



ARCTIC Bioeconomy

BIOECONOMICS – OPPORTUNITIES FOR
DEVELOPMENT IN LOCAL TERRITORIES
Daugmale Latvia, 5th-6th December 2017

ARCTIC Bioeconomy

How to create local and network based
bio economy
– case Lapland & Sodankylä



The European Agricultural Fund
for Rural Development:
Europe investing in rural areas



REGIONAL COUNCIL
OF LAPLAND

Content of presentation:

- **How could we do that - network based bio economy:**
 - Case: fishery in Sodankylä
 - Structures of development
 - County wide cluster
- **Why should we go into bio economy:**
 - Potential and point of view for economic calculations
- **What is bio economy:**
 - Some main definitions
- **Introduction of Lapland and Sodankylä**
 - Couple of short videos
- **Smart village project**

A circular logo with a white border containing the text "ARCTIC Bioeconomy" in white. The background of the slide is a scenic image of a sunset over a body of water with a forested shoreline and a small boat in the distance.

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How to do it?



The European Agricultural Fund
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What we have done in Lapland:

- Value chain –approach: case fisheries in Sodankylä
- Definition of roles for stakeholders
- Network for different levels
- Cluster thinking in county



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Value chain –approach: case fisheries in Sodankylä

**1. Stage – new production concept kitchen,
fish co-operative existing markets
operations**

Fish
co-operative

Fish files to
markets

Municipality
kitchen

Construction for
new kitchen –
ability take local
raw materials
and own
production.

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2. Stage – first public compete for fish

Fish
co-operative

Fish files
→

Municipality
kitchen

Projects:

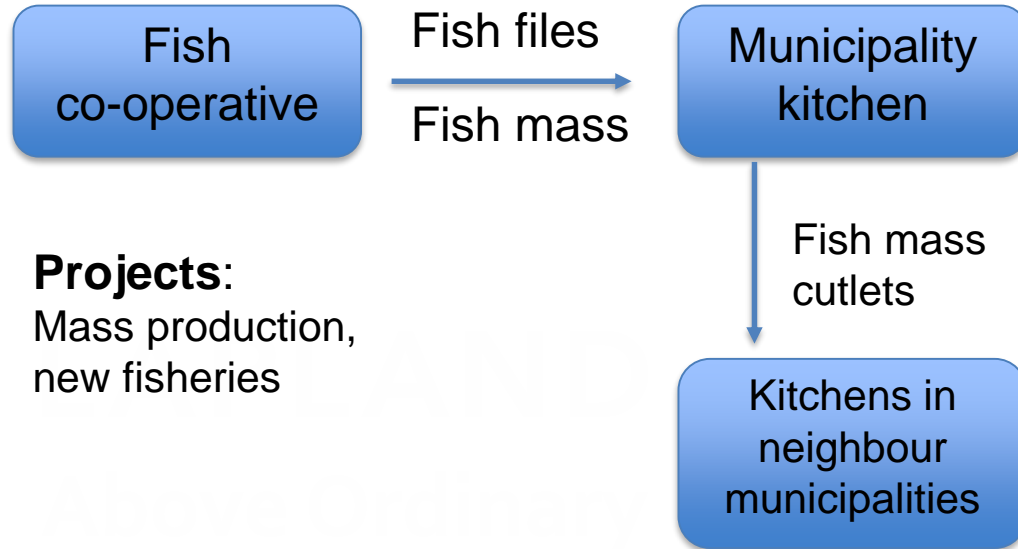
Facilities
improvements in
fish harbour, new
hygiene control
systems

Projects:

New production
methods, mass
production

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3. Stage – new experiments with co-operative



