

# Workshop on Vision for the sustainable and resource efficient biomass use in Europe

## S2Biom project overview

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JRC, Ispra



Main objective: Delivery of sustainable supply of non-food biomass to support a resource-efficient Bioeconomy in Europe

- **Funding programme: 7<sup>th</sup> Framework Programme (FP7)**
- **Funding volume: 4 Mio € (EC co-funding)**
- **Duration: 36 Month (09/2013 – 08/2016)**
- **Participation: 31 Partners from 16 countries (EU28, Western Balkans, Moldova, Ukraine, Turkey)**
- **Project website: [www.s2biom.eu](http://www.s2biom.eu)**

# Project partners



| No. | Institution/Organisation (original language)  | Acronym          | Country code |
|-----|---|------------------|--------------|
| 1   | Agency for Renewable Resources  | FNR              | DE           |
| 2   | Imperial College  | Imperial         | UK           |
| 3   | Stichting Dienst Landbouwkundig Onderzoek   | DLO              | NL           |
| 4   | University of Freiburg  | ALU-FR           | DE           |
| 5   | Joanneum Research   | JR               | AT           |
| 6   | International Institute for Applied Systems Analysis                                      | IIASA            | AT           |
| 7   | European Forest Institute   | EFI              | FI           |
| 8   | Natural Resources Institute Finland   | LUKE             | FI           |
| 9   | VTT Technical Research Centre of Finland  | VTT              | FI           |
| 10  | University of Bologna   | UniBO            | IT           |
| 11  | Energy research Centre of the Netherlands   | ECN              | NL           |
| 12  | Flemish Institute for Technological Research  | VITO             | BR           |
| 13  | IINAS - International Institute for Sustainability Analysis and -Strategy                 | IINAS            | DE           |
| 14  | Clever Consult  | CC               | BE           |
| 15  | SYNCOM Research and Development Consulting GmbH   | SYNCOM           | DE           |
| 16  | WIP Renewable Energies  | WIP              | DE           |
| 17  | Biomass technology group BV   | BTG              | NL           |
| 18  | Central European Initiative   | CEI              | IT           |
| 19  | Institute of Soil Science and Plant Cultivation, State Research Institute                 | IUNG             | PL           |
| 20  | International Centre for Sustainable Development of Energy, Water and Environment Systems | SDEWES           | HR           |
| 21  | Ege University Solar Energy Institute   | EU-SEI           | TR           |
| 22  | National Institute for Agricultural Research  | INRA             | FR           |
| 23  | Joint Research Centre   | JRC              | IT           |
| 24  | CENER-CIEMAT Foundation   | CENER            | ES           |
| 25  | Research Centre for Energy Resources and Consumption                                      | CIRCE            | ES           |
| 26  | Slovenian Forestry Institute  | SFI              | SI           |
| 27  | Centre for Research & Technology Hellas   | CERTH            | EL           |
| 28  | Renewable Energy Agency   | REA              | UA           |
| 29  | University of Belgrade - Faculty of Mechanical Engineering                                | UBFME            | RS           |
| 30  | Census-Bio  | Census-Bio       | UK           |
| 31  | Biomass Research  | Biomass Research | NL           |



- *to support the sustainable delivery of non-food lignocellulosic biomass at local, regional and pan-European level through developing Strategies, and Roadmaps that will be informed by a “computerized and easy to use” planning toolset (and respective databases) with up to date harmonized data for EU28, western Balkans, Turkey, Moldova and Ukraine.*
- *Research work foreseen will cover the whole biomass delivery chain from primary biomass to end-use of non-food products and from logistics, pre-treatment to conversion technologies.*
- *The spatial level of analysis both for the toolset and the databases will be NUTS1 (country), NUTS2 (regional) and NUTS3 (local level).*

# We collaborate with:



**Key to the success, cost efficiency and value for money of this project is the utilisation of up-to-date, relevant information and data, including the following:**

- **EU projects: BEE, CEUBIOM, Biomass Futures, Biomass Policies, Biomass Trade Centres, CAPRI, Sector, Bioboost, Logistec, INFRES and EuroPruning;**
- **Biobased industries: close collaboration with key stakeholders from industry and market sectors.**
- **Energy Community: collaboration with Secretariat and Contracting Parties (e.g. Serbia, Macedonia, Moldova, Ukraine).**



## Theme 1: Data & Tools (WPs 1-4)

- Current and future sustainable lignocellulosic biomass costs and supply (domestic and from imports) in EU28; Western Balkans, Moldova, Ukraine and Turkey.
- Common operating data, models, and tools representing the entire biomass supply chain
- Incorporation of models and tools for technical, environmental, economic and social impact analysis


## Theme 2: Strategies & Roadmaps (WPs 5-8)

- Policy and regulations for supplying the future bioeconomy
- Support for future industrial investments
- Clarity on cross sector sustainability
- Strategies & Roadmap
- Ex ante impact assessment


## Theme 3: Validation & project outreach (WPs 9-10)

- Support for policymaking at local, national, regional and EU28 levels by visualizing the outcomes of proposed policies
- Case Studies
- Stakeholder engagement
- Information Campaign
- Improvement of public awareness, education, and outreach

