Inquiry for a national strategy for a growing bioeconomy

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The purpose of the inquiry

Promote	Contribute	Create
Promote sustainable growth, innovation and employment throughout the country	Contribute to environmental and climate benefit	Create enhanced national security of supply and reduced vulnerability in society

How?

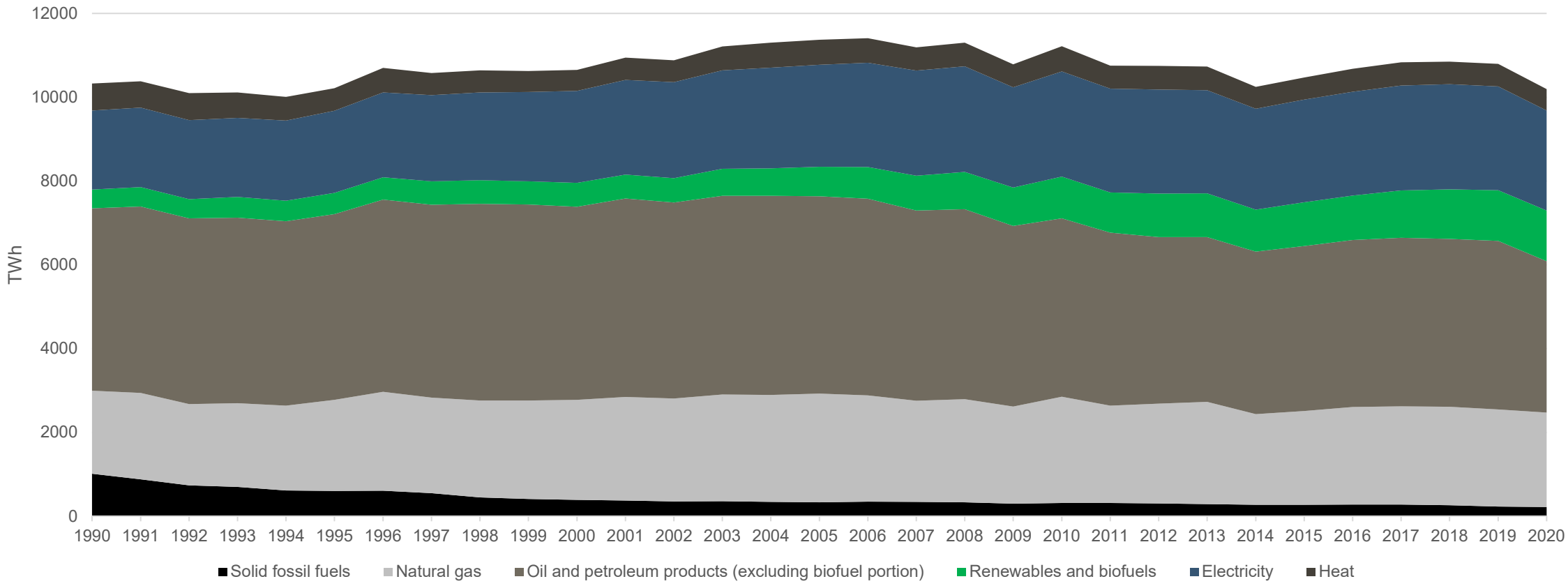
Develop proposals for a national strategy for a sustainable, competitive and growing bioeconomy

Report 31st October, 2023

Propose measures promoting effective production of liquid biofuels, based on domestic raw materials in Sweden