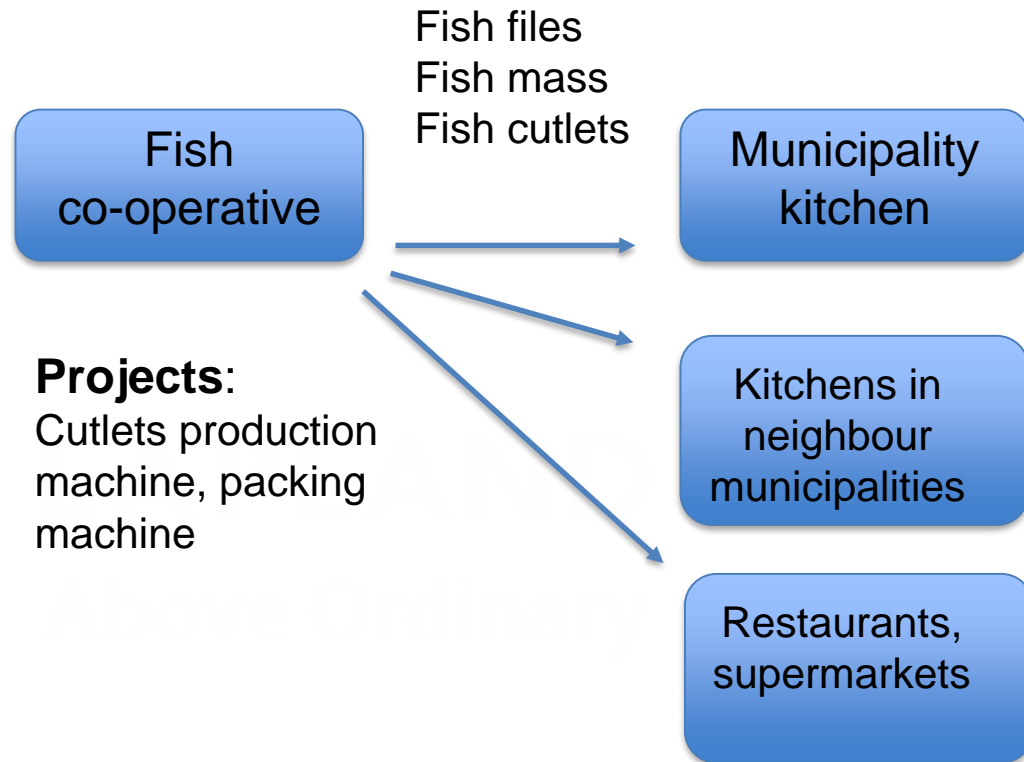
Projects:
Mass production,
new fisheries

