

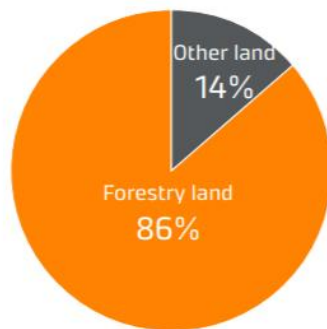
Forests as a resource for sustainable future – case Finland

*by Dr. Lauri Sikanen and Dr. Robert Prinz
Natural Resources Institute Finland (Luke)*

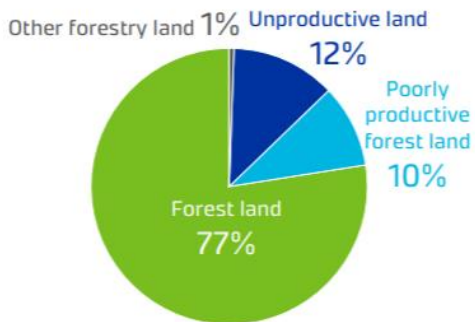


Forest resources of Finland

Finland's land area
30.4 mill. ha

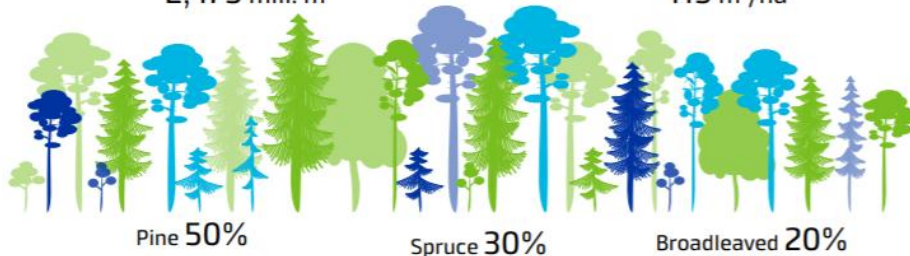


