

Business models for forest owners in northern Finland

The concept:

This report presents different possibilities, how forest owners can benefit from forest bio economy in Finland. The different options are briefly presented from the perspective of forest owner. The different business models introduced are:

1. traditional wood supply
2. rental of land for production of electricity (wind- & solar power) carbon trade
3. state-based biodiversity protection
4. market-based biodiversity protection
5. non-wood forest products Iqa

Due to restrictions set by the competition law and due to the lack of an official registers of the sale prices of all the different business models, price data could not be provided in addition into the canvases.

Feasibility:

All options require a contract to be made at some part of the process. Forest owners are highly recommended to carefully consider all aspects before engaging into certain land-use possibility and with low-threshold approach expert advice in the decision-making process. Many of the opportunities described can offer contracts requiring commitment for several decades. Several possibilities listed are new income models for forest owners, such as land rent for energy production, carbon trade and market-based biodiversity protection, due to which well-established practices are only about to take shape.

Forest owners are encouraged to extensively search information and possible partnerships. Tendering for different options is highly encouraged for all the possibilities, as it may determine the profitability of the option for forest owner. Collaboration with neighbouring forest owners is also advice.

Viability:

Each revenue stream from different options varies significantly depending on location. Possible matters effecting revenue streams for forest owners are:

- different characteristics and qualities of the forest, and surrounding infrastructure
- forest management expertise available
- market conditions
- supporting instruments and funding opportunities
- current regulations
- social matters, e.g., acceptability of certain measures

Contribution to regional bioeconomy:

All these business model opportunities contribute to the regional forest bioeconomy in Northern Finland. The different land-use models enable large variety of utilization possibilities from forests and some of them can be practiced simultaneously, therefore income models can be diverse.

The diversification of forest bioeconomy options enables the development of the sector.

Acceptability of the different land-use models enhances the forest bioeconomy sector and plays a significant role in the development of the sector in Northern Finland.

ABOUT BRANCHES

BRANCHES is a H2020 “Coordinaton Support Action” project, that brings together 12 partners from 5 different countries. The overall objective of BRANCHES is to foster knowledge transfer and innovation in rural areas (agriculture and forestry), enhancing the viability and competitiveness of biomass supply chains and promoting innovative technologies, rural bioeconomy solutions and sustainable agricultural and forest management.

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THE PARTNERSHIP



Traditional wood supply

<p><u>Key Partnerships</u> Essential partners: <u>Biomass companies</u></p> <ul style="list-style-type: none"> • Forest industry • Saw mill industry • Energy industry <p><u>Contractors</u></p> <ul style="list-style-type: none"> • Harvesting companies • Logistic companies • Terminals • Forest management companies 	<p><u>Key Resources</u> <u>Forest:</u></p> <ul style="list-style-type: none"> • Wood, biomass • Forest management plan: • forest structure, forest • Age, and size of trees <p><u>Infrastructure</u></p> <ul style="list-style-type: none"> • Roads, railways, terminals <p><u>Labor</u></p> <ul style="list-style-type: none"> • Contractors 	<p><u>Benefits of traditional wood supply</u></p> <ul style="list-style-type: none"> • Economically efficient • Simple, well-organized, and fairly stable option for forest owner • Active management increases forest growth and carbon sequestration • Provides income and job opportunities to several stakeholders throughout the value chain <p><u>Weaknesses:</u></p> <ul style="list-style-type: none"> • Negative effects on biodiversity and land emissions from cutting • Landscape effect 	<p><u>Process of traditional wood supply</u> <u>Contract process</u></p> <ul style="list-style-type: none"> • Forest owners individually • Membership with forest management association • Membership with forest industry <p><u>Forest management process</u></p> <ul style="list-style-type: none"> • Harvesting operations (forest owner / contractor) • Forest management operations (forest owner / contractor) <p><u>Logistics process</u></p>
<p><u>Cost Structure</u></p> <ul style="list-style-type: none"> • Forest management • Harvesting • Logistics 		<p><u>Revenue Streams</u></p> <ul style="list-style-type: none"> • Wood sales • Forest management subsidies 	