Projects:
Fish mass processing to
cutlets

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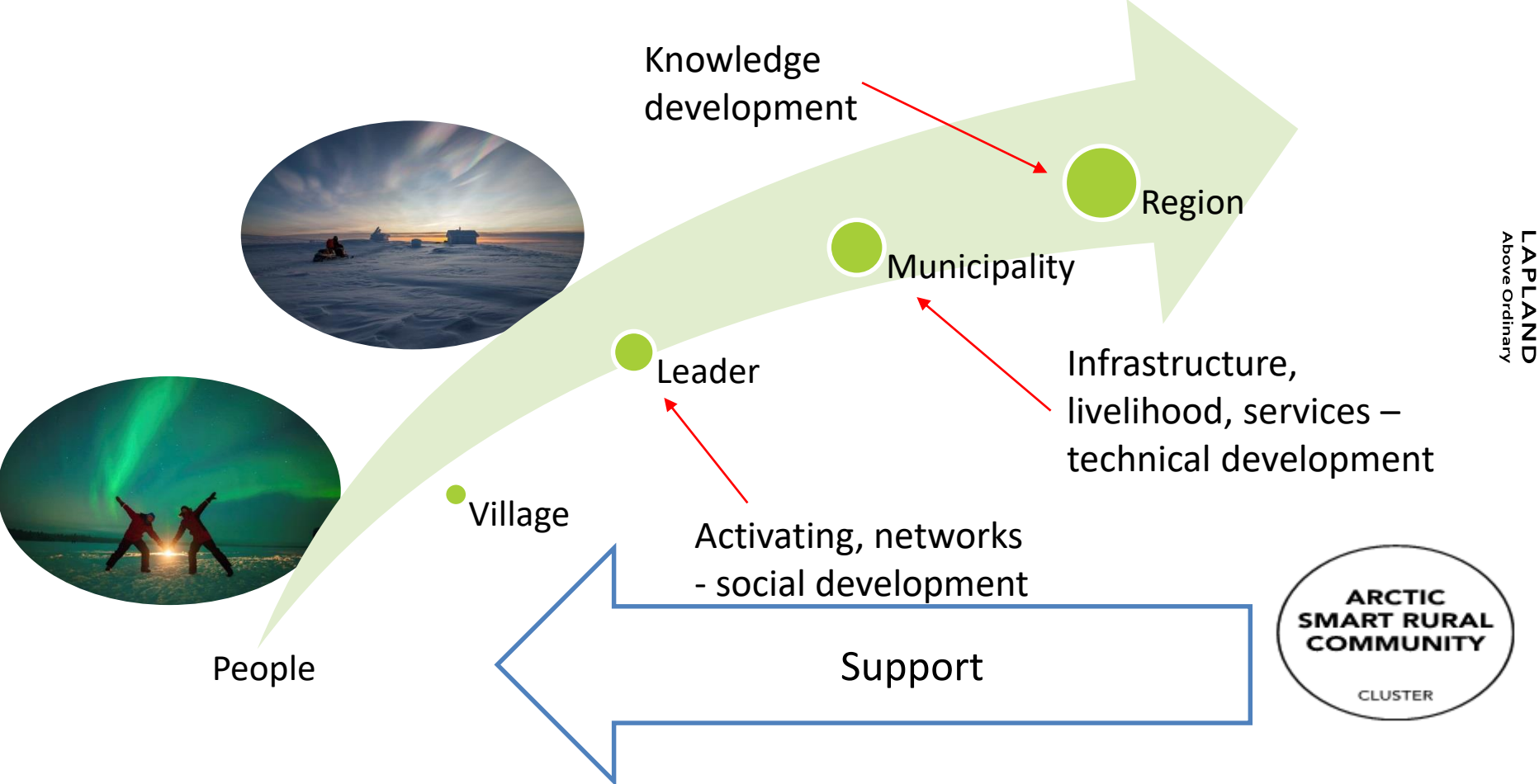
4. Stage – current plans



Projects:
Food house: production and logistics centre for local food

Mobile slaughter-truck

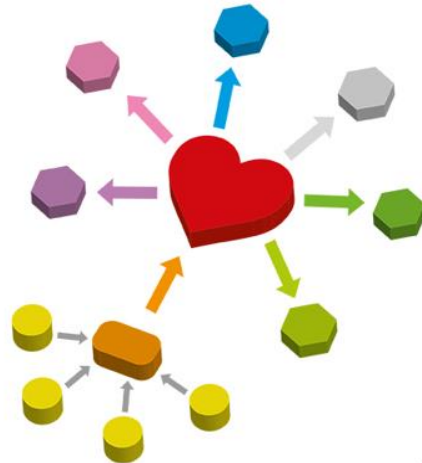
Role of stakeholders



Elintarviketalo

Local Food houses

- Sähköinen verkko ja Internet-yhteys talojen välillä
- Verkoston jäsenet viestivät keskenään
- Hyvä logistinen suunnittelu takaa tuotteiden nopean toimituksen tilaajille
- Elintarviketalot hajautettu Lapin alueelle raaka-ainesaatavuuden mukaisesti



Elintarviketalo

- Elintarvikkeen jalostus
- Maataloustuotteet, maito, liha
- Keruutuotteet, marjat, yrtit
- Juurekset
- Kala, liha