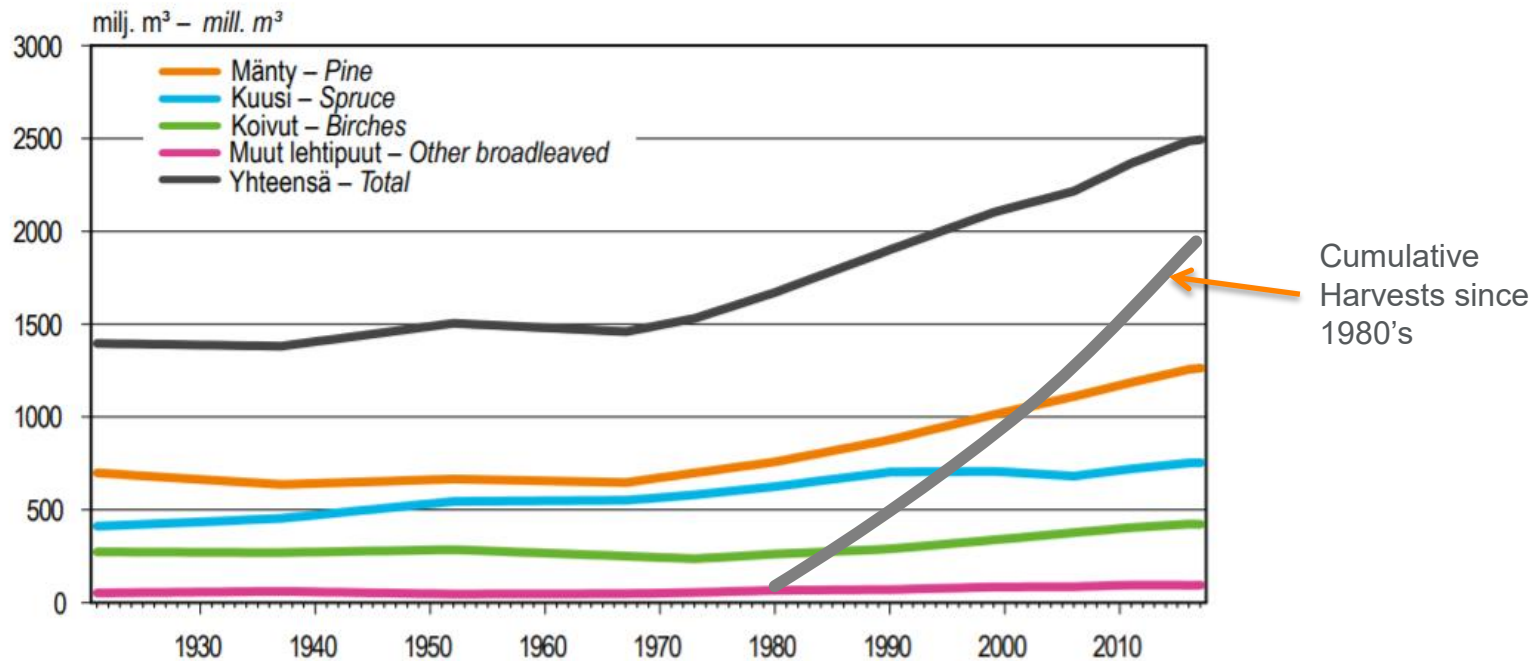
Forestry land
26.2 mill. ha



Growing stock volume
forest land and poorly productive forest land
2,475 mill. m³

Mean growing stock volume
forest land
119 m³/ha



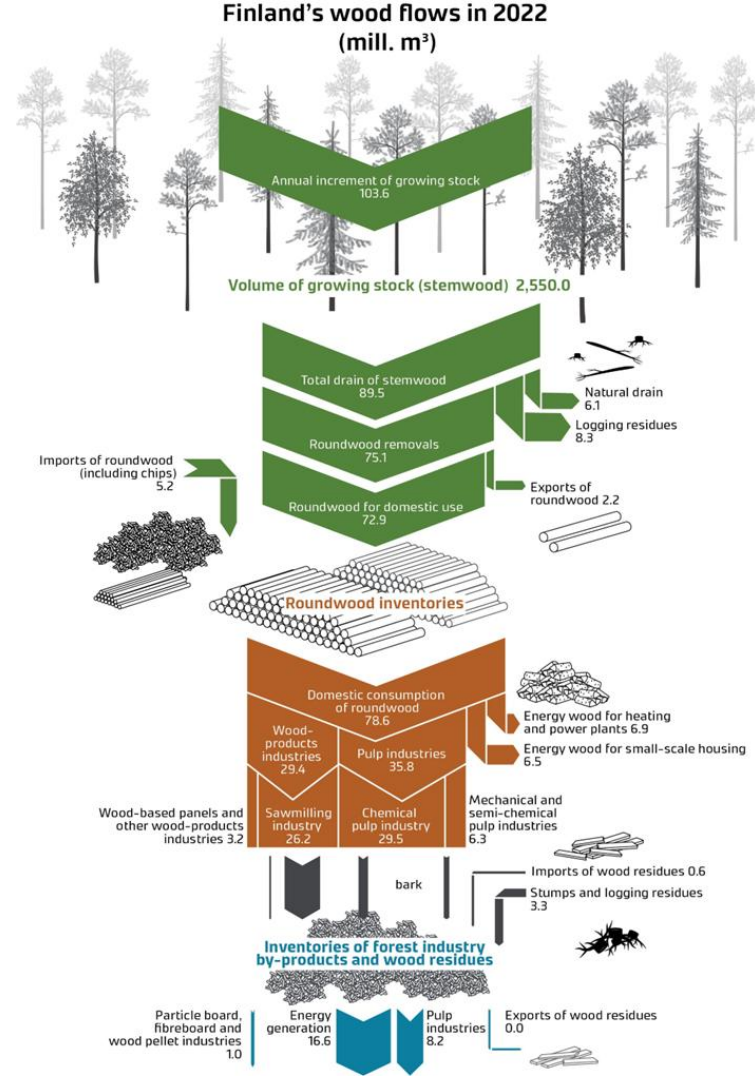


Lähde: Luonnonvarakeskus, valtakunnan metsien inventointi
 Source: Natural Resources Institute Finland

