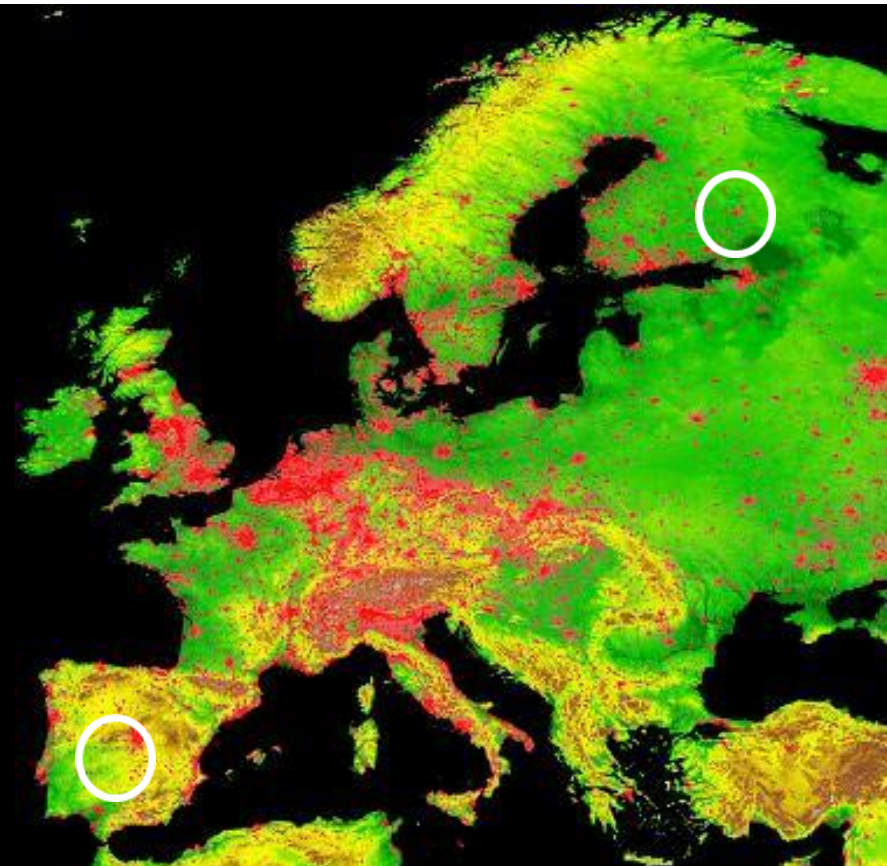


North Karelia, Finland: towards a fossil-free bioeconomy border region

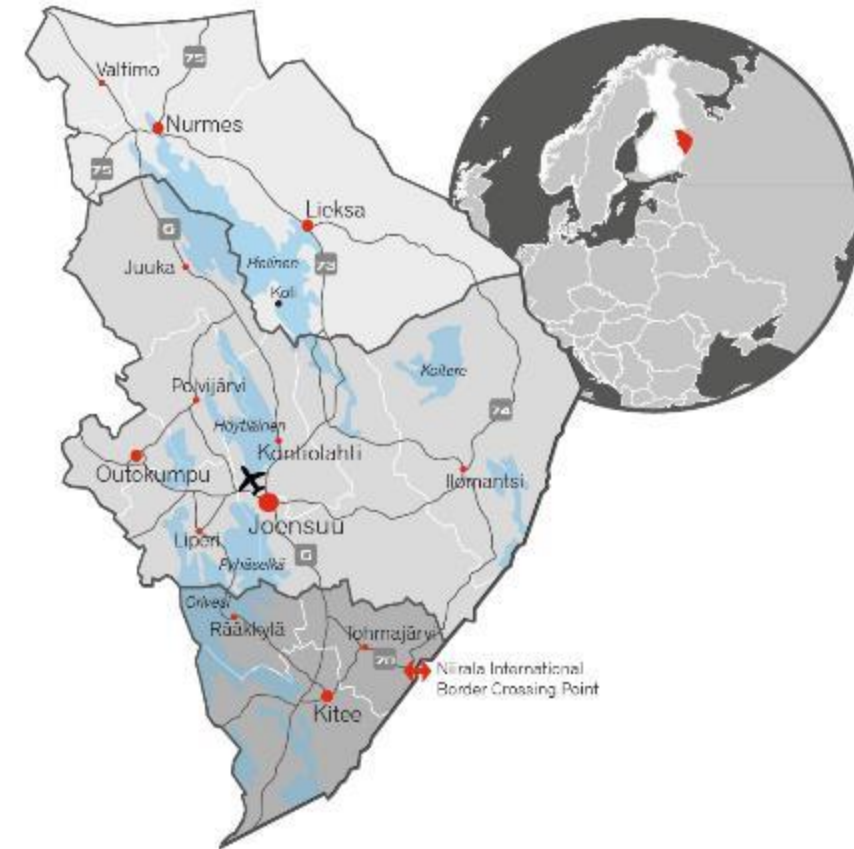
Badajoz, Spain 27.10.2017

Eira Varis
Development Director
Regional Council of North Karelia



North Karelia – the easternmost edge of the continental Europe

- › 165 000 inhabitants (< 8 inhabitants / km²)
- › Size 21 585 km² (lakes 3 803 km²)
- › 300 km border with Russia
- › North to south 240 km, East to West 153 km
- › Temperatures from +30C to -40C
- › “Forest Bioeconomy Region”
 - Annual forest growth 9.15 million m³
 - forest usage about 4.8 million m³



Forest bioeconomy cluster is a driver



arbonaut

binderholz

tiptop timber



Forest bioeconomy cluster in North Karelia:

- ~ 500 companies
- ~ 6 000 jobs
- 1,7 billion € - turnover
- 600 specialists (R&D, education and public administration)
- 1350 jobs, 160 M€ - renewable energy



UNIVERSITY OF
EASTERN FINLAND



TULIKIVI

STORAENSO



teri

JOHN DEERE

JOYFUL www.pohjols-karjala.fi
NORTH KARELIA

Strategic basis

Europe 2020



- 1) Smart growth
 - improving the EU's performance in education, research & innovation and digital society
- 2) Sustainable growth
 - building a competitive low-carbon economy that makes efficient and sustainable use of resources
- 3) Inclusive growth
 - raising employment rate – more and better jobs

Finland national strategy

- Finland seeks to increase its bioeconomy output to 100bn euros by 2025 and to create 100,000 new jobs in the process.
- Bioeconomy combines wood processing, chemistry, energy, construction, technology food and health.
- About half of Finland's bioeconomy consists of forest bioeconomy.



Turnover
€60bn

Share of
employment
13%

Share of
exports
26%

Smart growth - Long term strategic work in North Karelia

TARGET
2030: Fossil
Oil Free
North Karelia



FOREST BIOECONOMY