Reported 29th March, 2023

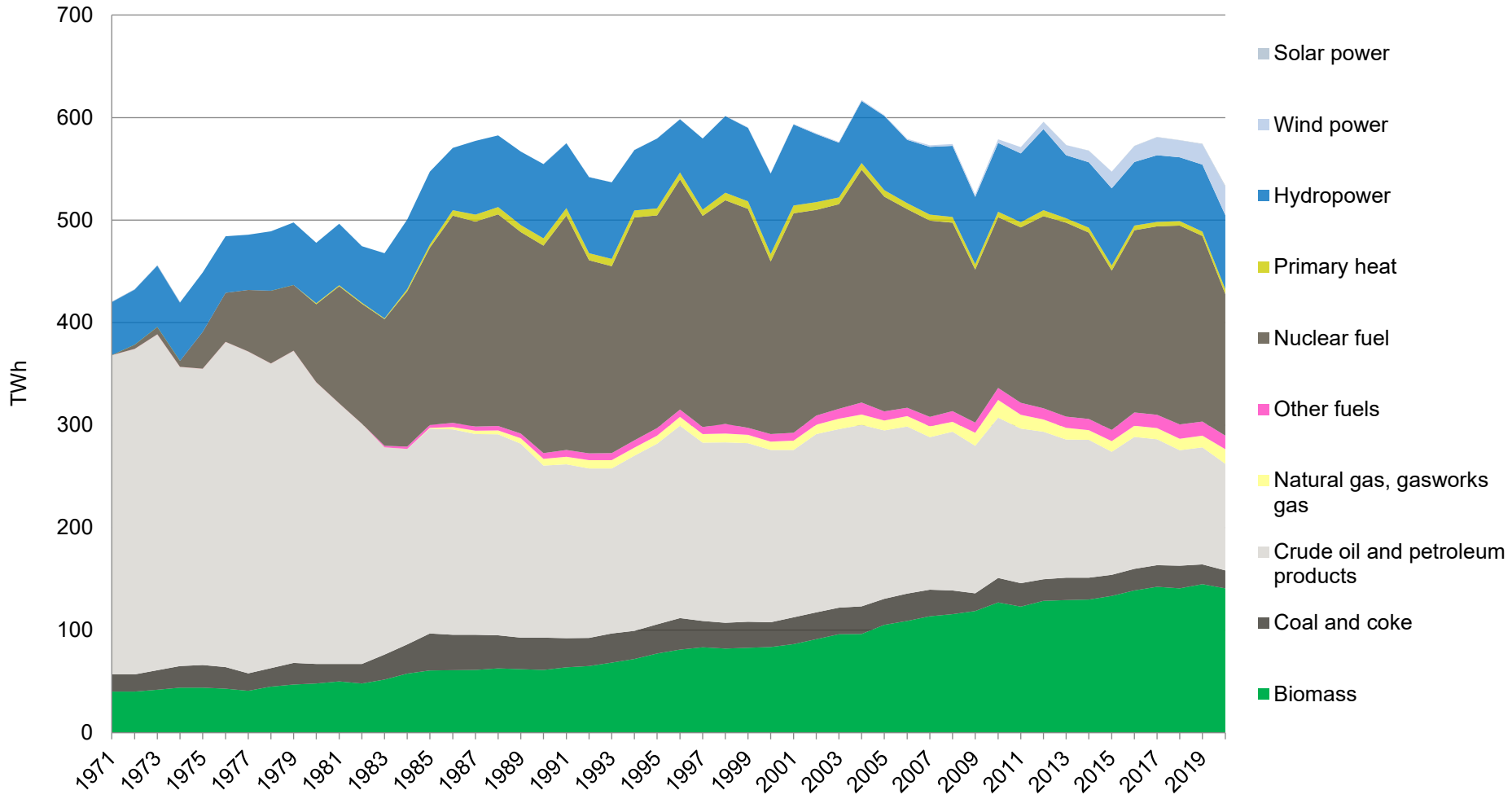
Final energy consumption in Europe



SWEDISH GOVERNMENT INQUIRIES

