



Metsä



Growth from resource-wise bioeconomy
Benchmark: Bioproduct mill

FAO International Day of Forests

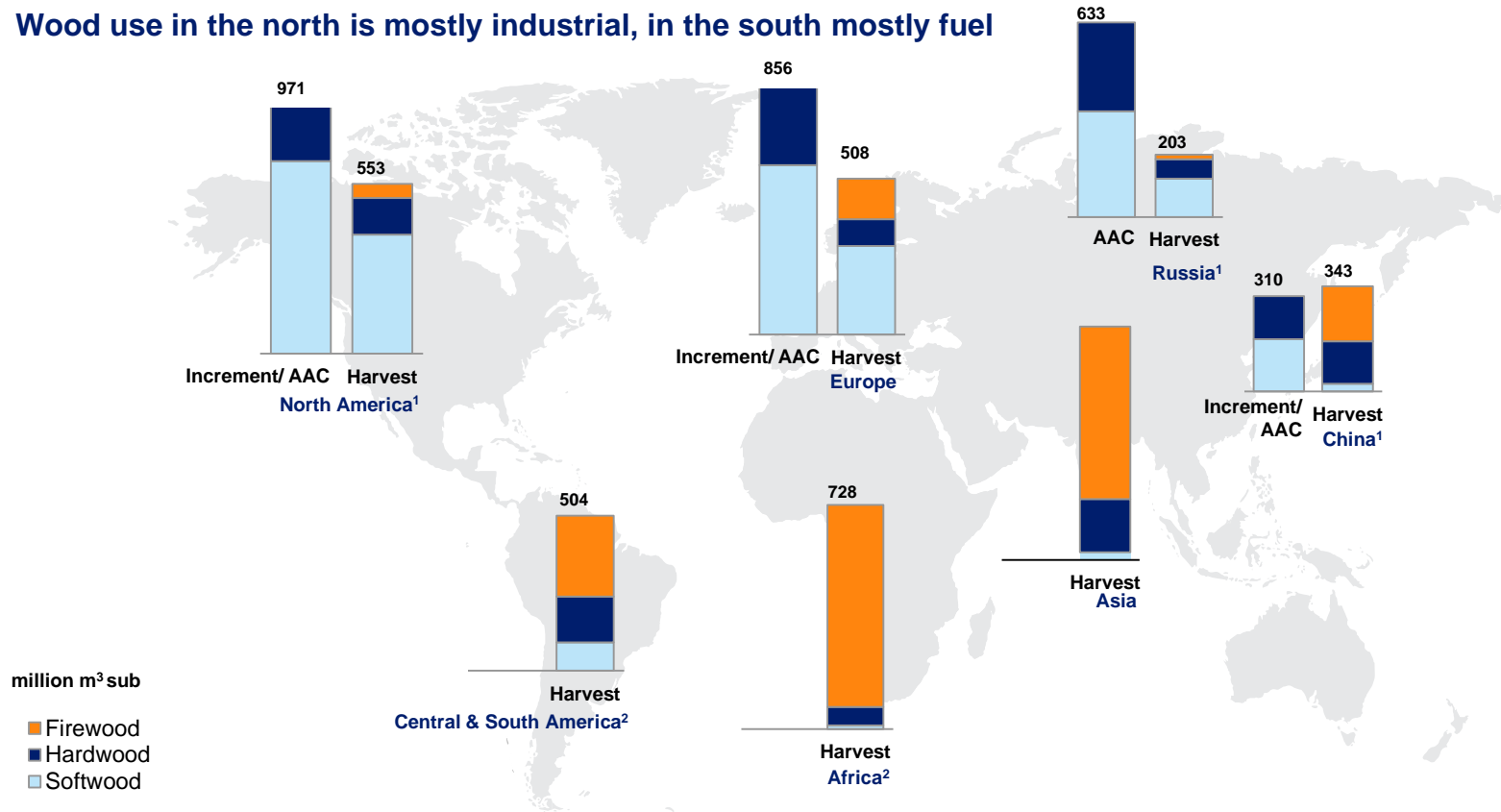
Rome, March 21, 2017

Riikka Joukio

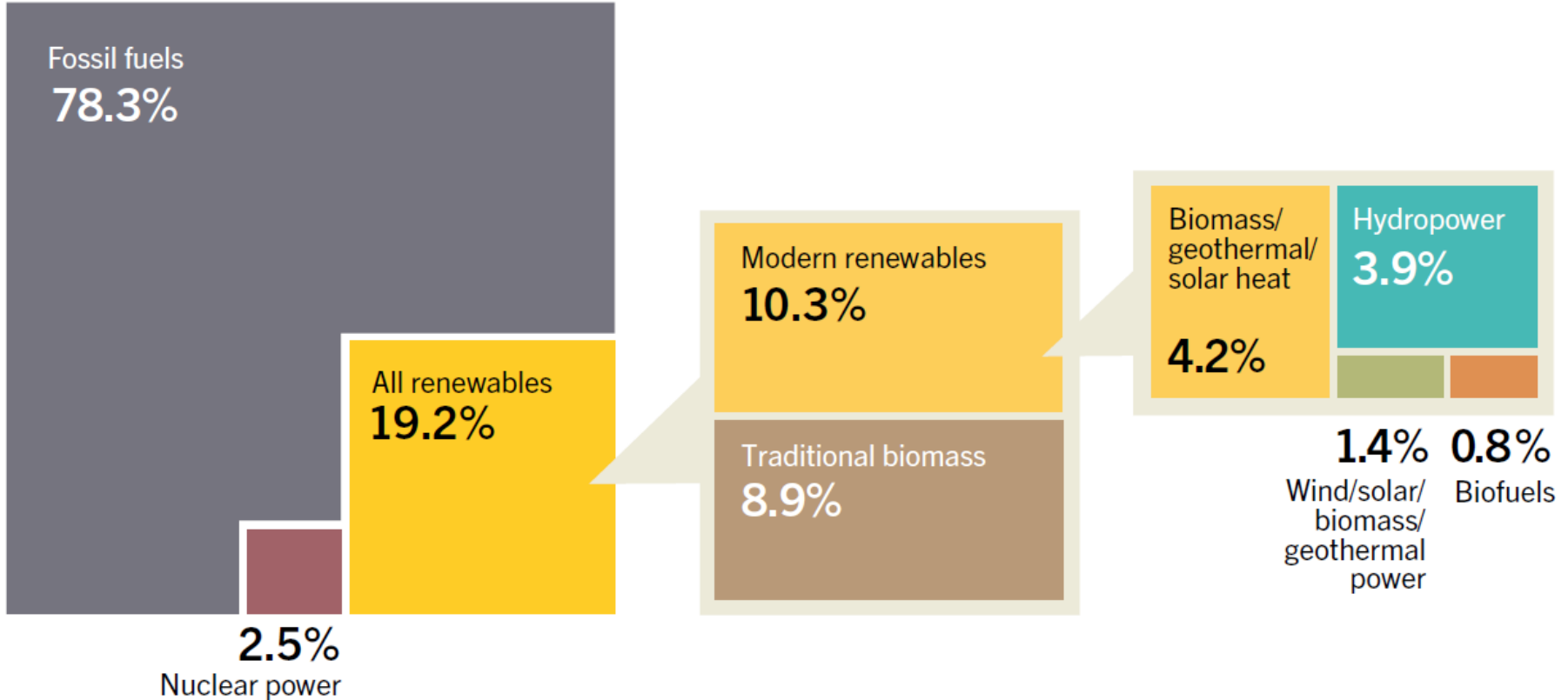
SVP, Sustainability & Corporate Affairs

INDUSTRIAL WOOD UTILISATION IS CONCENTRATED UPON SOFTWOOD FOREST ZONES

Wood use in the north is mostly industrial, in the south mostly fuel



Renewable-energy share of global energy consumption



METSÄ GROUP | Sales EUR 4.7 billion | Personnel 9,300

METSÄLIITTO COOPERATIVE | Group's parent company | Owned by 104,000 Finnish forest owners



