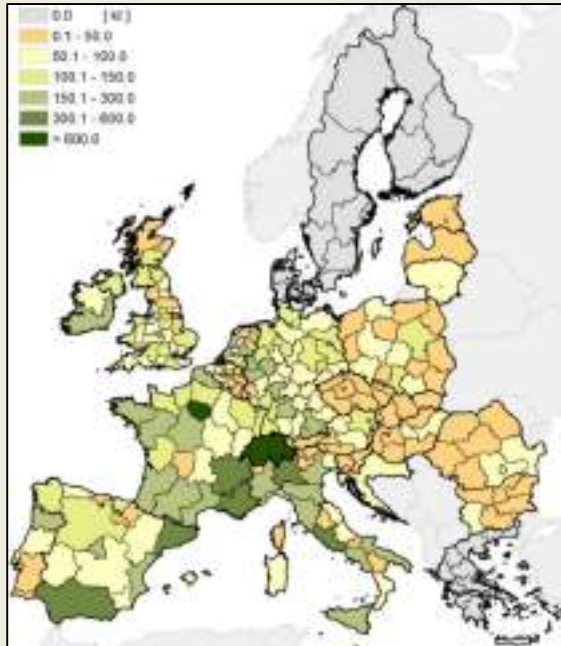
- geographical context,
- market,
- recycling or recovery rate,
- specific policies,
- management, (collecting, sorting, treatment, supply),
- valorization,
- favorable environment.



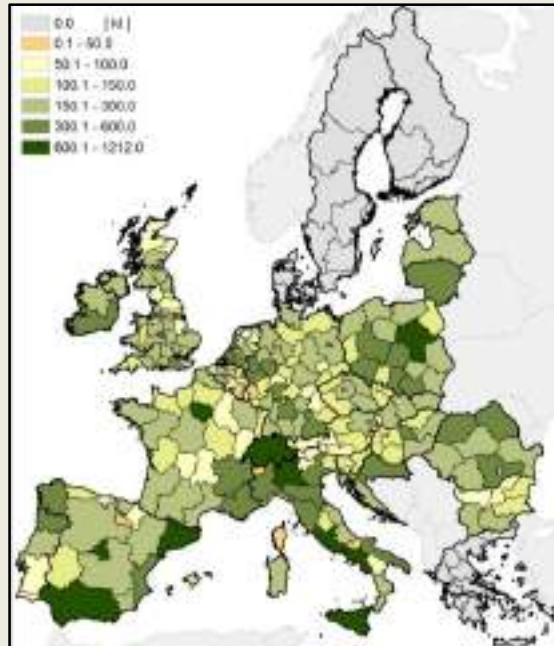
Geographical context



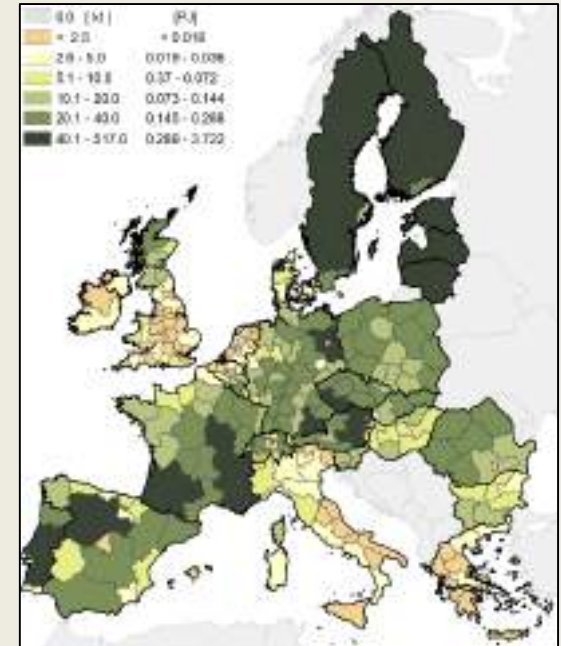
Theoretical potential of **municipal wood waste**