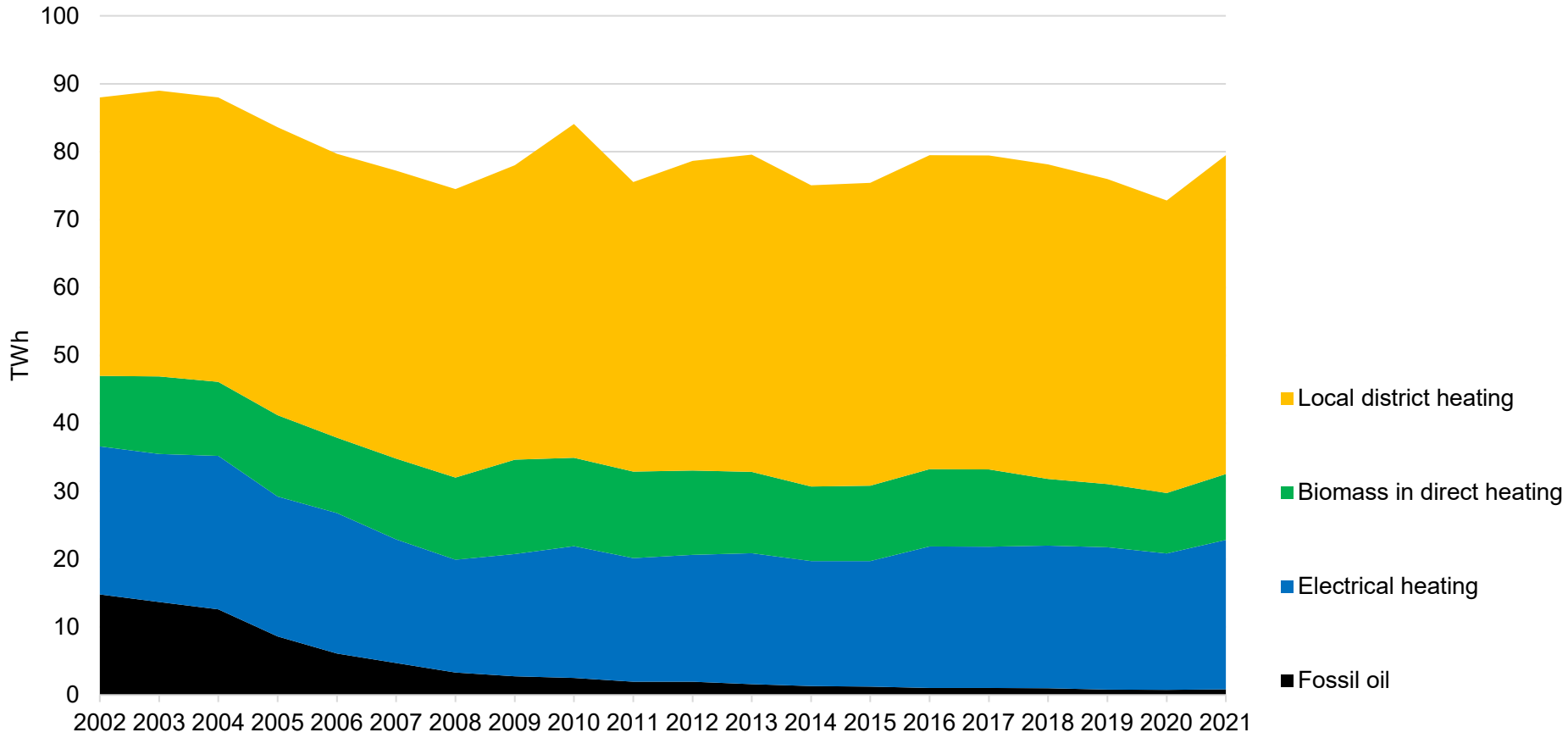
Source: Eurostat

Final energy consumption in Sweden



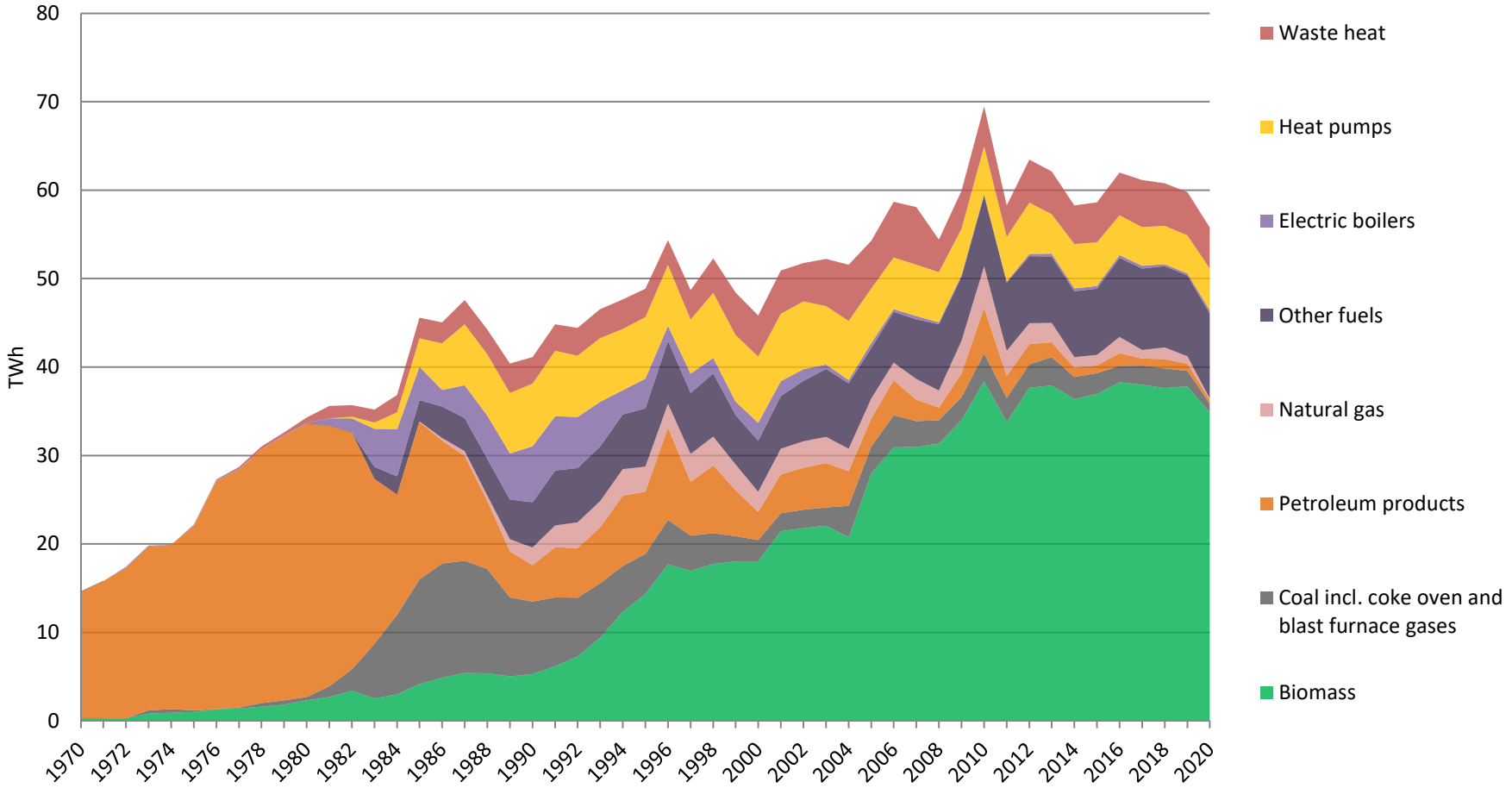
Source: Swedish Energy Agency