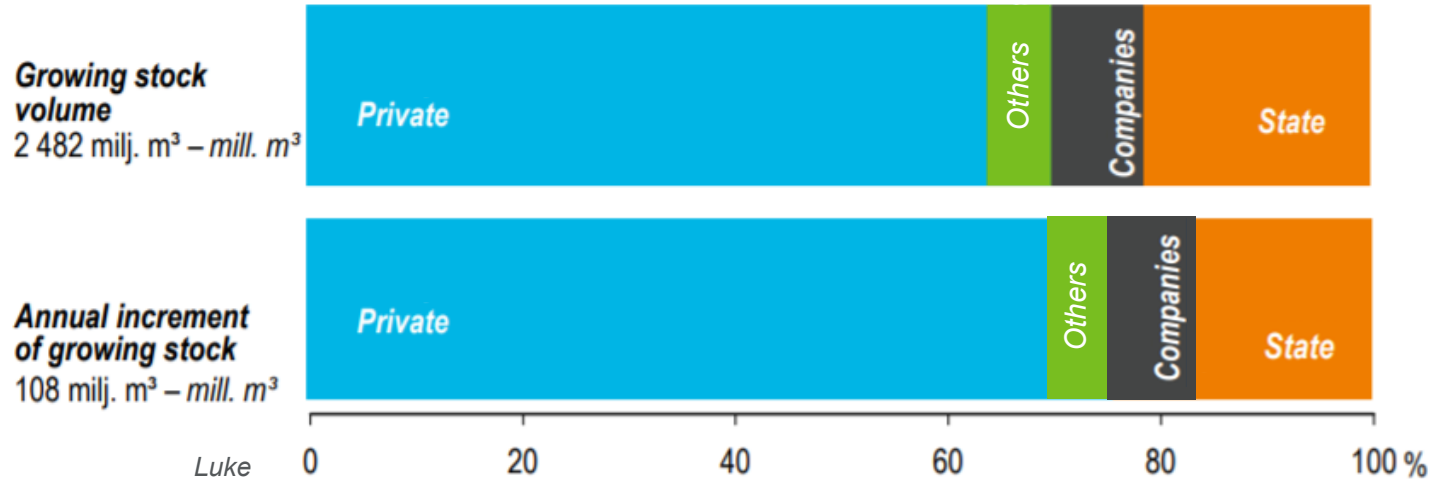
Kuva 1.5 Puuston tilavuus metsä- ja kitumaalla 1920-luvulta lähtien

Figure 1.5 Growing stock volume on forest land and on poorly productive forest land since the 1920s

- Yearly roundwood removal is smaller than growth
- The growth of forest resources has slowed down in particular due to the slowdown in the growth of the growing stock and the increase in domestic logging.
- In 2022, 94% of roundwood used in forest industry production was domestic.
- In 2022, 65% of the wood fuels consumed were secondary woody biomass, which was mainly different types of wood residues from forest industry production. The share also includes black liquor (not in the graph beside).