Theoretical potential of **construction and demolition wood**



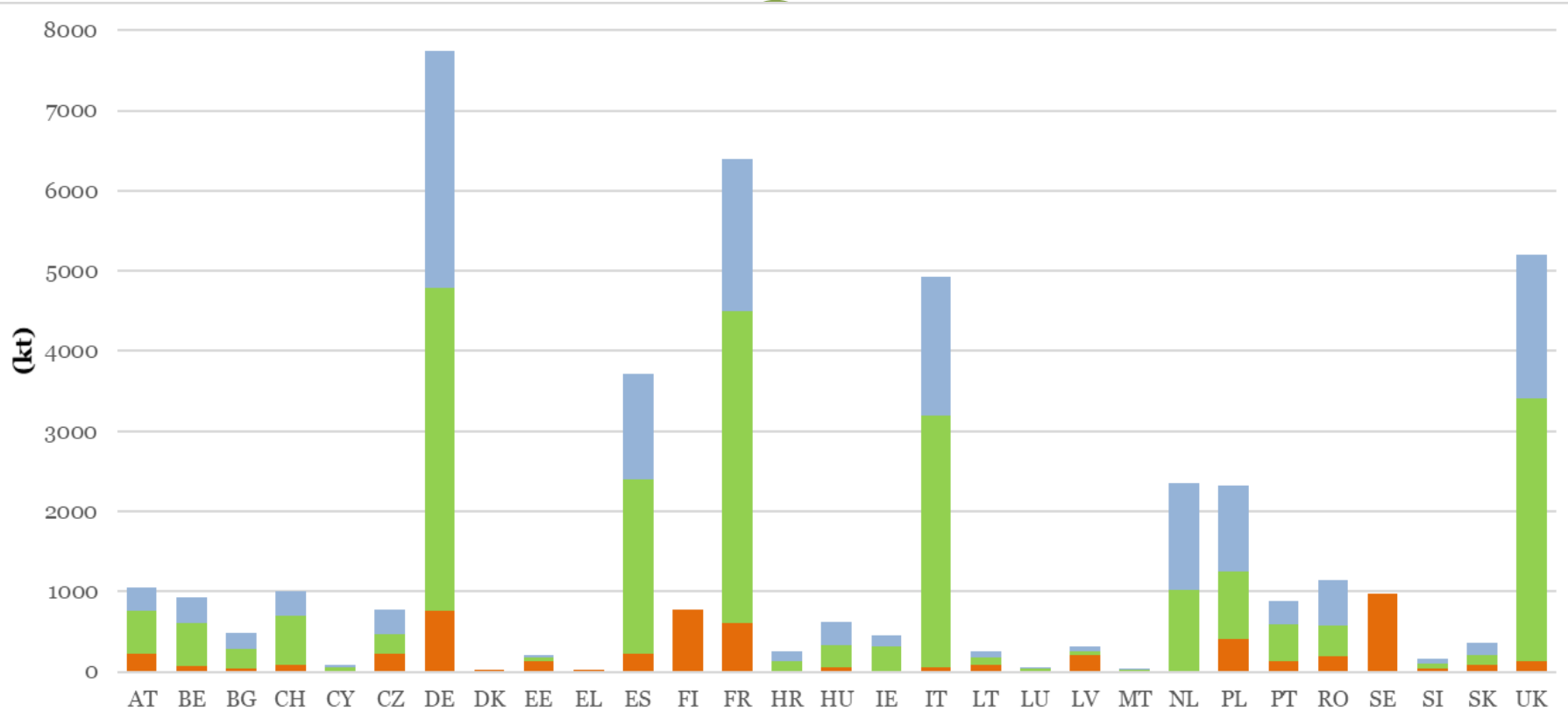
Technical potential of wood waste from **wood industry**



Sources: Borzęcki K., Pudielko R., Kozak M., Borzęcka M., Faber A. Spatial distribution of wood waste in Europe. SYLWAN, 2018, r. 162 (7): 563-571



Total theoretical potential of wood waste in EU = 50 Mt



■ **industry-5.6 Mt**
■ **municipal-24.33 Mt**
■ **demolition&construction-19.17 Mt**