Rental of land for production of electricity (wind- & solar power)

<p><u>Key Partnerships</u> Essential partners:</p> <ul style="list-style-type: none"> • Energy companies • Other forest owners (co-operation) <p>Essential suppliers</p> <ul style="list-style-type: none"> • Technology providers • Investment partners • Logistic partners • Energy industry • City and county planning 	<p><u>Key Resources</u> <u>Land area</u></p> <ul style="list-style-type: none"> • Climatic conditions, windiness / sunniness. 	<p><u>Benefits</u></p> <ul style="list-style-type: none"> • Economically viable option • Long-term option for forest owners, once regional planning and required permits have been handled • Environmental benefits from eliminating negative effects from use of fossil fuels • Wind power production enables other forestry practices in the areas between the windmill plants and infrastructure <p><u>Weaknesses:</u></p> <ul style="list-style-type: none"> • Crucial to make a good contract from forest owners' perspective • Negative effects on biodiversity from land-use change (solar power) • Fluxuation of energy prices and on subsidies 	<p><u>Process of wind / solar power projects</u></p> <ul style="list-style-type: none"> • Mapping and analysis (1-3 years) • Planning and licensing (1-3 years) • Construction (1-3 years) • Production (35-45 years) • Closure and dismantling • (Time lengths vary significantly) <p>Different contract possibilities for forest owners:</p> <ul style="list-style-type: none"> • Leasing land area: <ol style="list-style-type: none"> 1) set rent price, adjusted annually by cost-of-living index 2) percentage of energy yield 3) combination between the two
<p><u>Cost Structure</u></p> <ul style="list-style-type: none"> • Depending on the contract: (1) Licensing and zoning, both fees and taxes, (2) build and maintain infrastructure, (3) repair damage caused by construction and production 		<p><u>Revenue Streams</u></p> <ul style="list-style-type: none"> • Depending on the contract: (1) Effected by size of the land area and its possible existing infrastructure, (2) size of production site, (3) climatic conditions. 	

Carbon trade

<p><u>Key Partnerships</u> Essential partners:</p> <ul style="list-style-type: none"> Trade companies <p>Essential suppliers:</p> <ul style="list-style-type: none"> Certificating and auditing companies Research institutes providing scientific evidence 	<p><u>Key Resources</u></p> <ul style="list-style-type: none"> Carbon balance: <ul style="list-style-type: none"> -Forest growth -Additionality 	<p><u>Benefits of carbon trade</u></p> <ul style="list-style-type: none"> Economic benefits from selling carbon credits Environmental benefits to nature: carbon sequestration, enhancing biodiversity, contribution to prevent environmental change <p><u>Weaknesses:</u></p> <ul style="list-style-type: none"> Market and pricing uncertainty Carbon trade is still an undeveloped business 	<p><u>Process of carbon trade</u></p> <ul style="list-style-type: none"> Assessment of carbon sequestration potential Registration to certain certification system Selling credits Monitoring, evaluation, and reporting
<p><u>Cost Structure</u></p> <ul style="list-style-type: none"> Possible costs: <ul style="list-style-type: none"> -Evaluation of carbon balance -Monitoring and reporting 		<p><u>Revenue Streams</u></p> <ul style="list-style-type: none"> From selling credits: based on potential of forest to sequester carbon or from sequestered carbon 	