- Forest based bioenergy
- Decentralized bio-refinery and wood based materials
- Forest technology and logistics of forest harvesting
- Bioinformation economy
- Sustainable multiuse of forests and natural resources

NEW ERA OF NATURAL
RESOURCES!

Forest bioeconomy as a part of Choices for Smart Specialization and the Regional strategy

- Bioenergy programmes have been implemented since 1990's in North Karelia.
 - 2007: North Karelia's Bioenergy program
 - 2011: Climate and Energy Program,
 - 2011: Bioenergy programme for Eastern Finland
 - 2016: Regional Forest Program
 - 2017: Road map for Fossil oil-free and Low-Carbon North Karelia
- CHOICE OF THE SMART SPECIALISATION STRATEGY 2021

North Karelia Targets: 10-20 years ahead

Target	Finland	North Karelia
Reduction of greenhouse gases	- 20 % by 2020	- 30 % by 2020 - 80 % by 2030!
Share of the renewable energy	> 50 % by 2030	66 % already now!
Self-sufficiency of renewable energy	> 55 % (incl. peat) by 2030	100 % by 2025!
Reduction of oil usage	- 50 % by 2030	Heating -100 % by 2020 Transportation -100 % by 2030
Increasing the use of wood	15 mil. m ³ /a	1 mil. m ³ /a

“Farewell to Fossil Oil”

Abandonment of fossil oil used for heating by the year 2020

65 000 000 l



0 l

Fossil oil that is used for heating will be replaced with renewable energy sources by 2020. This will be achieved by either replacing the fossil oil that is currently used for oil heating systems with bio-oil or by investing in alternative heating systems. Already now, practically all municipal centers and the largest population centers in the region are heated by district heat that is mainly generated by wood energy. However, oil is used in the production of district heat to smoothen consumption peaks and during maintenance shutdowns. There are around 7,500 properties in North Karelia which have fossil oil as a primary source of heating.



