

The role of bioenergy in Finland's energy and climate strategy 2030

Brussels 7. October 2016

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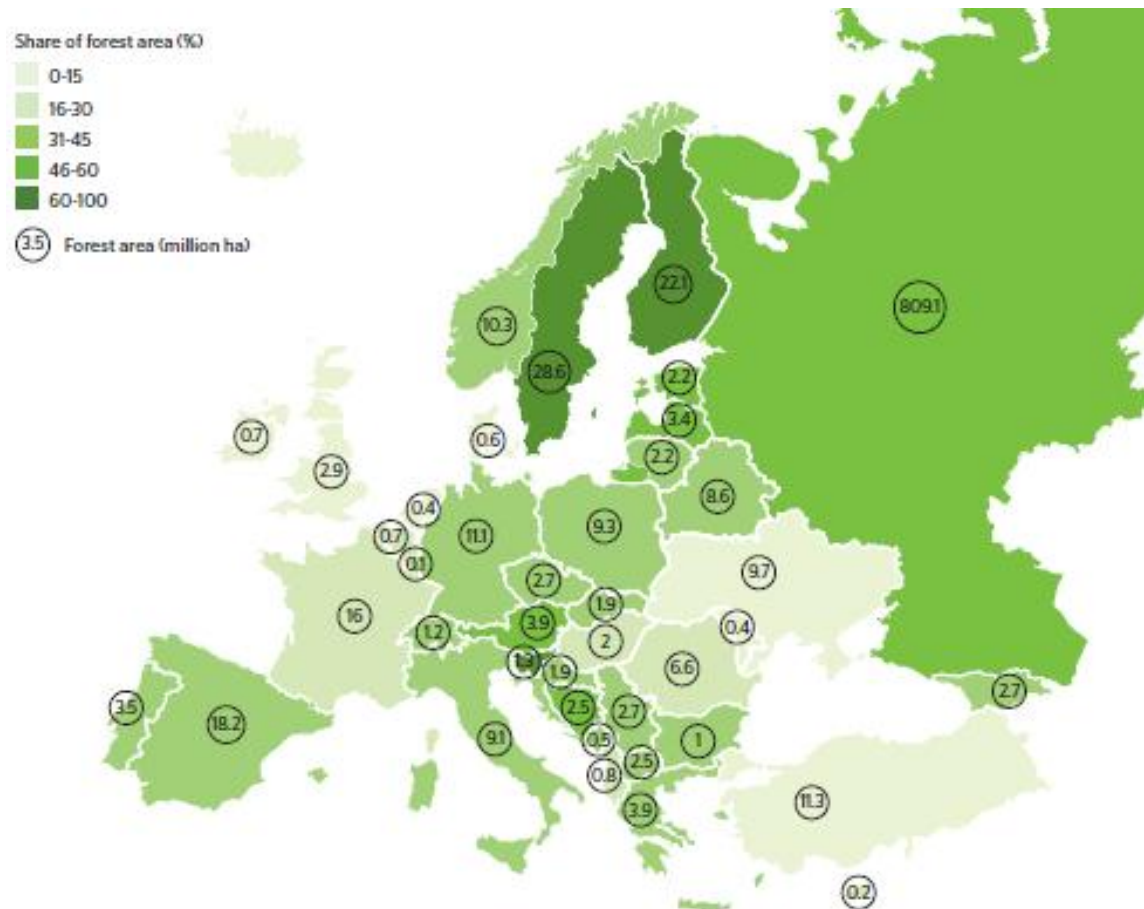
Ministry of Economic Affairs
and Employment of Finland

Topics



- **The starting point in Finland**
- **Finnish Government's goals**
- **National Energy and Climate Strategy 2030 under preparation**

