

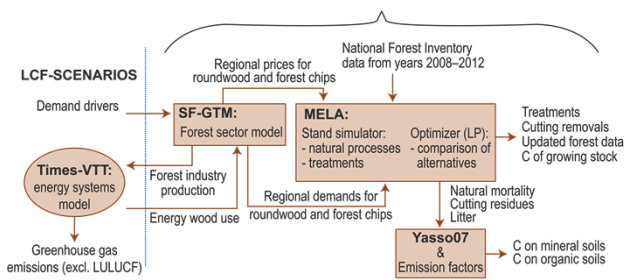
Forests in the future greenhouse gas balance of Finland

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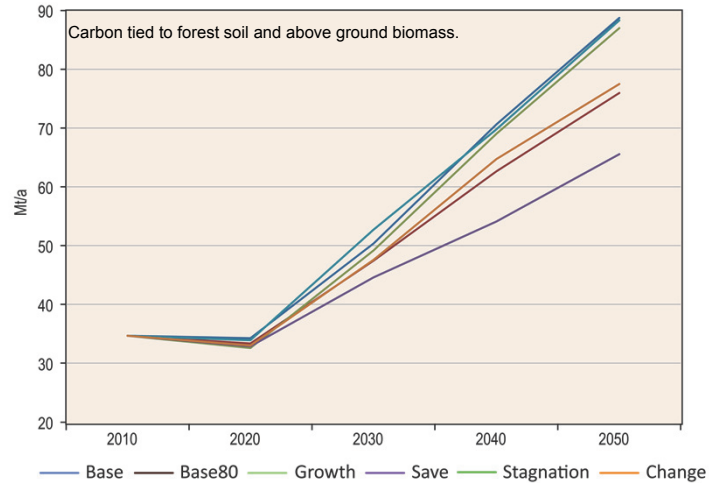
Background

5 distinct pathways where Finland achieves 80% reduction in its GHG emissions by 2050 were created in Low Carbon Finland 2050 -platform*, which supported the preparation of Energy and Climate Roadmap 2050 for Finland.

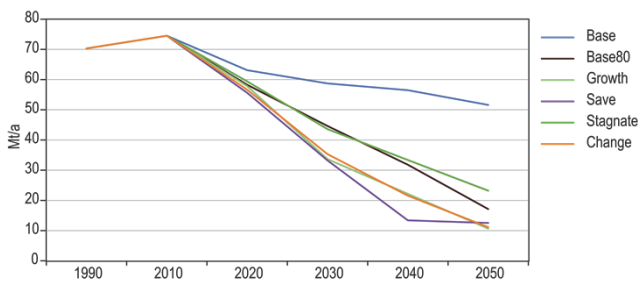
In the integrated analysis, Luke provided the scenarios for the forest sector development.



CO₂ sink of forest land increases

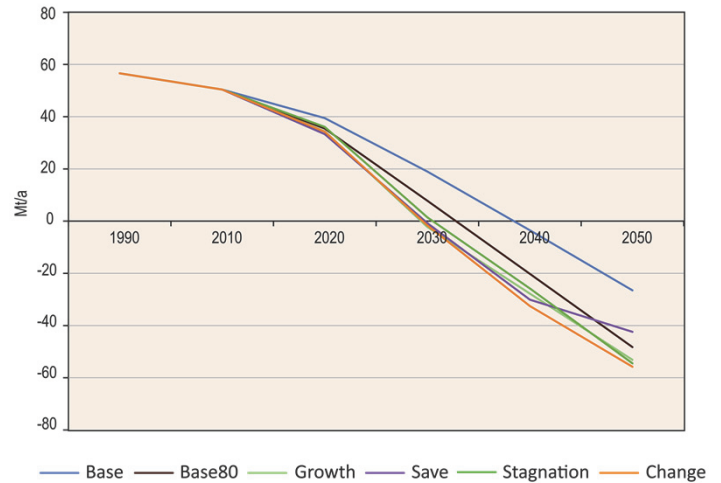


The input from energy systems modeling by VTT showed that cutting the GHG emissions in Finland relies heavily on replacing fossil fuels by wood. The demand for forest chips and roundwood for energy increases by 20-26 Mm³ from 2010 to 2050.



Greenhouse gas development in Finland in the scenarios. Source: Koljonen & Lehtilä (2015).

Net greenhouse gas balance including LULUCF sink becomes negative even without new measures (Base)



Results and conclusions

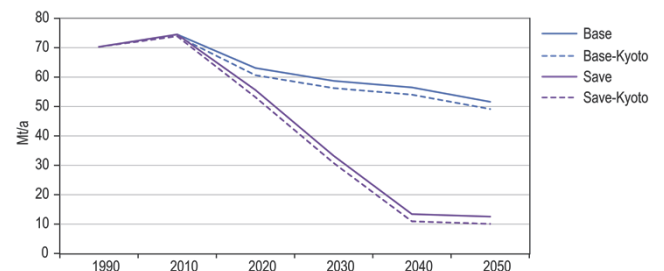
Forest resources allow large increase in wood use in the forest industry and energy sector.

Harvests are projected to remain below the growth. By 2050, the forest volume may be 1.5 times higher than today and the carbon sinks may double or triple in the scenarios with warming climate (A1B).

Forest C sinks alone would lead to 80% GHG reduction, but current accounting rules do not motivate their use.

The current policy leaves lots of flexibility for forest management and use in the future and provides safety against the many risks related to maintaining the forest sinks.

The current Kyoto protocol accounting rules give little benefit of including forest management sink to the reported GHG balance



GHG balance with (dashed line) and without the 2.5 Mt CO₂/a forest management credit of the second commitment period 2013-2020 in Base and Save scenarios.

* Low Carbon Finland 2050 -platform consortium was financed by Tekes with VTT (coordinator), Luke, VATT and GTK as partners.