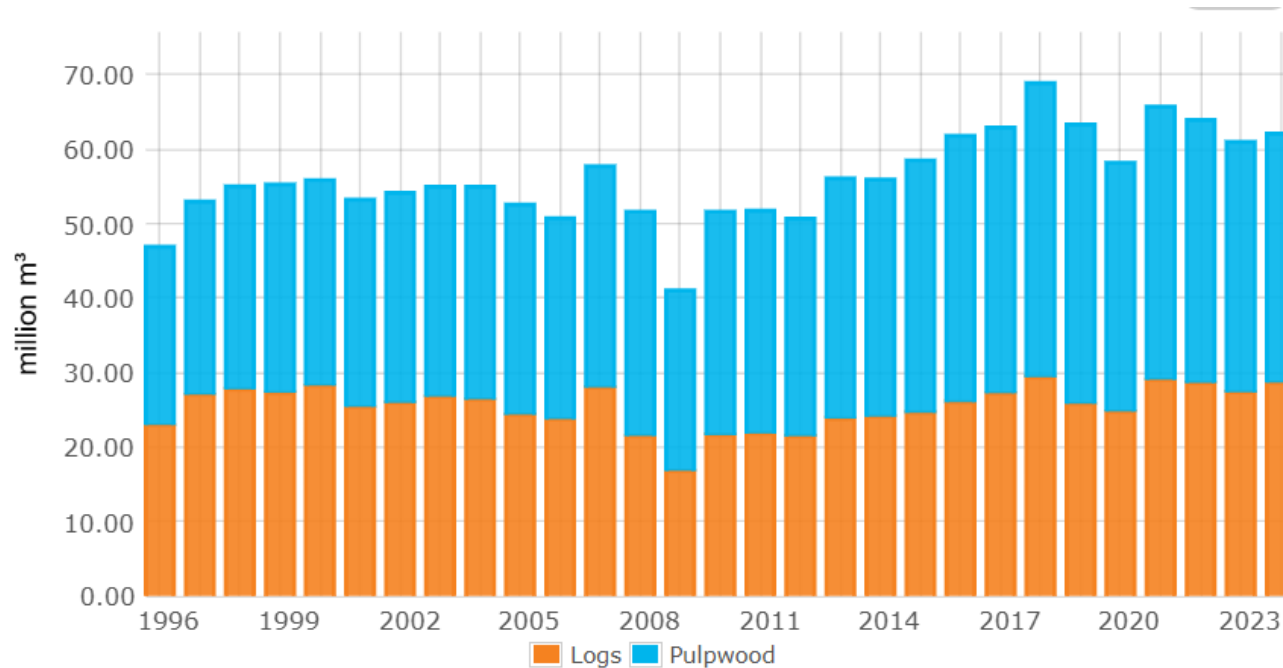


Private non-industrial forest owners own 59% of all forest area in Finland, but over 60% of growing stock and about 70% of annual increment. (**30% in NB**)



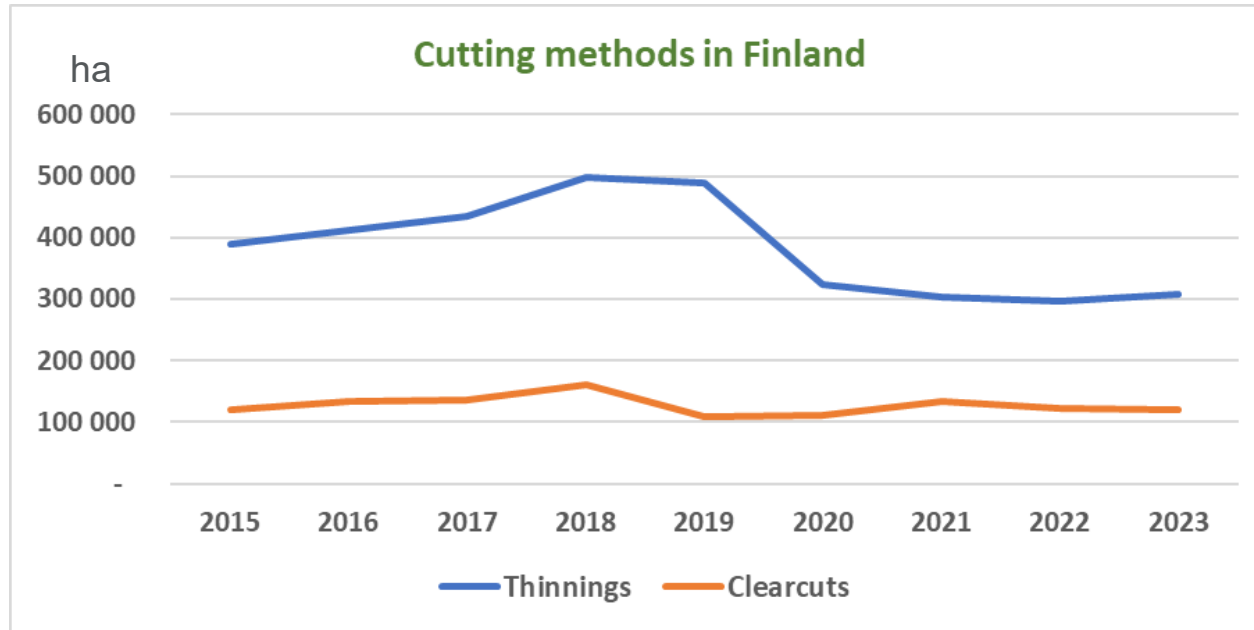
About 350 000 forest owners and their families (about 20% of all Finns) are getting annually over 2 billion € income as stumpage fees. This is one of the motivations to keep forestry in shape.