Finland is one of EU's most forested member states

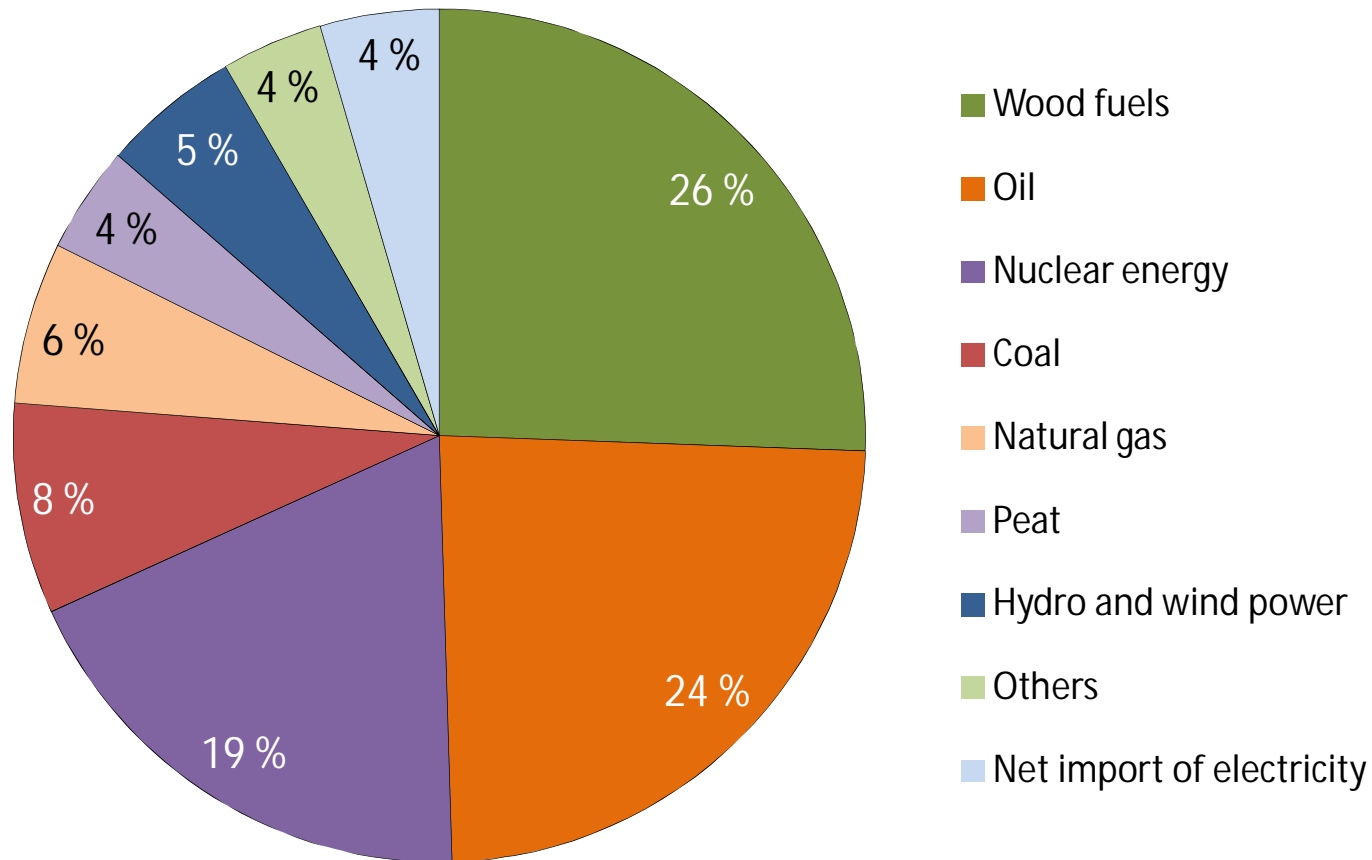


Source: FOREST EUROPE, UNECE and FAO 2011. State of Europe's Forests 2011. Status & Trends in Sustainable Forest Management in Europe. Available: http://www.foresteuropa.org/documentos/State_of_Europes_Forests_2011_Report_Revised_November_2011.pdf

Renewables progressing nicely



Primary energy consumption 2015 (362 TWh)