State-based biodiversity protection

<p><u>Key Partnerships</u> Essential partners:</p> <ul style="list-style-type: none"> Authorities -ELY centers Environmental organizations Nature protection organizations Forest management organizations Actors that are interested in biodiversity offsetting 	<p><u>Key Resources</u> Forest:</p> <ul style="list-style-type: none"> Forest: <ul style="list-style-type: none"> -nature management -restoration -protection -ecosystem diversity -> ecosystem services Funding possibilities 	<p><u>Benefits of of nature protection</u></p> <ul style="list-style-type: none"> Environmental benefits to nature: biodiversity, contribution to prevent environmental change Economic benefits from protection programs or incentives Recreational values from protected areas <p><u>Weaknesses:</u></p> <ul style="list-style-type: none"> Funding might be difficult to get Restrictions on forest use may prevent certain activities, such as logging or construction, in the forest, thus, limit economic potential from forest Risk of pest outbreaks Acceptability if not voluntary-based 	<p><u>Process for nature conservation model</u></p> <ul style="list-style-type: none"> Mapping and inventory of the area Making a contract with funding operator E.g. governmental nature protection programs: METSO, Helmi, Kemera/METKA Possible implementation of protection measures Monitoring, evaluation, and reporting
<p><u>Cost Structure</u></p> <ul style="list-style-type: none"> Possible administrative costs 		<p><u>Revenue Streams</u></p> <ul style="list-style-type: none"> Possibility to get governmental funding (METSO and Helmi programs) or incentives 	

Market-based biodiversity protection

<p><u>Key Partnerships</u> Essential partners:</p> <ul style="list-style-type: none"> • Trade companies • Buyers <ul style="list-style-type: none"> -voluntary individuals -stakeholders wanting to compensate • Possible audition companies • Tourism companies 	<p><u>Key Resources</u></p> <ul style="list-style-type: none"> • Forest: <ul style="list-style-type: none"> -nature management -restoration -protection -ecosystem diversity -> ecosystem services 	<p><u>Benefits of landscape value trade</u></p> <ul style="list-style-type: none"> • Economic benefits through trade and possible tourism enhancement • Environmental benefits – conservation of landscape and biodiversity in the area • Diverse possibilities • Recreational values from protected areas • Landscape value trade, ecosystem value trade and tourism can potentially all be practiced on same land area, for example <p><u>Weaknesses:</u></p> <ul style="list-style-type: none"> • New income models, not well developed, market undeveloped as well • Lack of contract models • Challenge in verification (additionality and permanence) 	<p><u>Process of landscape value trade model</u></p> <ul style="list-style-type: none"> • Mapping and inventory of the area • Buyers and sellers find each other <ul style="list-style-type: none"> -e.g., Luontoarvot.fi or similar online platform • Contracting • Contract can be: <ul style="list-style-type: none"> -a lease, a management contract, or a contract for the sale of a property or a parcel of land -may include e.g., forest management, restoration, or protection measures • Length of contracts vary significantly
<p><u>Cost Structure</u></p> <ul style="list-style-type: none"> • Possibly from drafting the contract, consult services • Possible losses compared to traditional wood supply 		<p><u>Revenue Streams</u></p> <ul style="list-style-type: none"> • Payments from trades • Payments from permits for land use 	

Non-wood forest products

<p><u>Key Partnerships</u> Essential partners:</p> <ul style="list-style-type: none"> • Harvesters/collectors - hunters • Buyers and distributors • Forest industry 	<p><u>Key Resources</u></p> <ul style="list-style-type: none"> • Possible natural products to be collected by the common man's right: <ul style="list-style-type: none"> -Berries -Mushroom -Wild herbs and plants -Cones • Possible only for owners of the forest (or with permission) <ul style="list-style-type: none"> -Game -Spruce shoots -Sap -Fungi (e.g., chaga) 	<p><u>Benefits of natural products</u></p> <ul style="list-style-type: none"> • Economic revenue and diversification of income <ul style="list-style-type: none"> -enables multiple land-use possibilities for forest owner simultaneously -broad international market • Possibility to enhance self-sufficiency in food • Recreational value <p><u>Weaknesses:</u></p> <ul style="list-style-type: none"> • Labor intensive • Seasonality • Annual fluctuation in quality and quantity 	<p><u>Process of natural products model</u></p> <ul style="list-style-type: none"> • Identification and assessment of resources <ul style="list-style-type: none"> -potential organic certification • Harvesting • Marketing and sales
<p><u>Cost Structure</u></p> <ul style="list-style-type: none"> • Labor costs and possible equipment • Permits and licenses • Quality assurance 		<p><u>Revenue Streams</u></p> <ul style="list-style-type: none"> • Sale of natural products 	