Harvesting volumes have been increasing in Finland



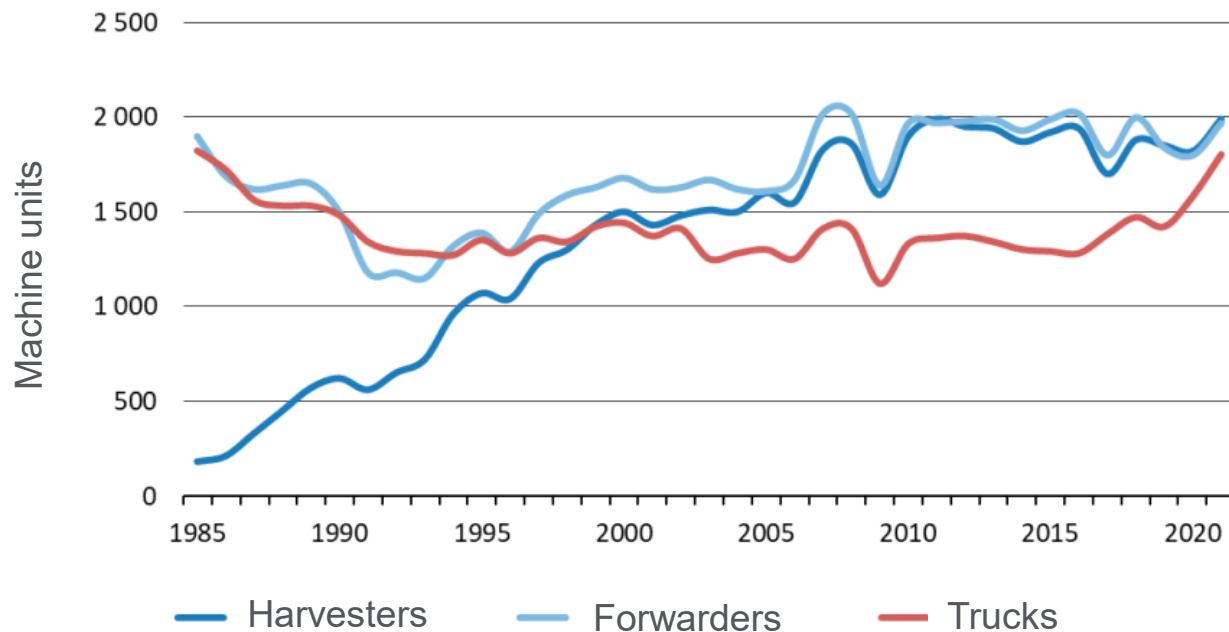
Source: OSF: Natural Resources Institute Finland, Commercial fellings.