Toimijat

- Jalostaja
- Kehittäjä
- Markkinointi
- Myynti
- Vienti
- Matkailu



Vastaanottopiste

- Varastointi



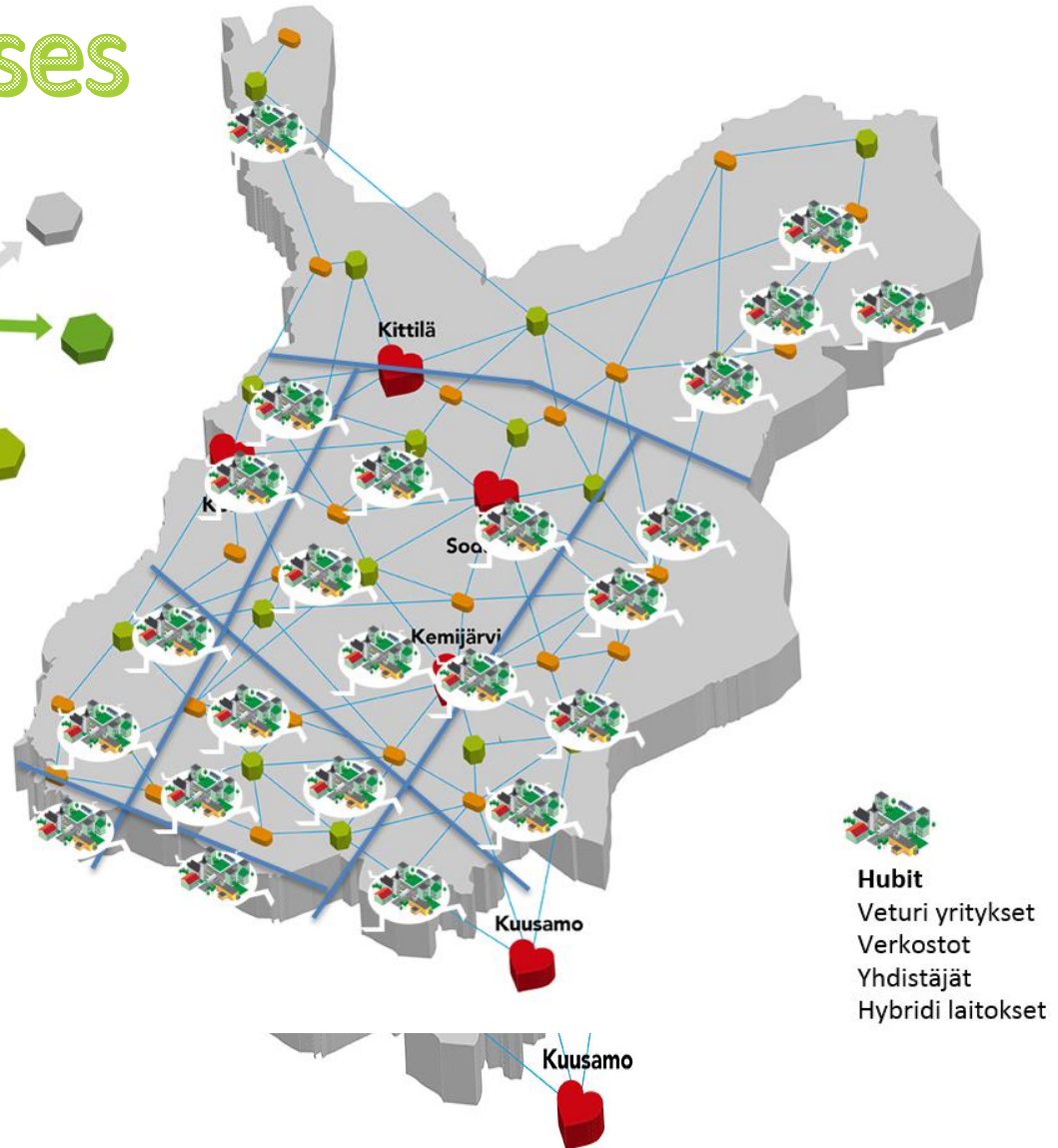
Raaka-aine

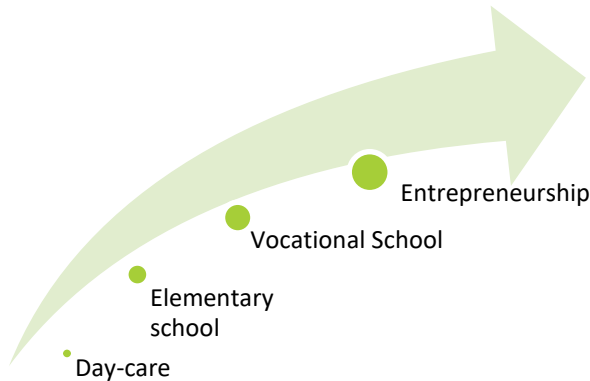
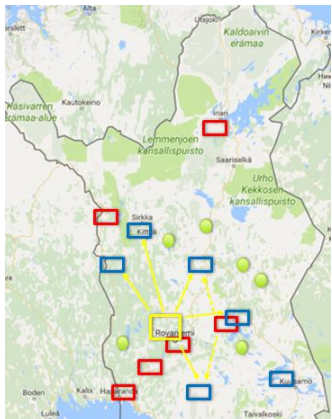
- Kerääjä
- Kasvattaja
- Viljelijä
- Toimittaja



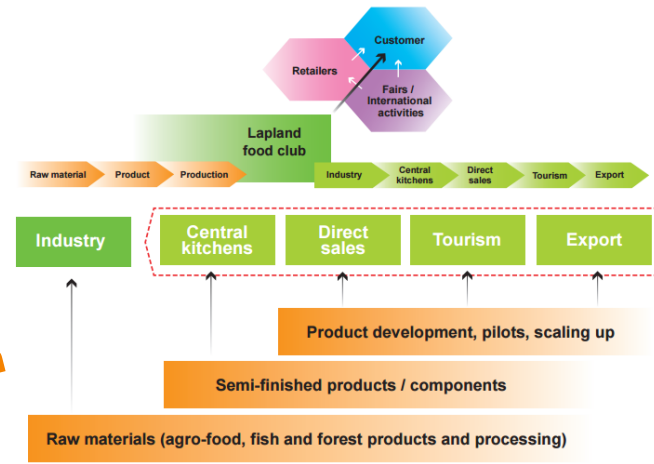
- Vienti
- Matkailu

- Viljelijä
- Toimittaja





Lapland Food Club

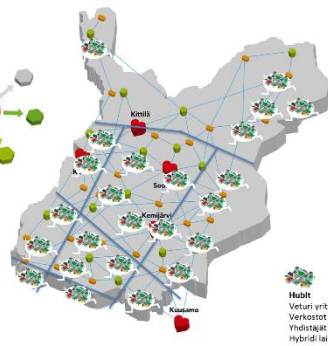


Food house - concept

Concepts made with co-operation

Elintarviketalo

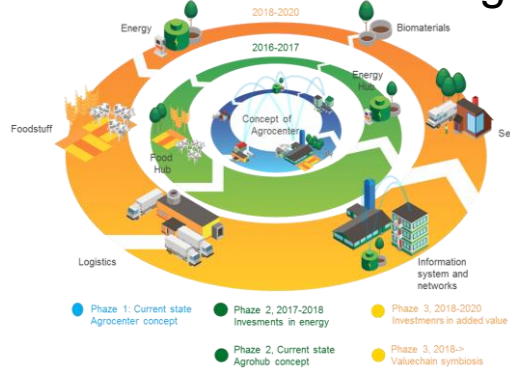
- Sähköinen verkko ja Internet-yhteys talojen välillä
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- Elintarviketalo hajautettu Lapin alueelle maan-ainesaatuuden mukaisesti



- Elintarviketalo**
 - Elinkeinalueen jäseltä
 - Maatalous tuotteet, maito, liha
 - Senkalat, merikalat, yrtit
 - Juuret
 - Kala, liha
- Tuotteet**
 - Juuret
 - Kalkkijäi
 - Mausteaineet
 - Myyjät
 - Viedit
 - Markkinat
- Vuokra- ja palveluspaikat**
 - Keskittämiskeskus
 - Keskittämiskeskus
 - Keskittämiskeskus
 - Keskittämiskeskus
 - Keskittämiskeskus
- Yhteistyö**
 - Keskittämiskeskus
 - Keskittämiskeskus
 - Keskittämiskeskus
 - Keskittämiskeskus
 - Keskittämiskeskus

LAPLAND FOOD HOUSE – local food houses

Agrohub



LAPLAND Above Ordinary



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Why should we do that?