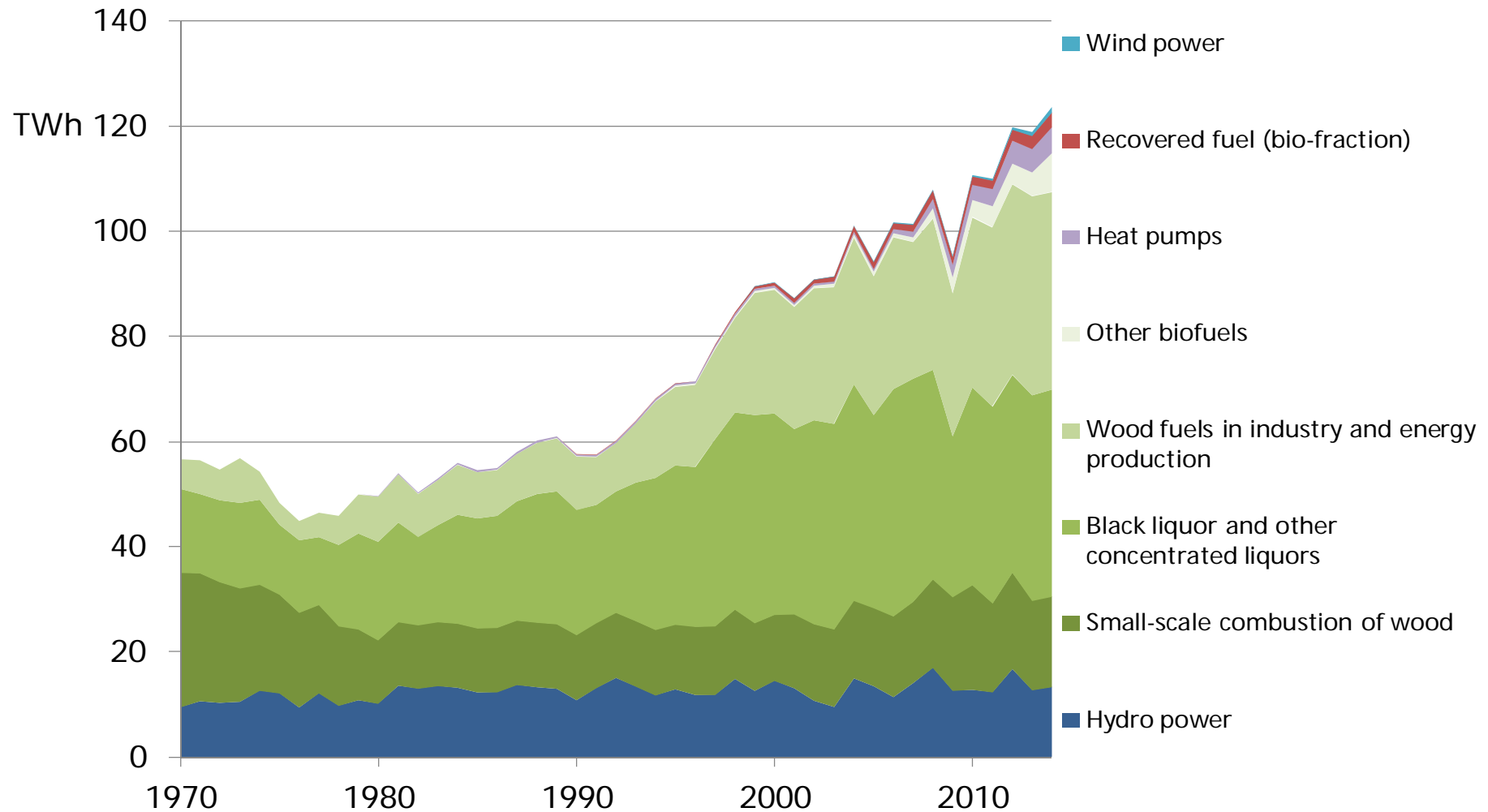


Finland has already achieved it's 2020 RES target



- **Share of renewable energy was 38,7 in 2014 % (target 38 %)**
- **Wood fuels makes the largest share in total energy consumption (25 %)**
- **60 % of renewable energy is based on industrial wood fuels, black liquor and other concentrated liquors.**
- **Main policy instruments for increasing renewable energy are:**
 - Distribution obligation for transport biofuels
 - Energy taxation (taxes for fossil fuels in heat production and transport, no tax or lower taxes for wood fuels and other biofuels)
 - Investment aid for energy projects by MEE
 - Innovative and new technology demonstration projects
 - Important e.g. for biofuels, biogas, geothermal facilities, storage
 - Operating aid (sliding premium) for electricity production
 - A number of incentives (tax exemptions, investment aid, regulation) for micro-production