Over two decades, selective cuttings have been the most common harvesting practise in Finland (area based)

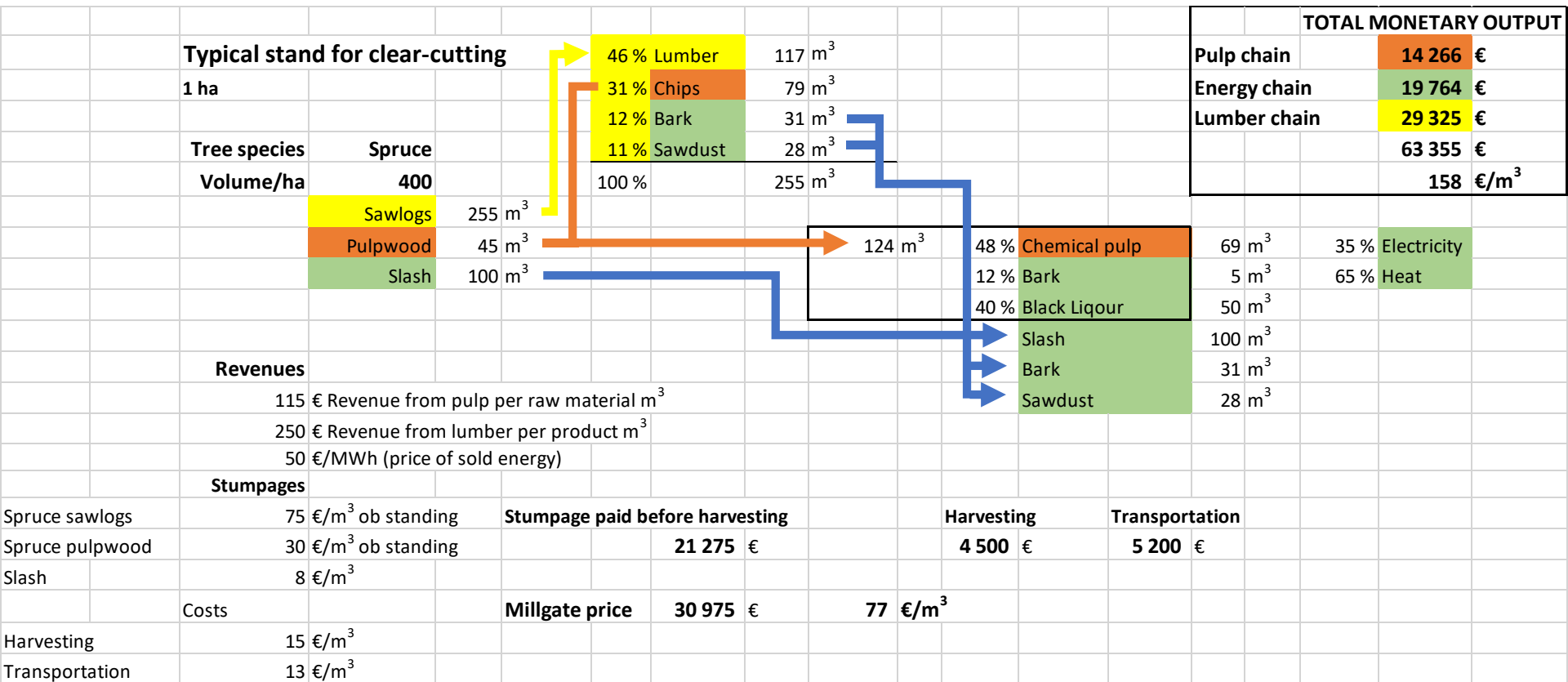


*Note: Continues Cover Forestry (CCF) not included in the graph.
20 000 hectares annually and growing.*

Number of machines working on our forests



How wood is used and value created in Finland?



Dr. Lauri Sikanen: This approach is developed further with Canadian scientists to enable interesting benchmarkings.