The European Agricultural Fund
for Rural Development:
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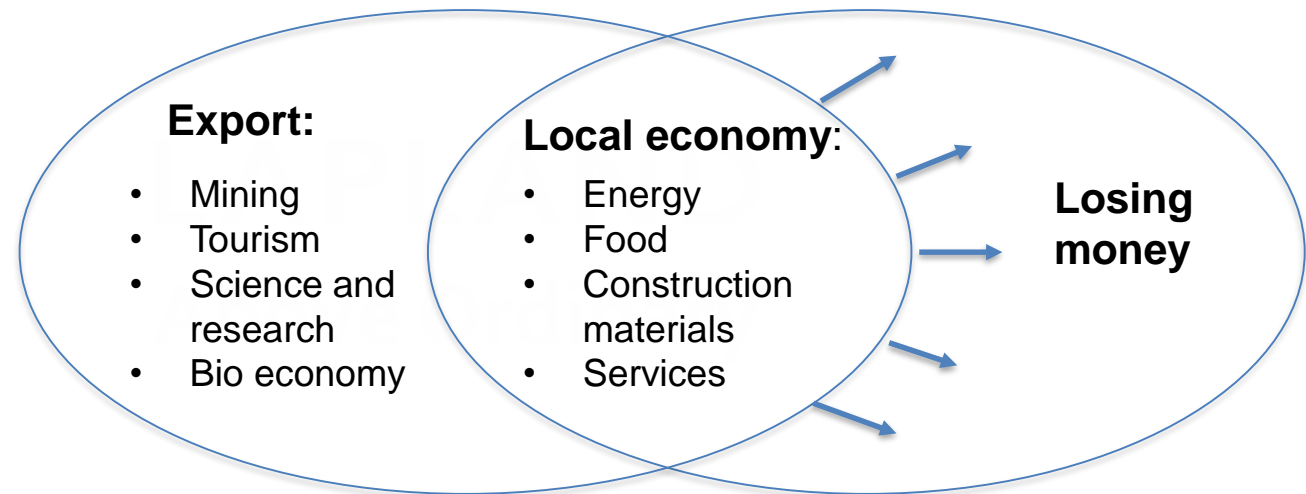
What is bio economy?



Local economy:

Production of area

Consumption of area



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Potential for local economy:

- Potential:
 - Local energy: 4.500 €/person/year
 - Local food: 1.100 €/person/year
 - Total: 5.600 €/person/year
- Convert to Latvia:
 - GNP per person Finland 39.000 – Latvia 12.800
 - Potential in Latvia 1.837 €/person/year
 - In practise potential is more than that!

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Mission

Stop the capital outflow and *clarify business potential*

Show what nature can offer to arctic areas

Dream SME's outcome from
energy and food
1 billion € by 2025

- **Decentralised renewable energy**
biofuels, electricity, heat
- **Local food**
processing

Viewpoint for economic calculations – single company or local economy?

Example from Region: The impacts for the regional economy

- offer **request for energy wood** -> a vendor from Russia was chosen
- the “**saving**” was 9000 € / year
- **the losses:** 6-9 employed people, taxes 312 000 €, the harvest support 210 000 €... = **the losses are at least 648 000 € / year!**





Why to do - summary:

- **Big potential to business**
- **Local value chains**
- **New technologies provides opportunities:**
 - Small scale energy production
 - Digitalisation
 - Smart operating/ control systems
- **New methods for business and ownership**
 - Sharing economy
 - Community entrepreneurship
 - From markets to direct contracts
 - Trust is needed in networks!