## Theme 1 (WP1 – WP4)

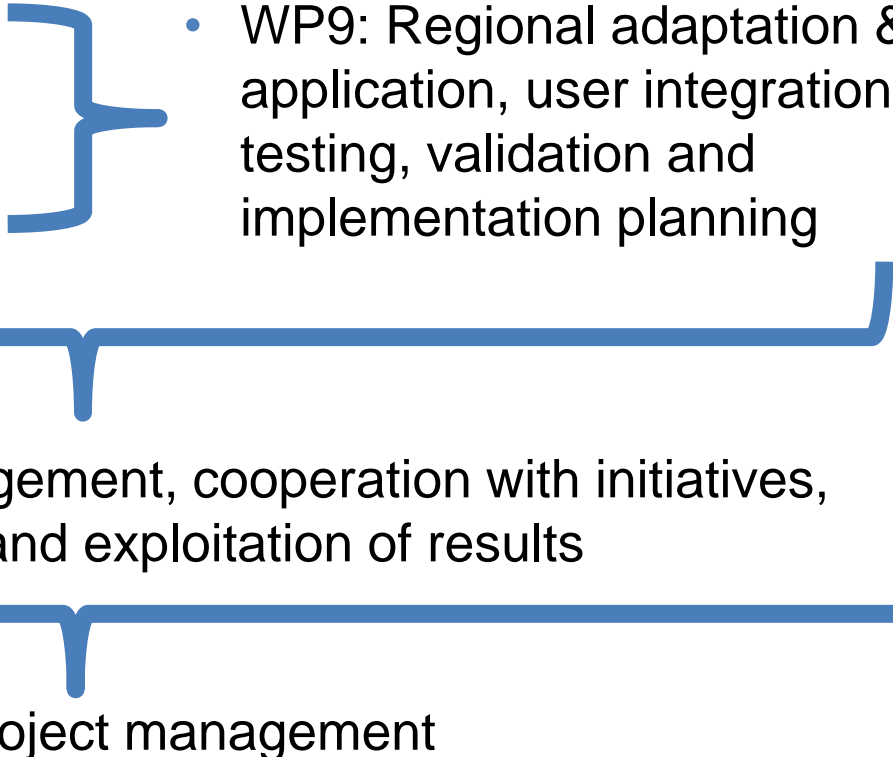
- **WP1: Sustainable biomass cost-supply**
  - **WP2: Biomass conversion technologies for energy and bio-based products**
  - **WP3: Optimal logistics for sustainable non-food biomass feedstock delivery chains**
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- A large blue bracket on the right side of the slide, grouping the first three work packages (WP1, WP2, and WP3) together.
- WP4: Toolset for interactive biomass supply – demand matching in sustainable biomass value chains

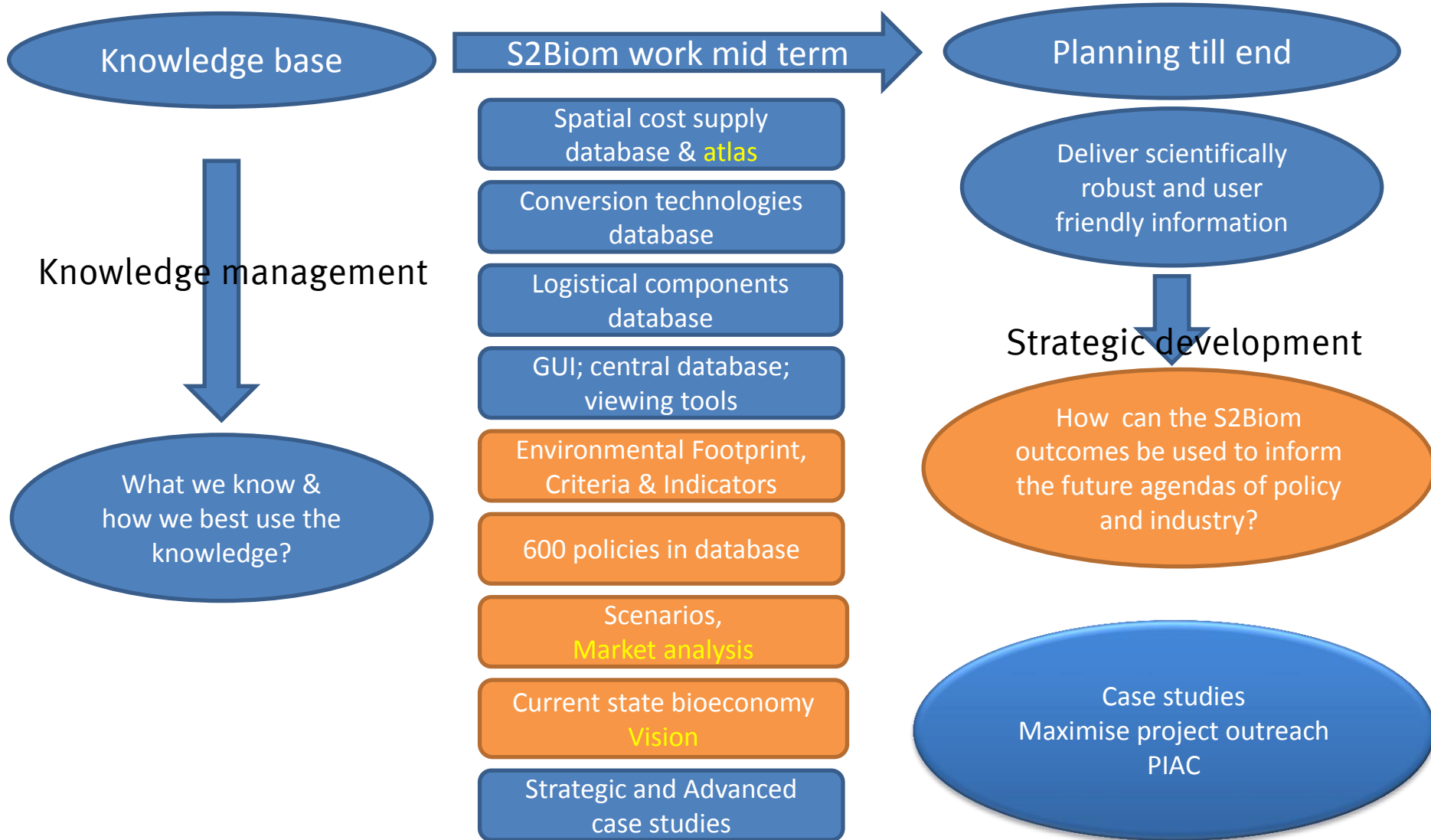
## Theme 2 (WP5 – WP8)