Renewable energy 1970-2014

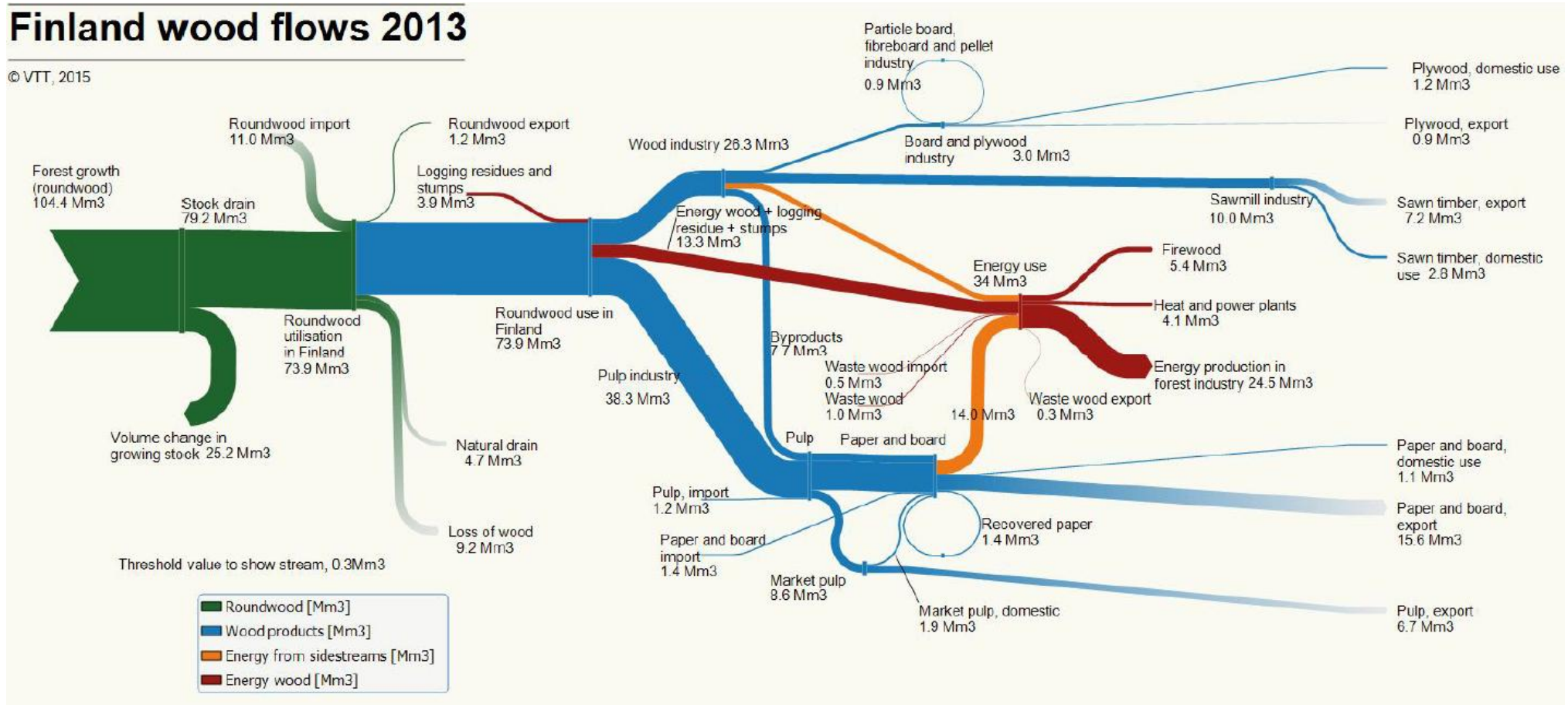


Bioenergy use is integrated into forest industry



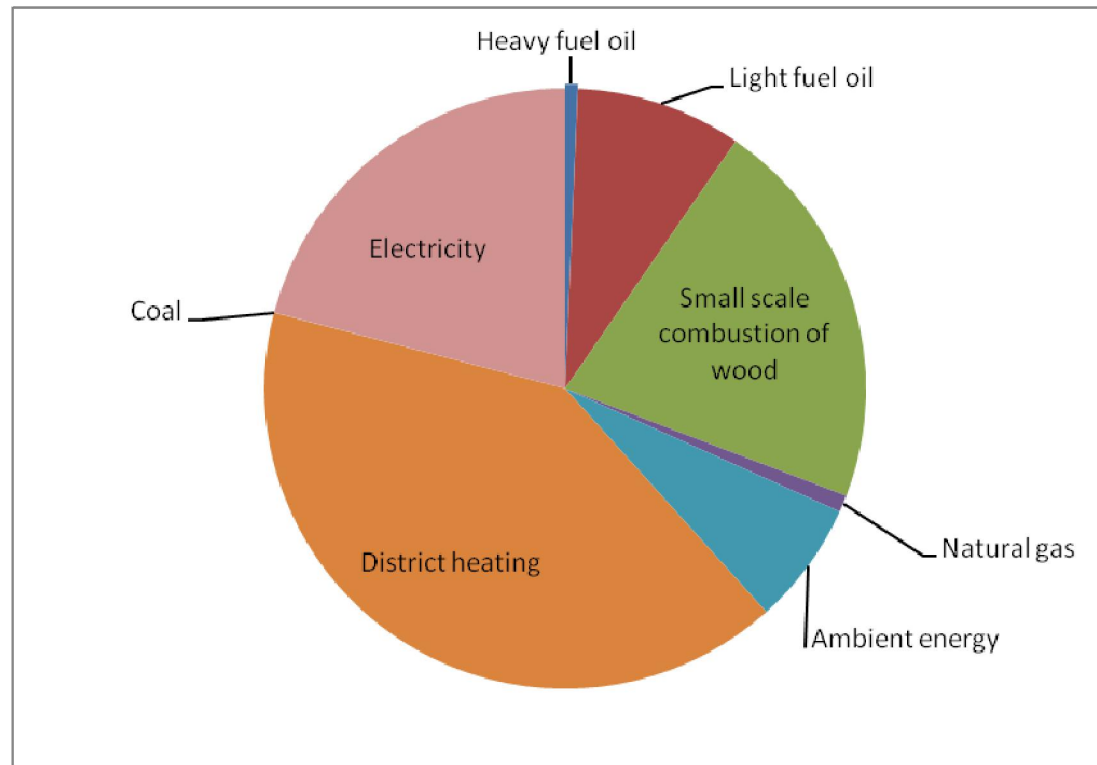
Finland wood flows 2013

© VTT, 2015

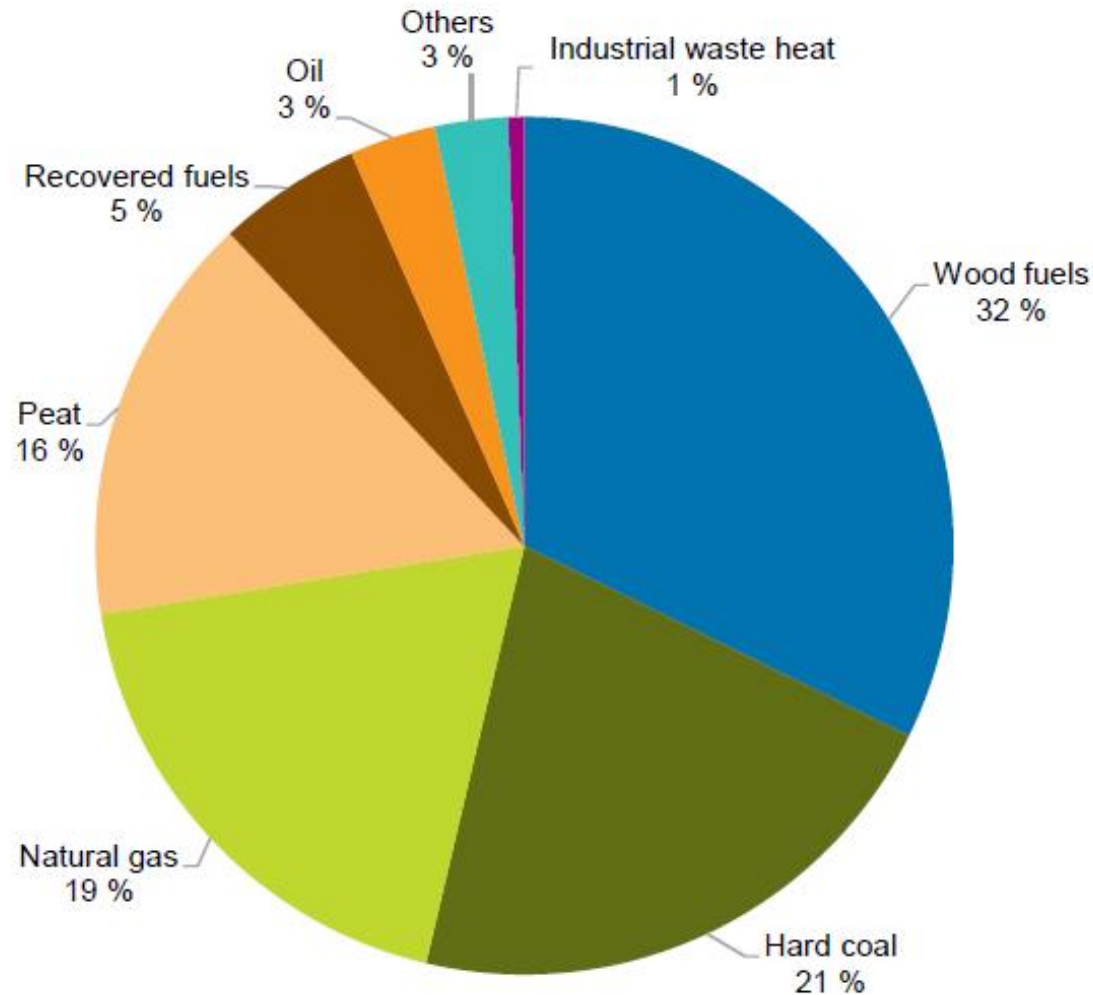


Source: Sokka, L., Koponen, K. and Keränen, J. T. 2015. Cascading use of wood in Finland – with comparison to selected EU countries. Research report VTT-T-03979-15. Available: <http://www.vtt.fi/inf/julkaisut/muut/2015/VTT-R-03979-15.pdf>