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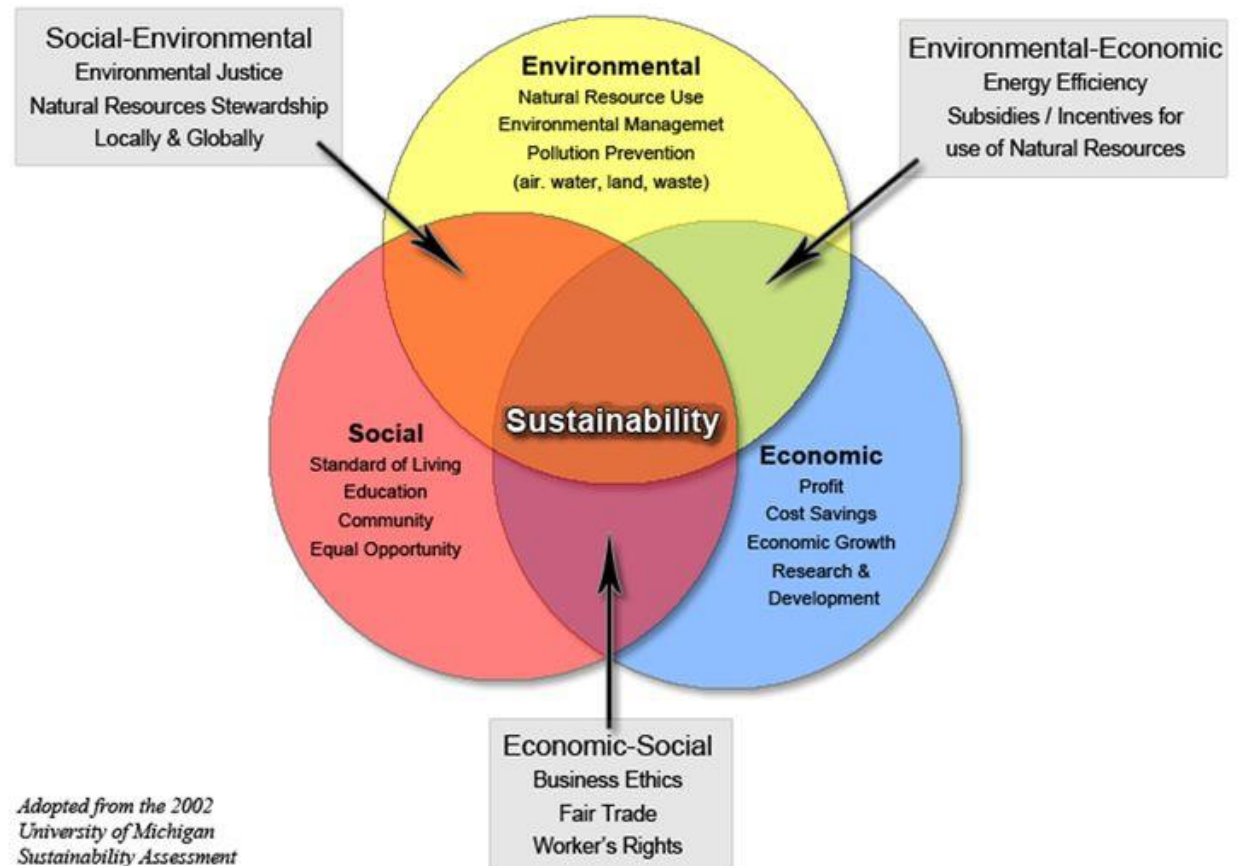


Some definitions:

- Bio economy – renewables
- Circular economy
- Resource wisdom
- Clean tech
- Green – blue etc. economy
- Social and community aspects

Some definitions:

The Three Spheres of Sustainability



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*Adopted from the 2002
University of Michigan
Sustainability Assessment*