7.85% of estimated waste biomass and by-products of the EU



Geoportal

OVERLAYS

Wood waste management Waste energy plants

Technology providers Research institutions

Panel producers Biomass power plants

Associated members

MAPS

Wood waste Theoretical Density

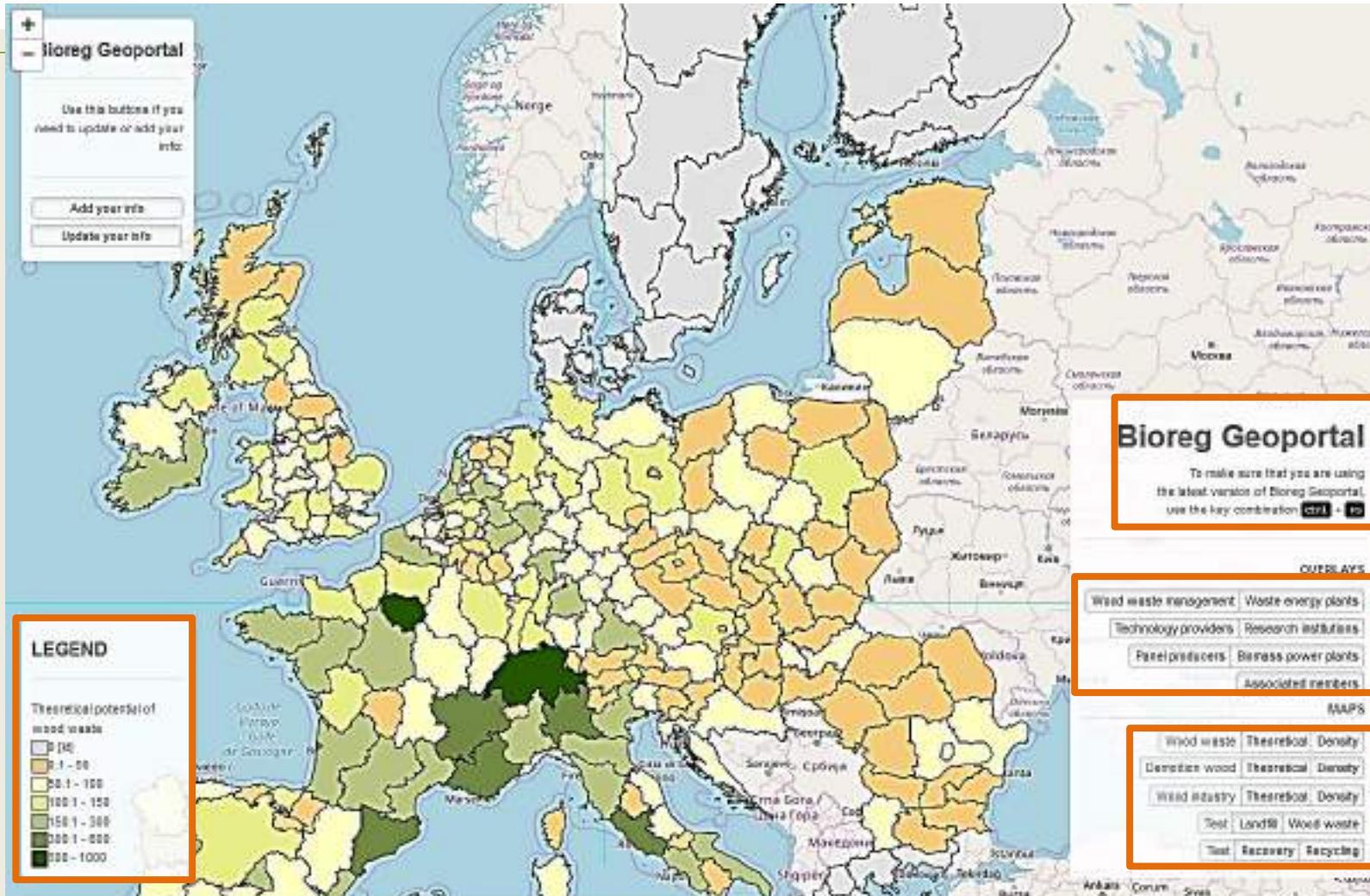
Demolition wood Theoretical Density

Wood industry Theoretical Density

Landfill Wood waste

Recovery Recycling

Geoportal



Map description

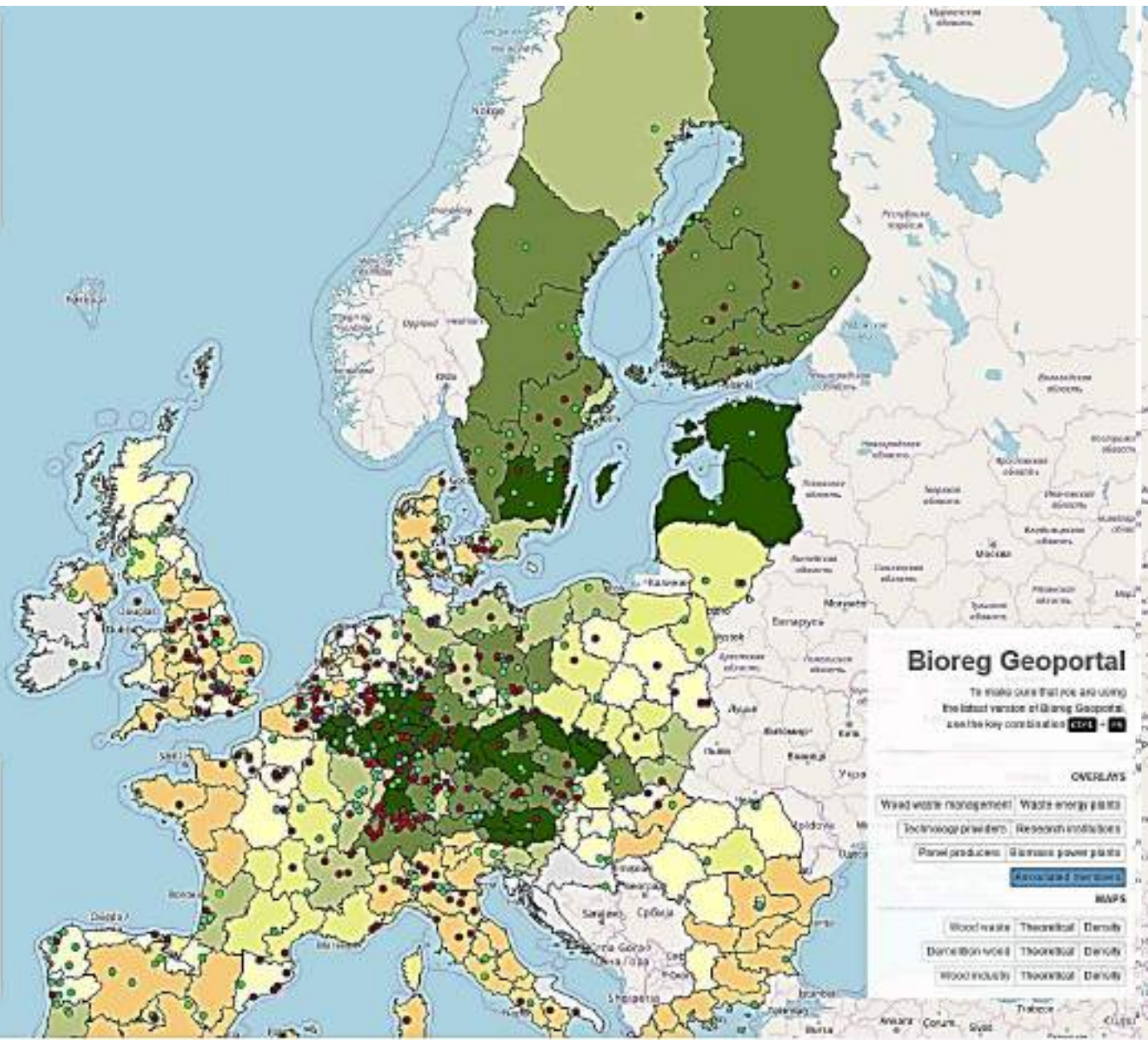
The map of wood waste from municipal waste was based on 2006 IPCC Guidelines for National Gas Inventories. The amount of wood waste depends on the region. In the Northern Europe (Denmark, Finland, Iceland, Norway, Sweden) 10% of MSW are wood waste, in the Eastern part (Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia) it is 7.5%, in Southern Europe (Cyprus, Greece, Italy, Malta, Portugal, Spain, Turkey) 10.6%, the highest amount of wood waste is in the Western Europe (Austria, Belgium, France, Germany, Ireland, Luxembourg, Netherlands, Switzerland, United Kingdom) 11%.

Bioreg Geoportal

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LEGEND

Density of bioreg potential of wood industry

0-0.5
0.5-1
1-1.5
1.5-2
2-2.5
2.5-3

Bioreg Geoportal

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OVERLAYS

Wood waste management Waste energy plants
 Lockwood providers Research institutes
 Panel producers Biomass power plants

[Download the maps](#)

MAPS

Wood waste Theoretical Density
 Biomass power plants Theoretical Density
 Wood industry Theoretical Density

Map description

The map presents the potential of wood industry by products. The data on wood industry waste was obtained from the BioRe project. The potential of biomass from wood industry is grouped in four factories by products by products from pulp and paper industry by products from forest industry by products from other wood processing industries.