Energy sources for heating residential, commercial and public buildings in Finland in 2014



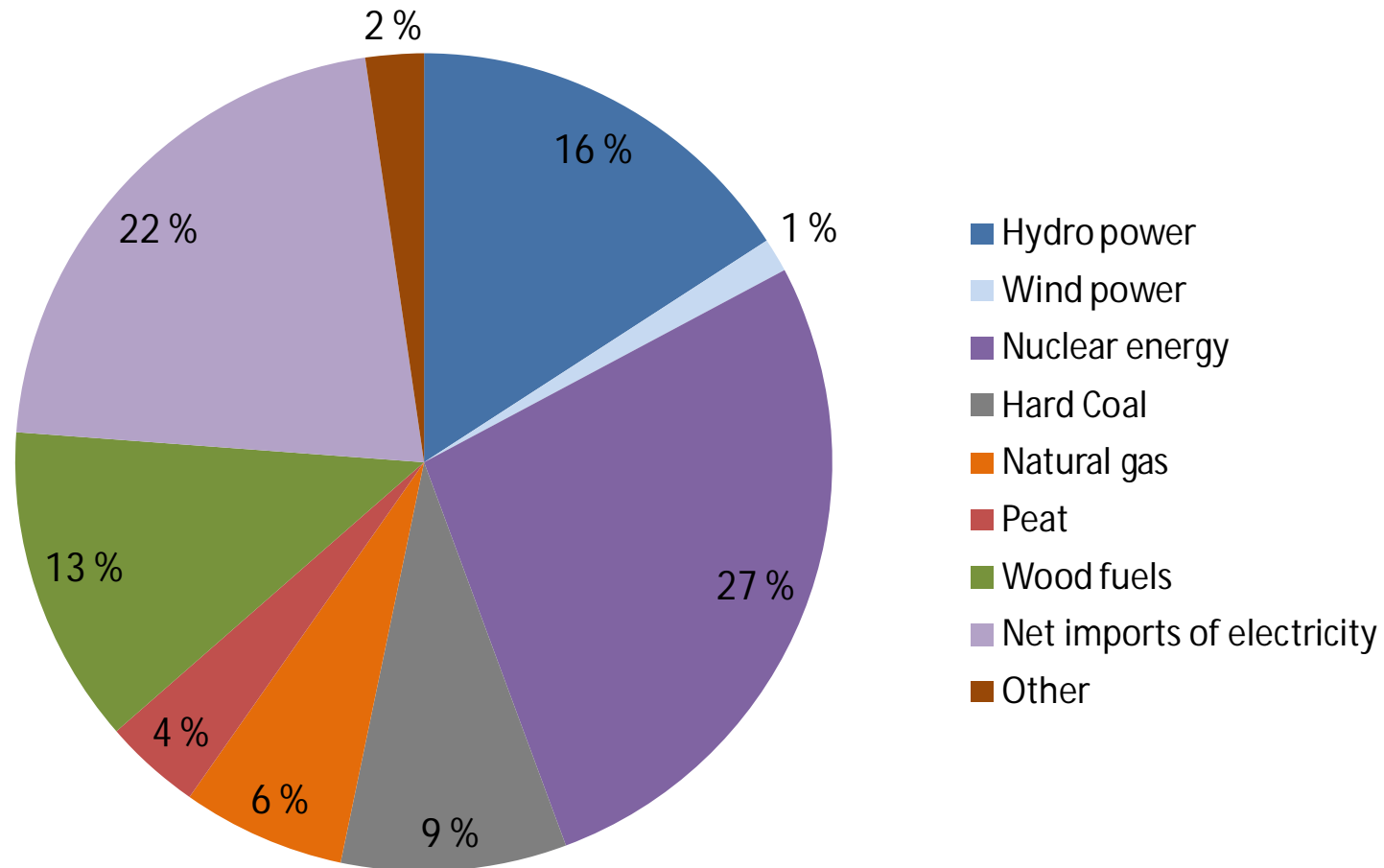
Fuels used in district heat production in 2014



Power: Towards a low-carbon economy



Supply of electricity by energy source 2014 (83.4 TWh)



Juha Sipilä's Government Programme: Towards carbon-free, clean and renewable energy cost-efficiently



- The use of **renewable energy** will be increased in a sustainable way so that **its share will rise to more than 50 % during the 2020s** and the self-sufficiency in renewable energy to more than 55 per cent, also including peat. This will be based, in particular, on the growth in the supply of bioenergy and other emission-free renewable energy. The greatest opportunities will be achieved in increasing the production and technology of liquid biofuels and biogas.

