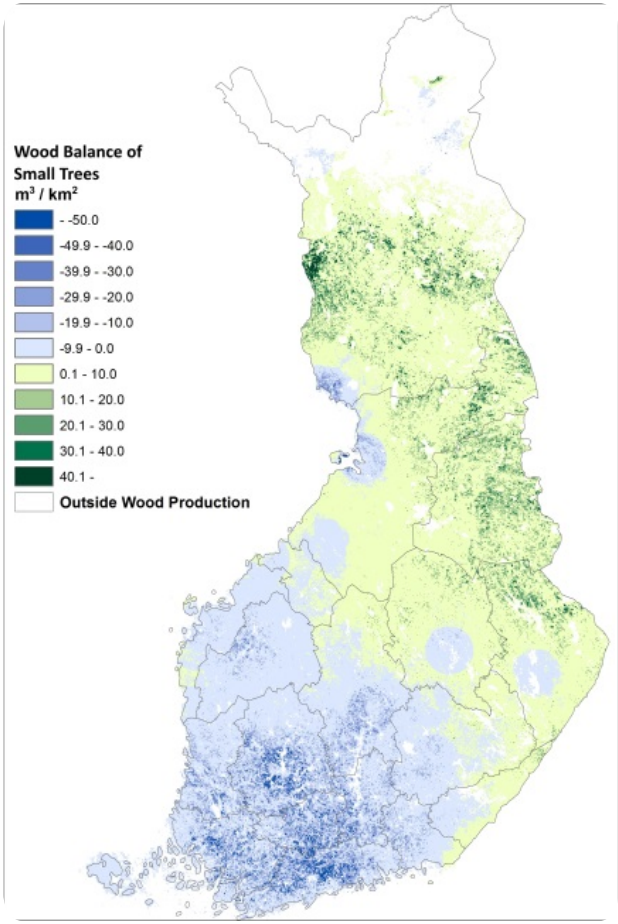
Assessment method for energy wood biomass feedstock availability and transport costs at regional level



Spatially explicit GIS-method and a collection of tools to assess the energy wood biomass availability and transport costs at regional level to any given end-use location. In the process the technical harvesting biomass potential, local competing demand and the wood resource balance are assessed. The transport costs from the grid of supply points can be viewed as a function of transport distance. Also, different future growth and demand scenarios can be included into calculations thus providing a valuable decision support to investors of energy wood industry.

Most customer projects differ from every other project in some respect. Calculation methods need more or less adjustment.

Results from the analysis: 1. Numerical (GIS) maps of biomass potential for any given timber assortment, biomass demand and wood resource balance (e.g. balance of small trees, see picture above).

2. Graphs depicting transport costs as a function of distance. 3. Spreadsheets of the result data used for graphs. 4. Summary report of the results for the customers.

For more information, see the reference.

DETAILS

ORIGIN OF WOOD
Forest

TYPE OF WOOD
Stemwood

KIND OF WOOD CONCERNED
Above and below ground woody biomass (ex. shrubs, wood for fibres, wood for energy), Stemwood, Industry

IMPACT ON ENVIRONMENT & BIODIVERSITY
Medium (see above)

INCOME EFFECT
Not possible to assess.

EXPLOITATION POTENTIAL
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HUB
Northern Hub

ECONOMIC IMPACT
Positive, helps the customers to plan their business in a more detailed way

SPECIFIC KNOWLEDGE NEEDED
Comprehensive database, coding

MOBILIZATION POTENTIAL
Not possible to assess.

SUSTAINABILITY POTENTIAL - VALUE
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EASE OF IMPLEMENTATION
Easy (the assessment is done by research experts, customers only need to define the basic requirements and calculation area)

EASE OF IMPLEMENTATION - EVALUATION
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KEY PREREQUISITES
Available on request for the customers in Finland only at the moment.

TYPE OF EVENT WHERE THIS BPI HAS BEEN FEATURED
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JOB EFFECT
Positive, helps the customers to plan their business in a more detailed way

COSTS OF IMPLEMENTATION (EURO - €)
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MORE DETAILS

CHALLENGE ADDRESSED

5.- Enhance economic and environmental performance of forest supply chains

KEYWORDS

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COUNTRY OF ORIGIN

Finland

DOMAIN

Forest management, ecosystem, resilience

Harvesting, infrastructure, logistics

DIGITAL SOLUTION

Yes

SCALE OF APPLICATION

National

TYPE OF SOLUTION

Modelling, simulation, optimization

INNOVATION

Yes

START AND END YEAR

2016 -

CONTACT DATA

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REFERENCES AND RESOURCES

MAIN WEBSITE

https://efi.int/sites/default/files/files/events/2018/innovation_workshop-Nivala.pdf

PROJECT WEBSITE

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PROJECT REFERENCE

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RESOURCES

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LOGO OF BEST PRACTICE

LOGO OF MAIN ORGANIZATION

Luke
NATURAL RESOURCES INSTITUTE FINLAND

PROJECT UNDER WHICH THIS FACTSHEET HAS BEEN CREATED

Rosewood

POST DATE

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A TOOL FROM ROSEWOOD 4.0, DESIGNED AND DEVELOPED BY

cesefor
Centro de Servicios y Promoción Forestal y de su Industria de Castilla y León