METSÄ FOREST

Wood supply and forest services

Sales:
EUR 1.5 billion

Personnel:
900



METSÄ FIBRE

Pulp and sawn timber

Sales:
EUR 1.6 billion

Personnel:
1,250



METSÄ WOOD

Wood products

Sales:
EUR 0.5 billion

Personnel:
1,500

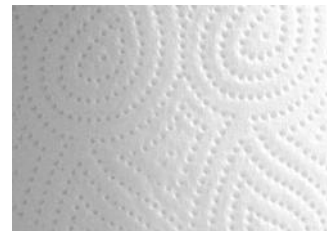


METSÄ BOARD

Paperboard

Sales:
EUR 1.7 billion

Personnel:
2,500



METSÄ TISSUE

Tissue and cooking papers

Sales:
EUR 1.0 billion

Personnel:
2,750

Renewable energy: 22.3 TWh

The bioproduct mill – the forest industry's biggest investment

- EUR 1.2 billion investment
- Annual pulp production of 1.3 million tonnes
- Integrated production of new bioproducts
- Use of wood 6.5 million m³ annually
- A unique industrial ecosystem for the bioeconomy will be developed on the Äänekoski site
- The mill will be ramped up during the third quarter of 2017

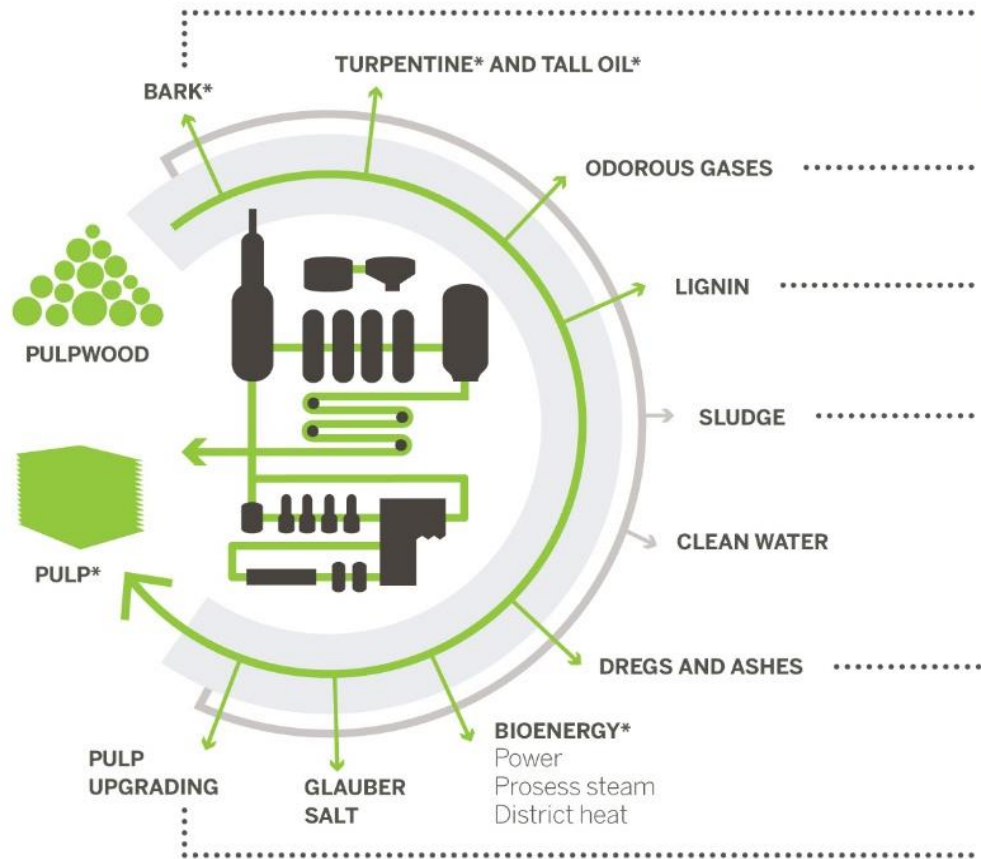


Towards a carbon-neutral society

- Wood should primarily be used for long-lifetime products which substitute fossil raw materials
- The cornerstones of the bioproduct mill have been minimising its energy usage and maximising efficiency
 - 240% self-sufficient in electricity
 - Fossil-free
- Energy is needed at the mill, and for this we use sustainable renewable energy from industrial side streams
- Renewable energy is also produced to supply for the needs of society



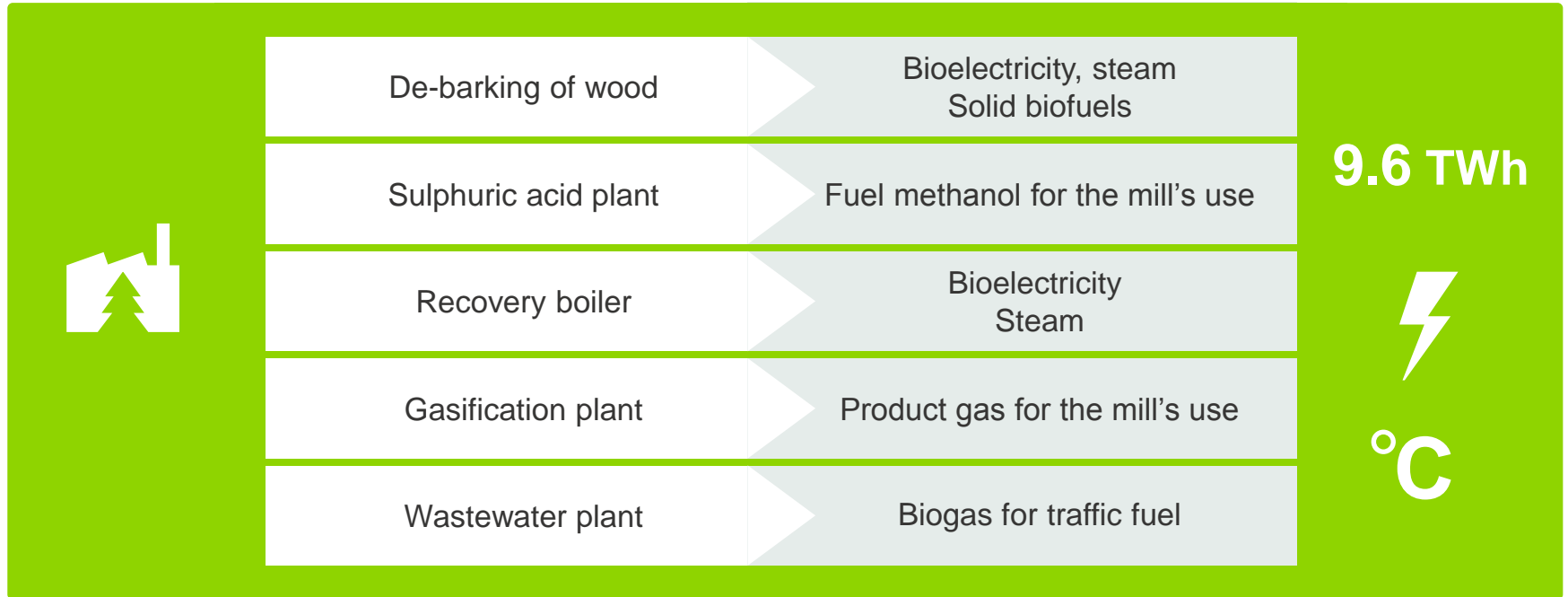
Bioproduct concept: all side streams 100% utilised