Importance of district heating for heat consumption in Sweden



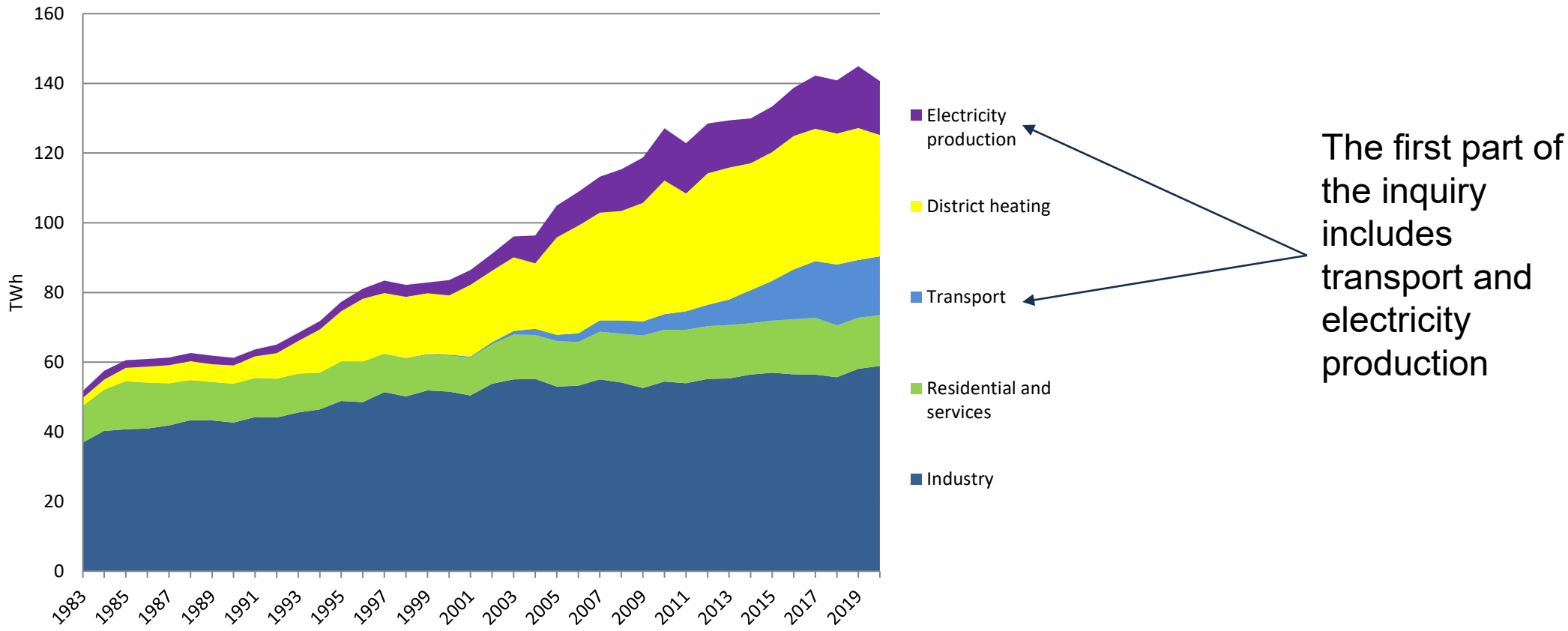
Source: Swedish Energy Agency