Clarification: The share of renewables is based on final energy consumption

- Coal will no longer be used in energy production and the use of imported oil for the domestic needs will be cut by half during the 2020s.
- The share of **renewable transport fuels** will be raised to **40 % by 2030**.

Clarification: Double counting for advanced biofuels, taking into consideration also electricity used in transport (in accordance with RES Directive) and hydrogen produce by renewable energy sources

National Energy and Climate Strategy 2030

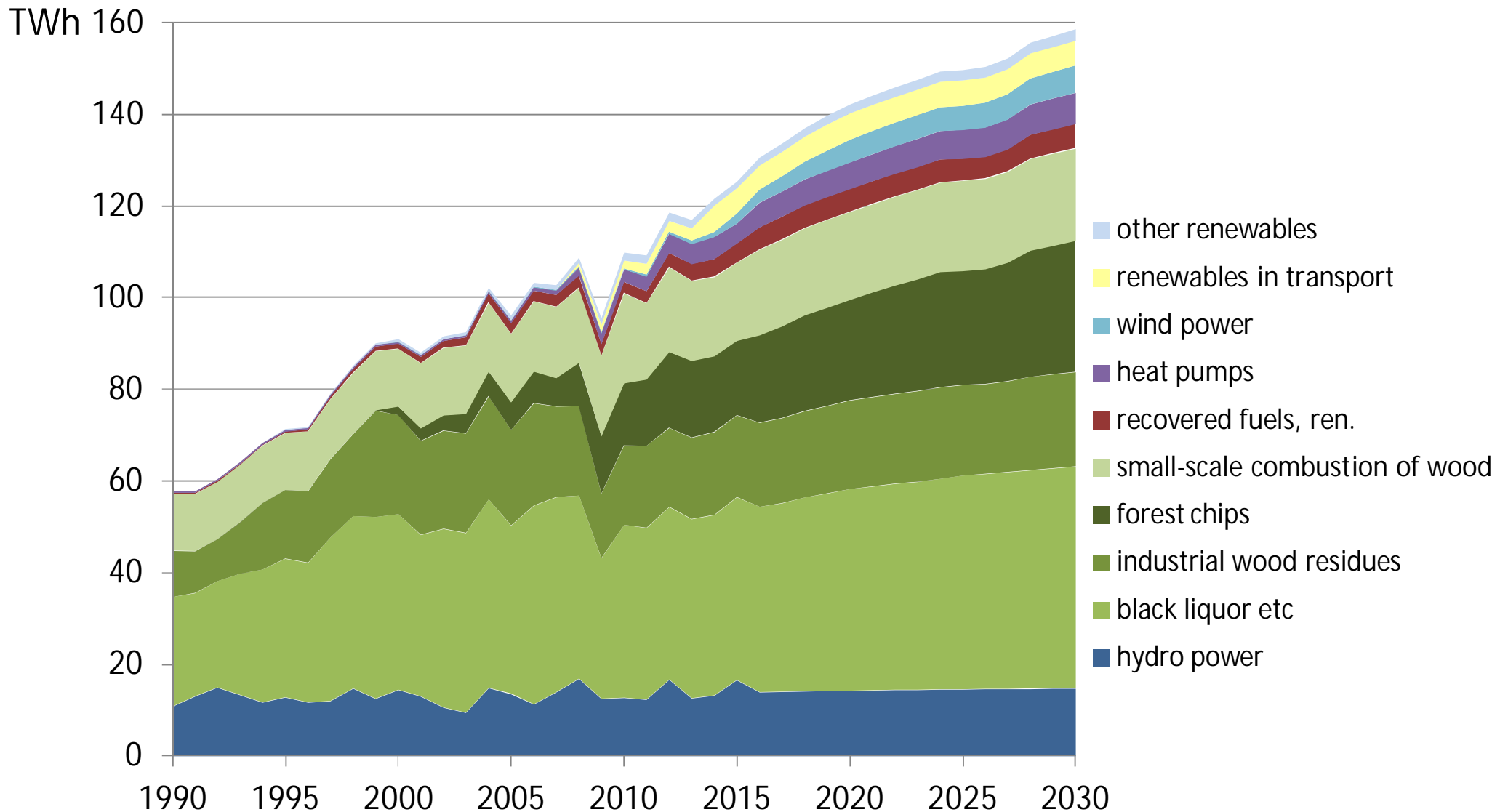


- **The reference/baseline scenario has been published in June 2016**
 - It describes the development with existing measures
 - Forest energy has a central role in renewable energy
 - Share of RES is very dependent on the by-products from the forest industry
 - There is need for **additional measures**
- **During autumn, policy scenario**