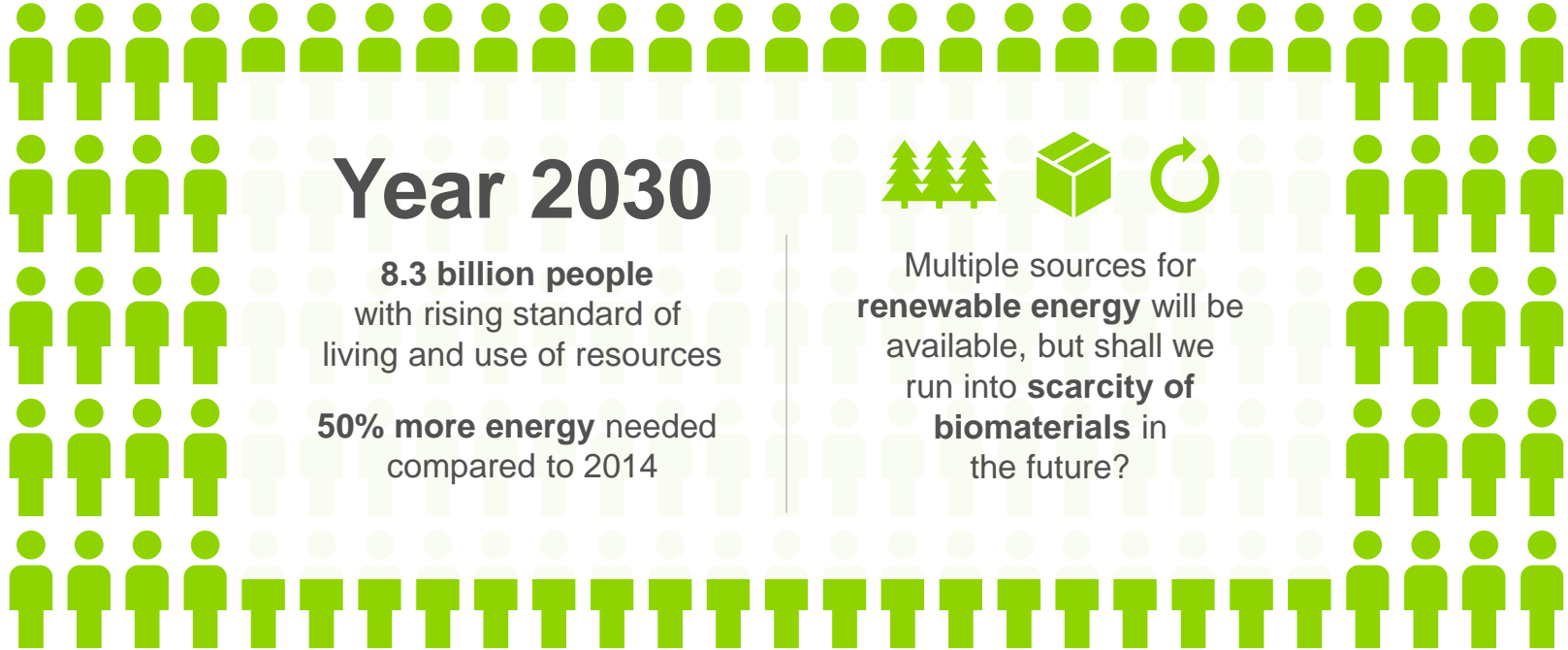
- Product gas** from bark and sludge for the mill's own use
- New biofuels** from bark, wood dust and energy wood
- Sulphuric acid** from odorous gases for the mill's own use
- New bioproducts** from lignin
- Biogas** from sludge for traffic fuel or the mill's own use
- Fertiliser and earth work material** from dregs and ashes
- New textile fibres** from pulp
- Biocomposites** from pulp