**FOSSIL OIL FREE
NORTH KARELIA**

Abandonment of fossil transport fuels by the year 2030

140 000 000 l ...▶ 0 l

Currently around 140 million litres of fossil fuels are used in transport in North Karelia every year. Out of this amount some 62 million litres is petrol and around 77 million litres is diesel. These will be replaced with bio fuels and electricity. In practice, the share of biofuel as a blending component will grow.

Increasing the use of wood energy (percentage of total energy use)

51 %

64 %

The aim is to raise the share of wood energy in total energy consumption from 51 percent to 64 percent by 2020. At the same time, the objective is to increase the annual use of wood in a sustainable manner from the current level to 1 million m³ (by 2025).

Growth in the turnover of bioeconomy (€)



The aim is to increase the annual turnover of the bioeconomy sector in North Karelia by one billion euros by the year 2025 (compared to that of 2014, 1.7 billion €).

The share of renewable energy of total energy consumption (%)

67 %

100 %

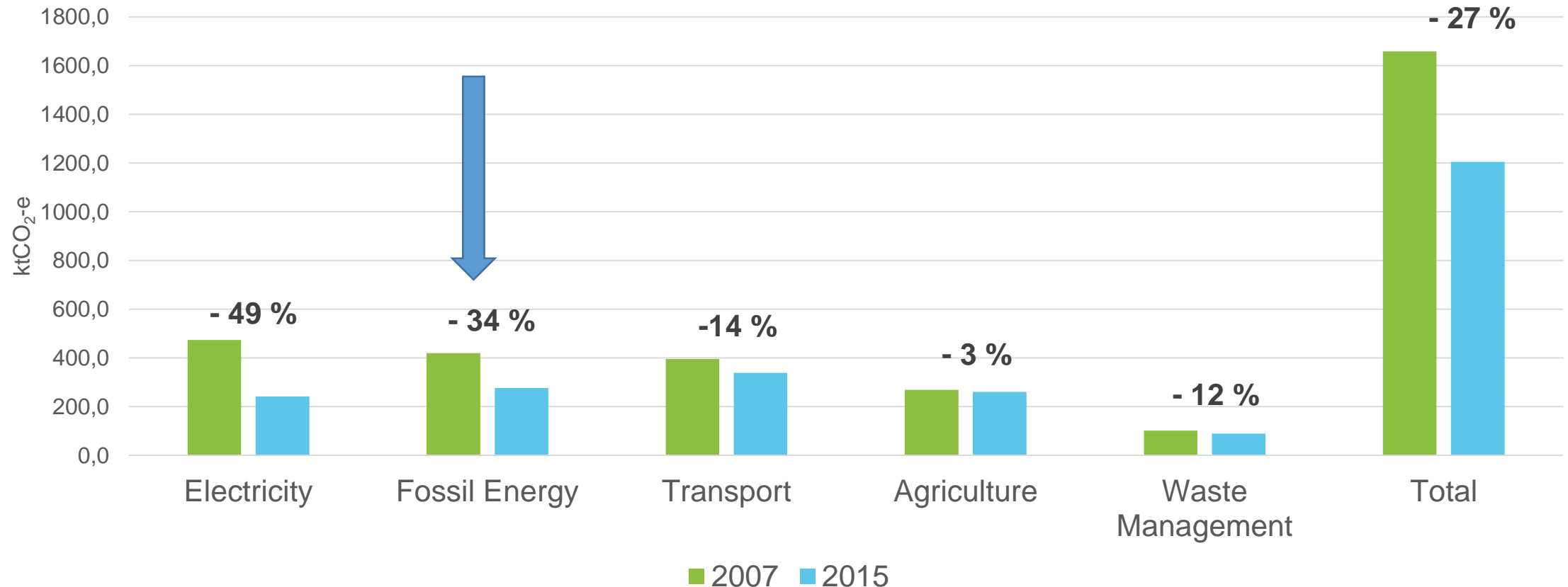
The aim is to become a self-sufficient region in renewable energy production (by the year 2025).