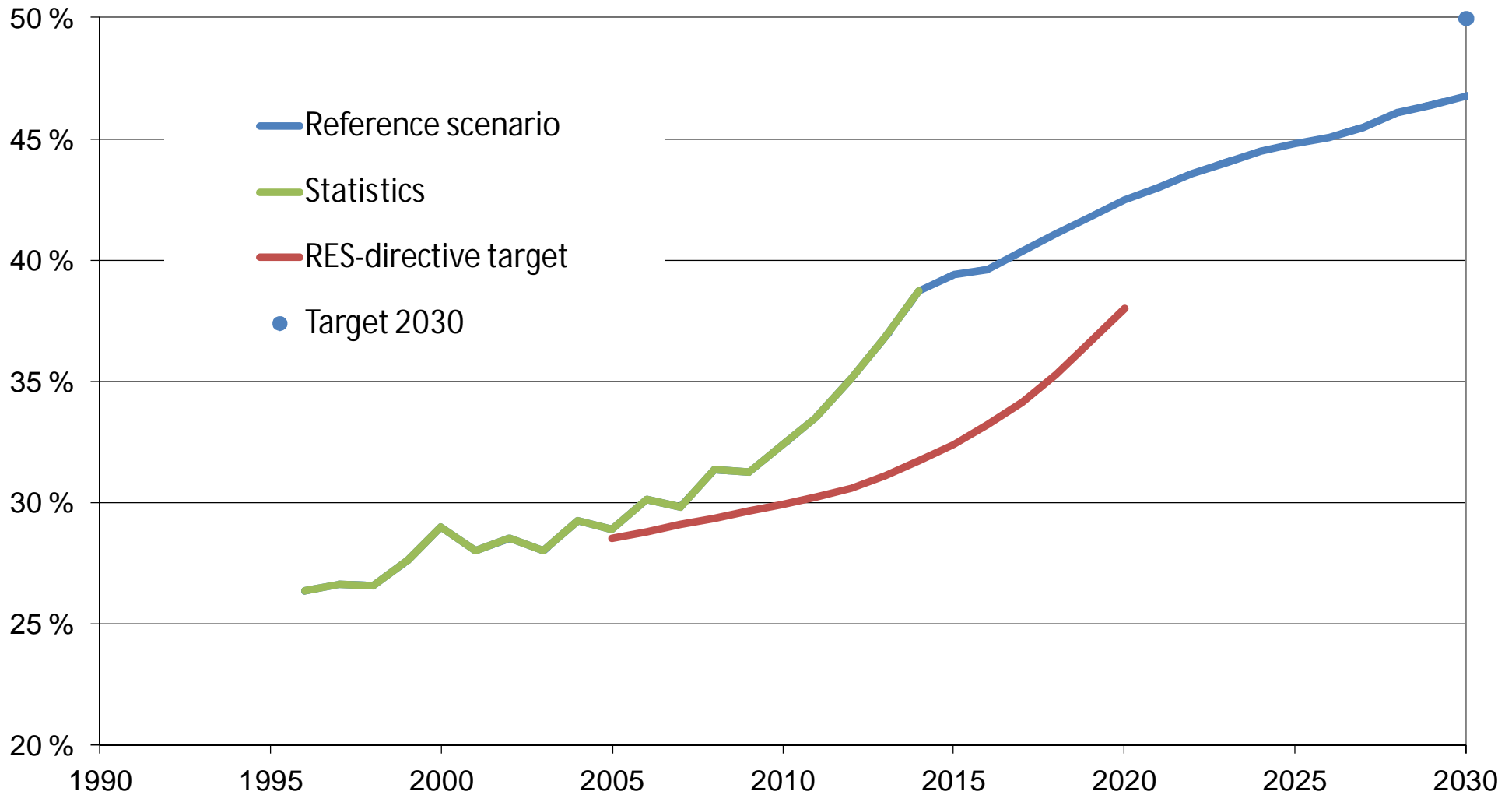
Key topics concerning renewable energy:

 - How to meet the non-ETS target (proposal in July -39 %): Transport, advanced biofuels
 - Forest energy: availability for energy use, possible restrictions
 - Support schemes for renewable energy and decentralized production (also biogas)
- **Will be published by the end of 2016**
 - The Government will submit the Strategy to the Parliament

Renewable energy, reference/base scenario



Reference scenario: share of renewable energy will continue to rise





Thank you