Volume of growing stock on forest land and poorly productive forest land

2,475 million m³

50 % pine, 30 % spruce and 20 % deciduous trees



Annual increment of growing stock on forest land and poorly productive forest land

108 million m³

Nearly double compared with the 1950s level



Artificial regeneration per year

96,000 ha

77 % planted, 23 % sown



Protected forests

2.9 million ha

13 % of all forest land and poorly productive forest land



Roundwood removals

78.2 million m³

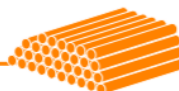
+8 % from 2017



Gross stumpage earnings

EUR 2.7 billion

+14 % from 2017*



Roundwood consumption in forest industries

73.6 million m³

of which 88 % domestic wood



Employed in the forest sector

62,000 persons

+6 % from 2017



Wood in energy generation

104 TWh

27 % of total energy consumption



Forest industries' turnover from domestic operations

EUR 32.7 billion

23 % of the total turnover in the industrial sector



Export in the forest industries

EUR 13.2 billion

21 % of total Finnish goods exports

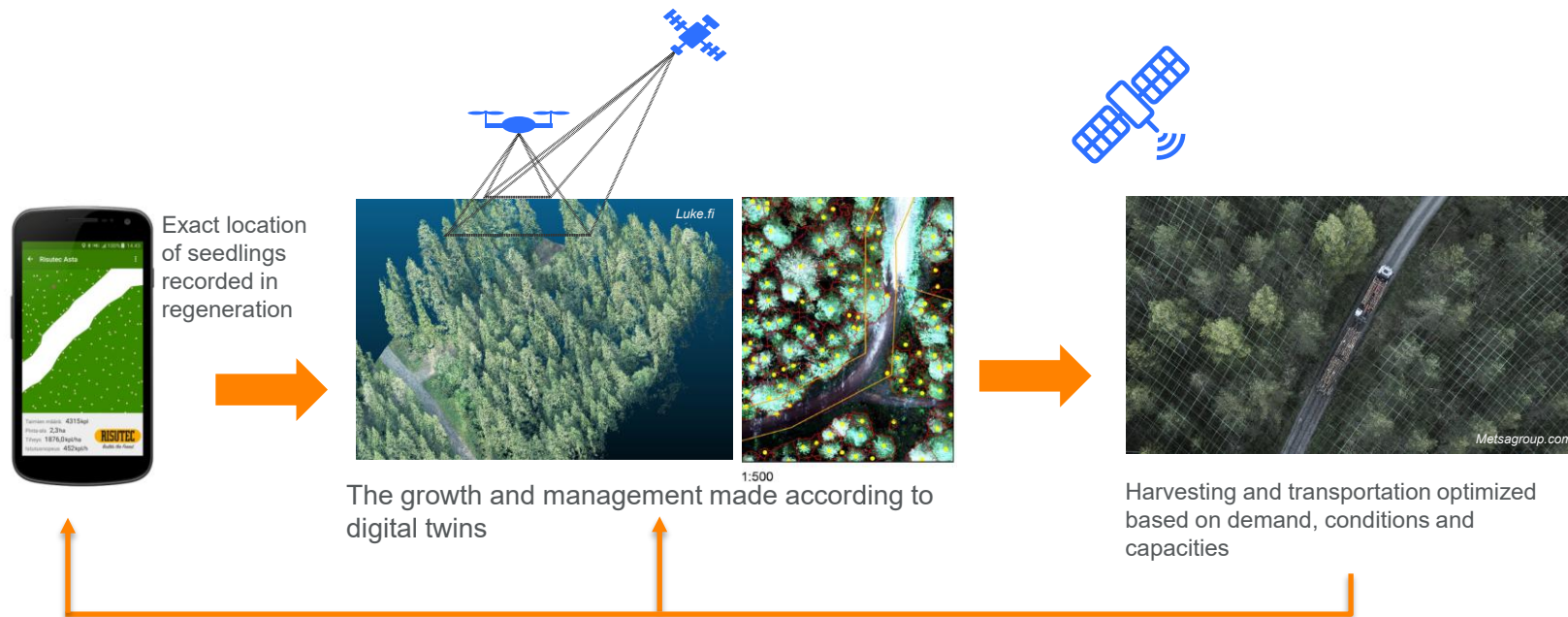


Wood imports

11.6 million m³

+33 % from 2017