Net reduction of greenhouse gas emissions (%)

80 %

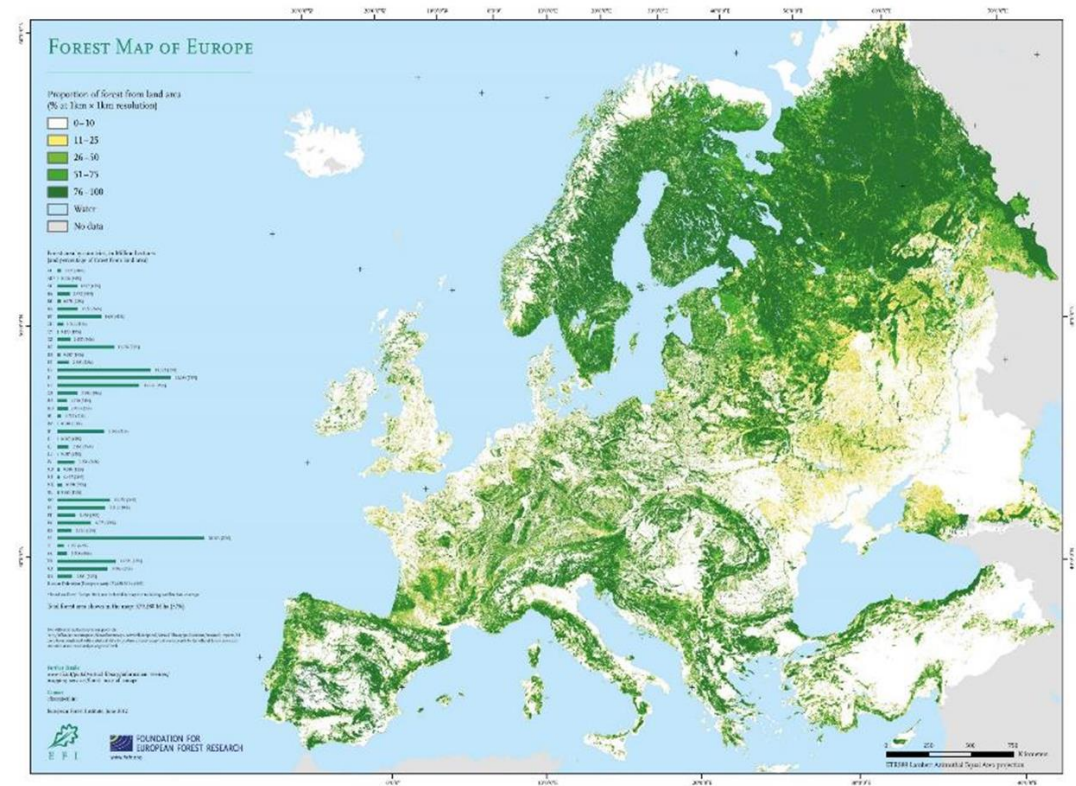
The aim is to achieve an 80 % net reduction in the region's greenhouse gas emissions (from 2007 by 2030, objectives of Carbon Neutral Municipalities).

Greenhouse Gas Emission in North Karelia 2007-2015



Border issues of the forest bioeconomy

- Rich forest resources on both sides of the border
- Forest expertise
- Wood import – product export
- Karelia CBC programme themes:
 1. Growing cross-border business cooperation
 2. Attractive cultural environment
 3. Clean and comfortable region to live
 4. Functioning border crossing
- Makes CBC possible in principle, but not yet in practise 😞





Thank you!



Pielisjoen linna, Siltakatu 2



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