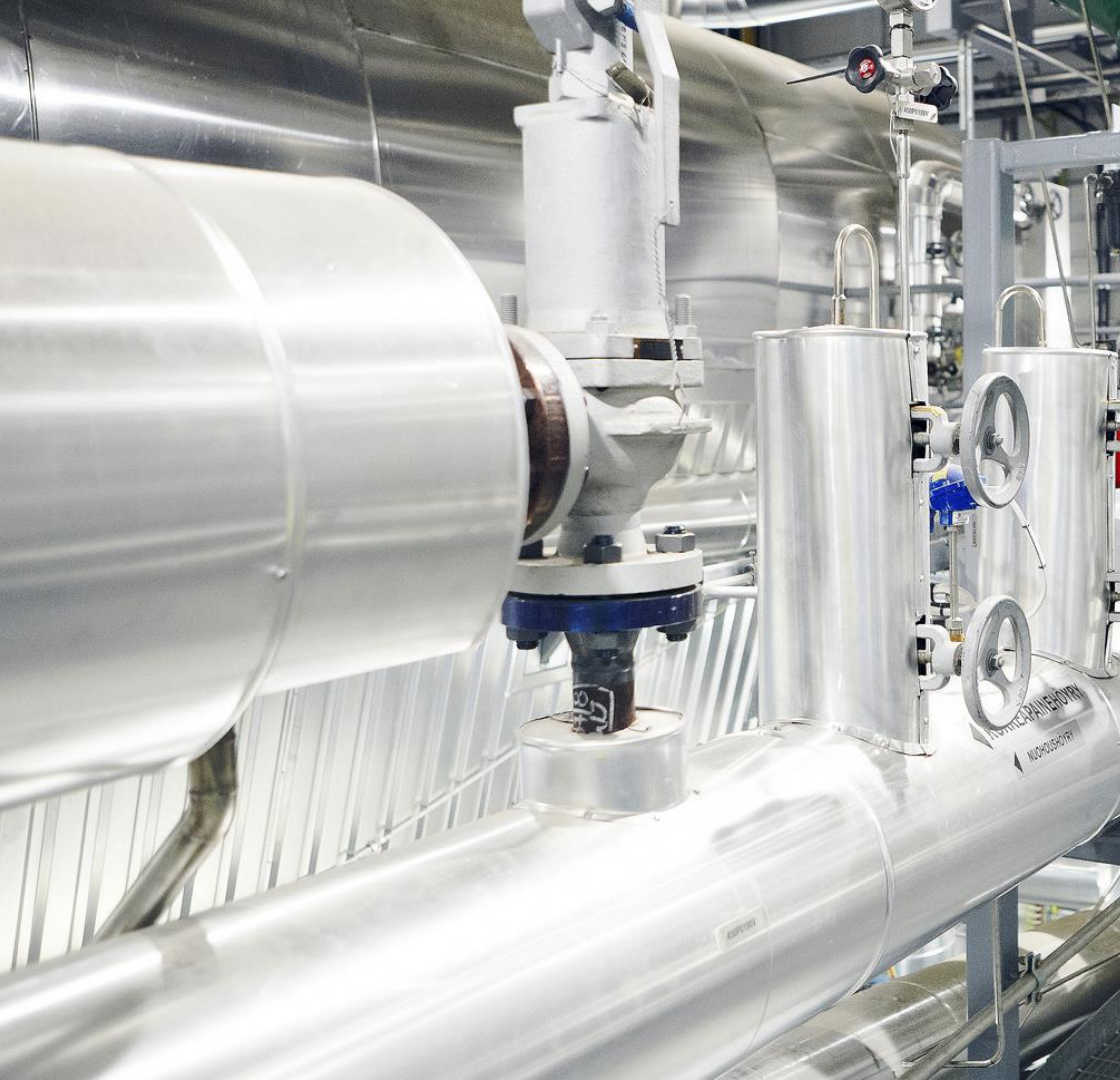


The bioproduct mill produces much renewable energy as a by-product



Population growth increases the need for wise use of raw materials





- Northern wood is a valuable but limited resource
- Versatile opportunities for bioproducts to replace fossil-based materials
- Natural growth of the bioeconomy is the best way to increase wood-based renewable energy

Make the most of Metsä



Annual growth of European forests insufficient for traffic fuels

The fuel scenario also completely excludes material use, which is the most efficient way to use wood and create added value.

