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BIOMASS ATLAS

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Biomass Atlas is an open service that collects location data about biomass under a single user interface. The online service promotes the use of renewable resources. The informational problems are usually the reason why firms do not adopt circular systems. In practice, it is very difficult to find out who could offer the right kind of renewable materials with volumes that are sufficient for commercial use.

The map user interface is easy to use and allows users to see, analyse and report on biomass from forestry, agriculture, and biodegradable waste from rural communities and industry. There are approximately 300 map layers of different biomass types or land use categories in the map user interface.

Making the classifications and updating the data following prescribed rules is not easy. The one-stop service makes the processing and analysis of data easier.

The Biomass Atlas service enables users to calculate the amount of biomass in a given geographical area, as well as examining the opportunities to utilise the biomass and restrictions on its use. The information can be used for planning, to invest in a new production plant that can use biomass as an input. Users can also look for new raw materials (like wood, bark, sawdust, dry twigs) for an existing processing plant that now uses peat.

Application scenario

Geographic information on biomasses from waste from rural communities and industry. Planning investments and raw material procurement, support for environmental and energy policies

Digital technologies

Online platform, thematic maps and data, decision support system

Socio-economic impact

- Economic: Lowering transaction costs in recyclables market, creating markets for wastes
- Environmental: Enhancing circular economy, fostering the use of manure
- Social: Locational data helps connecting producers and users of different types of biomass, transparency and traceability

More info: https://www.luke.fi/biomassa-atlas/en/

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Purpose of the tool

Biomass Atlas is an online service that collects location data about biomass under a single user interface. The free online service is open and can be used, for example, for planning investments and raw material procurement, as well as to support environmental and energy policies. The service enables users to calculate the amount of biomass in a given geographical area, as well as examining the opportunities to utilise the biomass and restrictions on its use.

Biomass Atlas contains information about the volumes and locations of almost 200 different types of biomass. This is useful information to support decision-making regarding investments and policies. In addition, it also helps bank managers who want to check quickly if the business plan for a new biorefinery is feasible in their region. It also helps when considering where to place process waste from a new production line.

Description of the tool

Biomass Atlas combines agricultural, forestry and rural domains. The multi-source nature of the information means that the platform gives a balanced and research-based view of the biomass situation in Finland. In the agricultural domain, field area data comes from the statistics of the Agency for Rural Affairs (Mavi). Information about forest resources is obtained from the National Forest Inventory. In the rural domain, biodegradable waste regulation helps with the data collection. Enterprises having an environmental permit for their operations are obligated to report annually on waste data to environmental authorities. Biomass Atlas also includes calculated amounts of biodegradable municipal waste.

In the map application, one can select the area freely or use preselected (administrative) areas. One can ask what the value of nutrient production in the area is, or the distribution of the relevant biomass in the area. Users can also choose a specific location and search for relevant biomass over a distance of 100 kilometres from that location. The distance option is useful, as the transportation of low-value biomass over long distances is not economically viable.

Areas of socio-economic impacts

Social	Improved decision making at municipal, regional and national level. Planning green investment is easier if all stakeholders have access to the same basic information.
Economic	The online service helps raw material procurement. Actors find quickly relevant side streams and raw materials. Platform creates new markets in regions where there were no trading places. Maps make it easy to find out if there are nearby producers who could join into value chains.
Environmental	Promoting the use of renewable resources, support for environmental and energy policies.