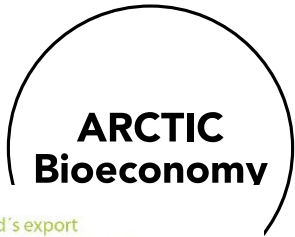
Introduction of Lapland and Sodankylä

- Lapland short presentation
- Sodankylä short presentation



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10 FACTS ABOUT LAPLAND



10 FACTS ABOUT LAPLAND

Lapland covers 30% of Finland's land area, 3% of Finland's population lives in Lapland

Lapland produces 10% of Finland's export and hosts 19% of Finland's international travelers

Lapland higher education institutes are the northernmost in the European Union. There's also an extensive network of vocational education in Lapland.

Arctic research and education e.g. University of Lapland, Arctic Centre, Lapland University of Applied Science, Lapland research institutes and The Sámi Education Institute.

Population in Lapland 2014

181 748 inhabitants (as many reindeer as people)



Under 1% of Lappish people speaks Sámi language as their native language, 74% of them lives in Northern Lapland. Sámi people are only indigenous people in the European Union.

Lapland is the the largest region in the world to harvest organic natural products

99% of the forest area in Lapland qualifies as organic

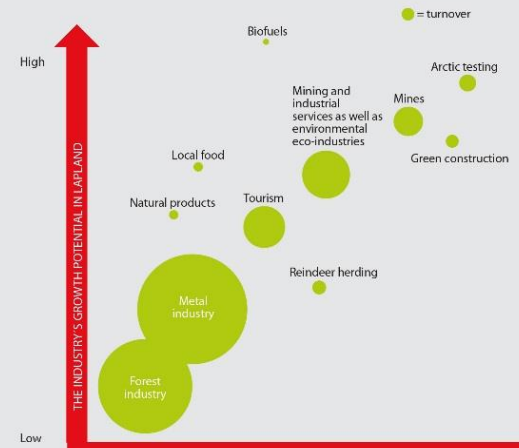
Lapland has been proven to have the purest air in the world

Snow 210 days/year, Northern lights 200 days/year
Polar Nights and Midnight Sun 2 months/year

Main industries in Lapland

- Forest industry
- Metal industry
- Tourism
- Trade
- Mining industry

Growth potential of industries related to the Arctic business of Lapland



Tourism income in Lapland 2013

632 M€

Registered overnight stays in Lapland 2015

2,36 million



LAPLAND Above Ordinary



Vipuvoimaa EU:lta 2014-2020



Source: Regional Council of Lapland, The Ministry of Employment and the Economy/ToimialaOnline statistics database, Arctic specialization program 2013, Regional economic prospects 2016, Arctic Smartness portfolio-project, ProAgria, Lapin luotsi

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Smartness is it all..

"Think everything!"

Energy

- production
- Smart Grid
- guiding
- optimization
- markets
- reports
- storage

Circular economy
Environment
cleantech

Communality

- EVON community
- communications
- reservations
- decision making
- shared spaces
- happenings
- ownerships



Living

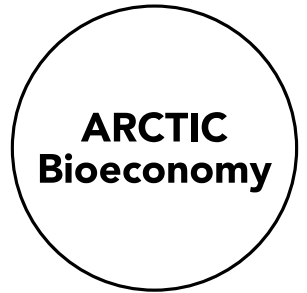
- IoT
- locking
- lighting
- security, monitoring, adjustment

Smart traffic
Networks
Anticipation


Economy

- ownership models
- shared usage
- production/business
- savings

ARCTIC SMARTNESS VILLAGE
"A New Standard of Living"



- The Most Resilient Communities.
- A new vital concept of smart living.
- Modern place to live near to nature.
- Aim is to Colonise the countryside by making the step smaller for moving out from the cities using technology and new way of thinking / acting / doing.
- Directing the money flows into village with own production at the village, new kind of decision making - increase the vitality of the villagers.
- Our goal: A Model Village to Sodankylä. Building starts 2020- 2021.



Thank you - paldies!

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