*Deflated using wholesale price index



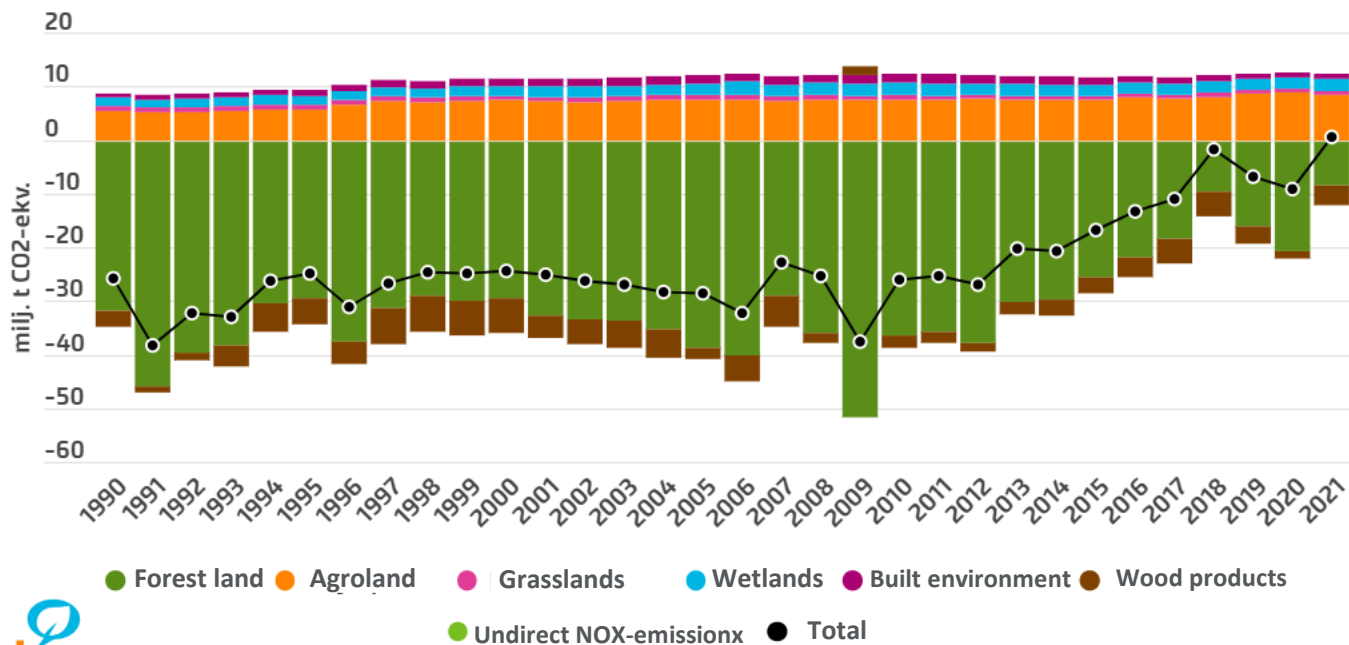
Digitalization is a great enabler also for sustainability

Forest Fires in Finland

- 400 – 2 000 forest fires annually
- Average area burned per fire: less than 1 ha.
- Total area burned typically 300 – 800 ha per year.
- Meteorological institute calculates the fire index. High index increases the monitoring and surveillance of fires
- Fast response due to good forest road network (160 000 km, 6m per ha.)
- Ignited mainly by human activity and thunder
- Coastal climate helps, extreme droughts exist rarely



Forests play a big role in Finnish carbon balance



Future challenges and opportunities

Carbon balance

- Have we done carbon accounting right? Why we calculate carbon differently in different countries?

Restoration Act

- What is the price tag of restoration? How to use limited resources to achieve the best effect?

Added value

- How to create more value per harvested tree? We have solutions but markets are not ready.

Thank you for listening !

Finnish forests are open daily!

<https://www.visitfinland.com/article/everymans-rights/#f7abbbc4>