- **WP5: Value chain sustainability across the bio-based sectors**
  - **WP6: Regulatory & financial framework to mobilise non-food biomass to bio-based products & bioenergy market**
  - **WP7: Integrated Assessment-Optimisation of biomass supply chains to satisfy the demand**
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- A large blue bracket on the right side of the slide groups the three bullet points on the left (WP5, WP6, and WP7) together, pointing towards the WP8 bullet point on the right.
- WP8: Development of a vision, strategies, implementation plans and a R&D roadmap



## Theme 3 (WP9 – WP10) + Project management (WP11)

- **Theme 1: Results**
  - **Theme 2: Results**
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- A diagrammatic structure using blue brackets to group work packages. A vertical bracket on the right groups "Theme 1: Results" and "Theme 2: Results" with "WP9: Regional adaptation & application, user integration, testing, validation and implementation planning". A horizontal bracket below "Theme 1: Results" and "Theme 2: Results" groups them with "WP10: Stakeholder engagement, cooperation with initiatives, dissemination and exploitation of results". A horizontal bracket below "WP10" groups it with "WP11: Project management".
- WP9: Regional adaptation & application, user integration, testing, validation and implementation planning
  - WP10: Stakeholder engagement, cooperation with initiatives, dissemination and exploitation of results
  - WP11: Project management



## Large datasets in databases

- Sustainable cost supply of solid lignocellulosic biomass (forestry, biomass crops, agricultural residues, and secondary residues from wood and food industry, wastes) at NUTS3 level
- Characteristics of biomass for thermochemical and biochemical conversion pathways
- Pre-treatment technologies and logistics components
- Market techno-economic data for biobased product to market combinations
- Policies and support mechanisms for energy, agriculture, waste, environment, etc.

## Harmonised methodologies to assess biobased economy

- Biomass cost supply assessment
- Standardized biomass characterisation and quality requirement for each biomass conversion technology
- Characterization of main logistical components, i.e. storage, pre-treatment and transportation technologies.
- Life-cycle based environmental sustainability assessment with sustainability criteria and indicators.
- Policy analysis

**Tool demo for testing- new update within October – initial tailoring to case studies**

**Current state of biomass use for bioenergy, biofuels and bio-based materials & scenarios for modelling future demand in Europe**

**Strategic and advanced case study work initiated**

Database, method and atlas of sustainable non-food lignocellulosic biomass feedstocks at NUTS3 level for EU28, western Balkans, Turkey, Moldova and Ukraine.

Database, method and tool with indicators to assist decision makers in matching biomass types with the optimal conversion technologies.

Database, method and tool to evaluate promising logistics supply chains at local, regional level with sustainability and demand criteria

A computerised toolset integrating data and methodologies from biomass cost supply, conversion and logistics which will “facilitate the integrated design and evaluation of optimal biomass delivery chains at European, national, regional and local scale.

Harmonized sustainability requirements for bioeconomy value chains, including guidelines for methodologies to determine sustainability performance.

A database on EU and national level, for all 37 counties analysed in this call, and policy guidelines in relation to the mobilization of sustainable non-food biomass for the biobased economy.

Strategies & implementation plans for lignocellulosic biomass supply tailored to a) different levels of governance (i.e. regional and specific local ones linked to case studies) and ii) industrial sectors

Case studies to validate the Strategies, Roadmaps and the Tool from the users' point of view (i.e. Member States, Associates and neighbouring countries, regional authorities, industries)

# Thank you for your attention!



[www.s2biom.eu](http://www.s2biom.eu)



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