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OVERLAYS

Waste management | Waste energy plants
 Energy producers | Research institutions
 Forest producers | Biomass power plants
 Associated members

MAPS

Wood waste	Theoretical	Density
Chemical in wood	Theoretical	Density
Wood industry	Theoretical	Density



Marker status:

Click and drag the marker:

Current position:

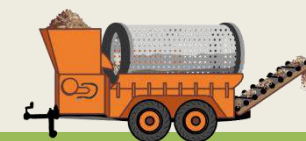
42.69971693279846 -Xcoordinates,
23.303788131713873 -Ycoordinates

Closest matching address:

bul. "Aleksandar Stamboliyski" 124, 1303 Sofia
Center, Sofia, Bulgaria

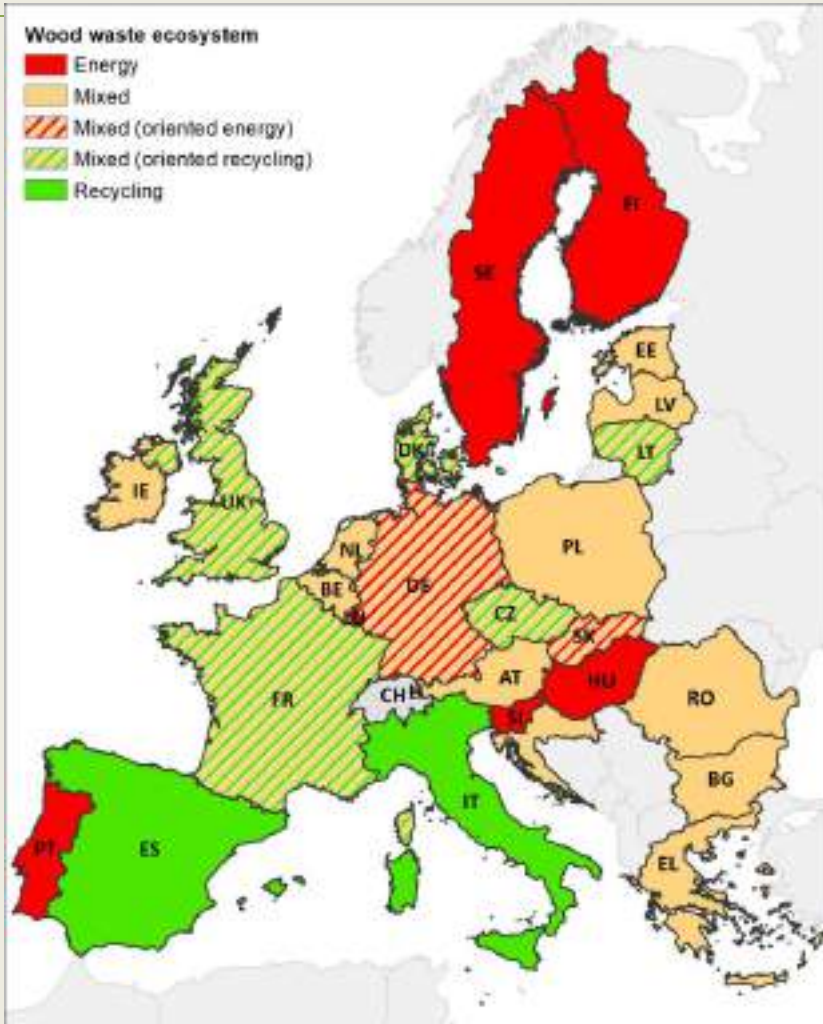
Registration form:

Company name:*	<input type="text"/>	Phone number:	<input type="text" value="42.69971693279846"/>
Company type:*	<input type="text"/>	Company address:	<input type="text" value="23.303788131713873"/>
Year of establishment:	<input type="text"/>	Input material (ton):	<input type="text"/>
Waste wood % in total capacity:	<input type="text"/>	Output material (ton):	<input type="text"/>
Overlay:*	<input type="text" value="Choose overlay"/>	Total capacity (ton):	<input type="text"/>
References:	<input type="text"/>		
Web page:	<input type="text"/>		
Other information:	<input type="text"/>		
Contacts:	<input type="text"/>		
Logo:	<input type="text" value="Prilagodi"/> <input type="text" value="Nia vybrano pliku"/>		
<input type="button" value="Submit"/>			



Wood waste ecosystem

- Energy
- Mixed
- Mixed (oriented energy)
- Mixed (oriented recycling)
- Recycling



Three types of ecosystems were distinguished:

- energy recovery,
- recycling,
- mixed.



1 – Structure the offer of wood waste products by setting up a classification



- Considering the examples of existing classifications (**ISO standards, German, Finish and British regulations**), the specifications and structuring needs in relation to recycling and energy recovery systems, and after hearing stakeholders and players, it is recommended for beneficiary regions, that wood waste could be classified into four groups :

Classes	Composition criteria	Targeted origins	Main uses and recovery modes
I	Recovered virgin wood waste	Packaging wood; Solid wood processing waste without adjuvants	Material recovery (panels)
II	Recovered wood without organohalogens and with low levels of heavy metals	Waste from furniture components; Construction waste; Second wood processing companies' waste	Material recovery (panels) Combustion installations
III	Recovered wood with organohalogens and heavy metals, but not considered as hazardous waste	Demolition and renovation waste; Mixed wood waste; Second wood processing companies' waste. All wood waste that do not respect the Class II specifications	Energy recovery in incineration and co-incineration installations
IV	Impregnated wood waste classified as hazardous waste	Impregnated wood waste : creosote wood (railway sleepers), autoclaved wood CCA (outside wood like cladding, garden huts, wooden terraces)	Energy recovery in hazardous waste incinerators





TOOLBOX OF EU SUCCESS FACTORS



Toolbox of EU success factors

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Policy Makers

- Key Activities

Waste Management Stakeholders

- Key Activities

Recycling Units

- Key Activities

Energy Processing Units

- Key Activities

Research and Academia

- Key Activities

General Public

- Key Activities



Policy Makers

[Main Page](#)

Supporting policy-makers developing adaptive policies and legislation in Europe towards wood waste valorisation is the main aim of this tool.

This step defines that a **current baseline analysis of the existing institutional, political and legal framework in wood waste valorisation** is needed. The scope and direction of necessary interventions is then derived from comparing the regulatory framework with the defined objective, for example, encouraging the valorisation of wood wastes either by energy recovery or recycling into new materials.

The implementation and development of wood wastes policies depend on various factors. These include governance, communication, shared common objectives, financial resources and influence, coordination of actions and stakeholder and public management, amongst others.

Key-Question:

Are there local, regional or national legislation and policies that promote wood waste valorisation?

STEPS



Policy Makers

[Main Page](#)

Step 1

- Identification of the existing institutional, political and legal framework in wood waste valorisation

Step 2

- Identification if the existing institutional, political and legal framework in wood waste valorisation is effective or if building a good regulatory framework that will enable the wood waste valorisation is needed

Step 3

- The existing institutional, political and legal framework in wood waste valorisation is effective - no further action is needed

Step 4

- The existing institutional, political and legal framework in wood waste valorisation needs to be improved



Policy Makers

Examples from model regions

Austria

Italy

United Kingdom

Sweden

Germany



Policy Makers

Steps

Main Page

Austria

Legislation and regulations

Austrian Waste Management Law (WML 2002)

- Definition of overall framework conditions
- Order of priority for waste management measures:
 1. Waste prevention/avoidance
 2. Preparation for re-use
 3. Recycling
 4. Other utilization measures (e.g. combustion)
 5. Disposal
- Definition of areas of responsibility
 1. Municipal waste and waste from commercial operations similar to municipal waste is managed by the nine Austrian provinces (municipal wood waste, demolition wood)
 2. All other waste is managed at federal level (industrial waste wood streams)

Examples from model regions



Lessons and recommendations for recipient regions

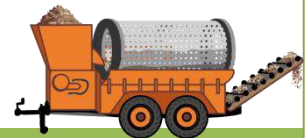


- The good practices identified in the model regions have highlighted the deficiencies in our regions that explain their backwardness in terms of wood waste recovery
- These lessons and recommendations are organized around 5 main themes :
 - Set up a classification of wood waste
 - Remove wood waste from traditional channels
 - Develop sorting of different classes of wood waste
 - Promote material recovery in panels
 - Develop and optimize energy recovery



The European wood waste platform will assist members in:

- **getting access to good practices** from model regions
- **presenting their company** and their skills using the Geoportal
- **displaying their products, services and offers** as well as proposals for cooperation
- **identifying and contacting potential partners** in the wood waste sector easily and directly at a European level
- **fostering the development of industrial projects**
- **fostering cooperation between regional authorities**
- **influencing policy makers** to adapt the relevant regulatory framework;





Thank you

<http://bioreg.eu/platform/>