Energy used in district heating in Sweden



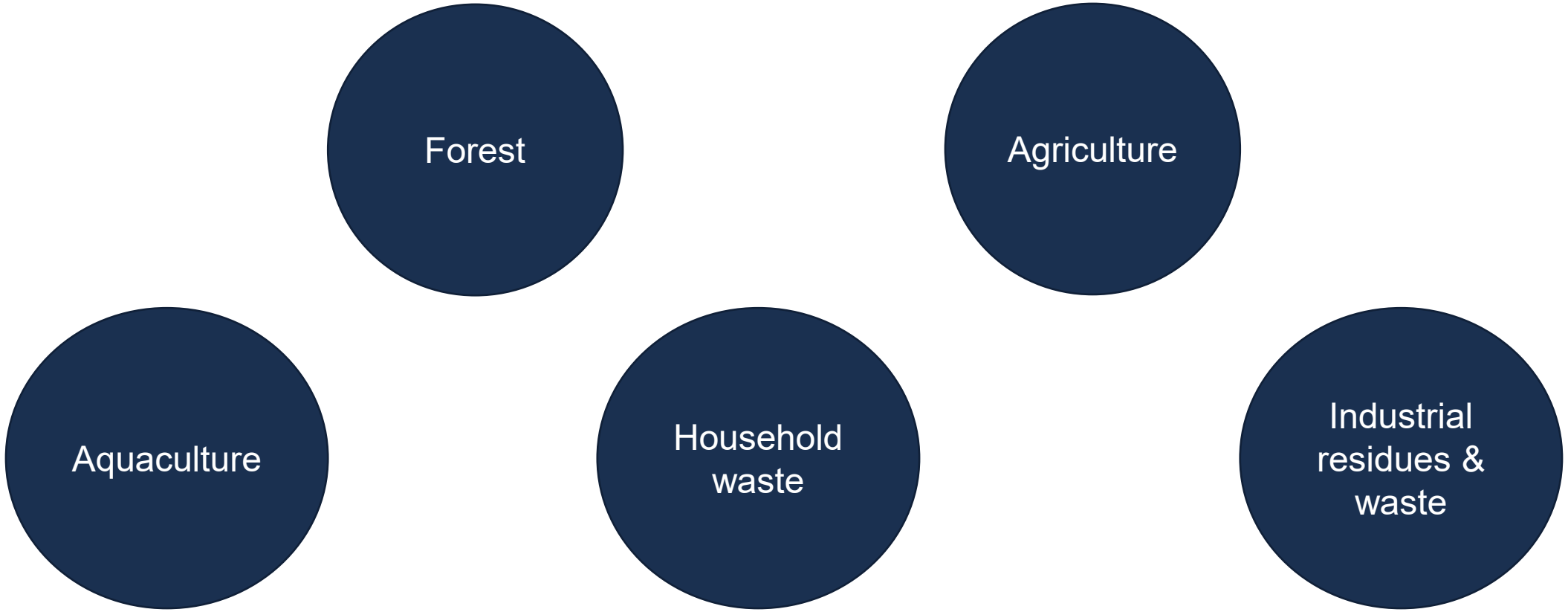
Source: Swedish Energy Agency

The use of biomass per sector in Sweden

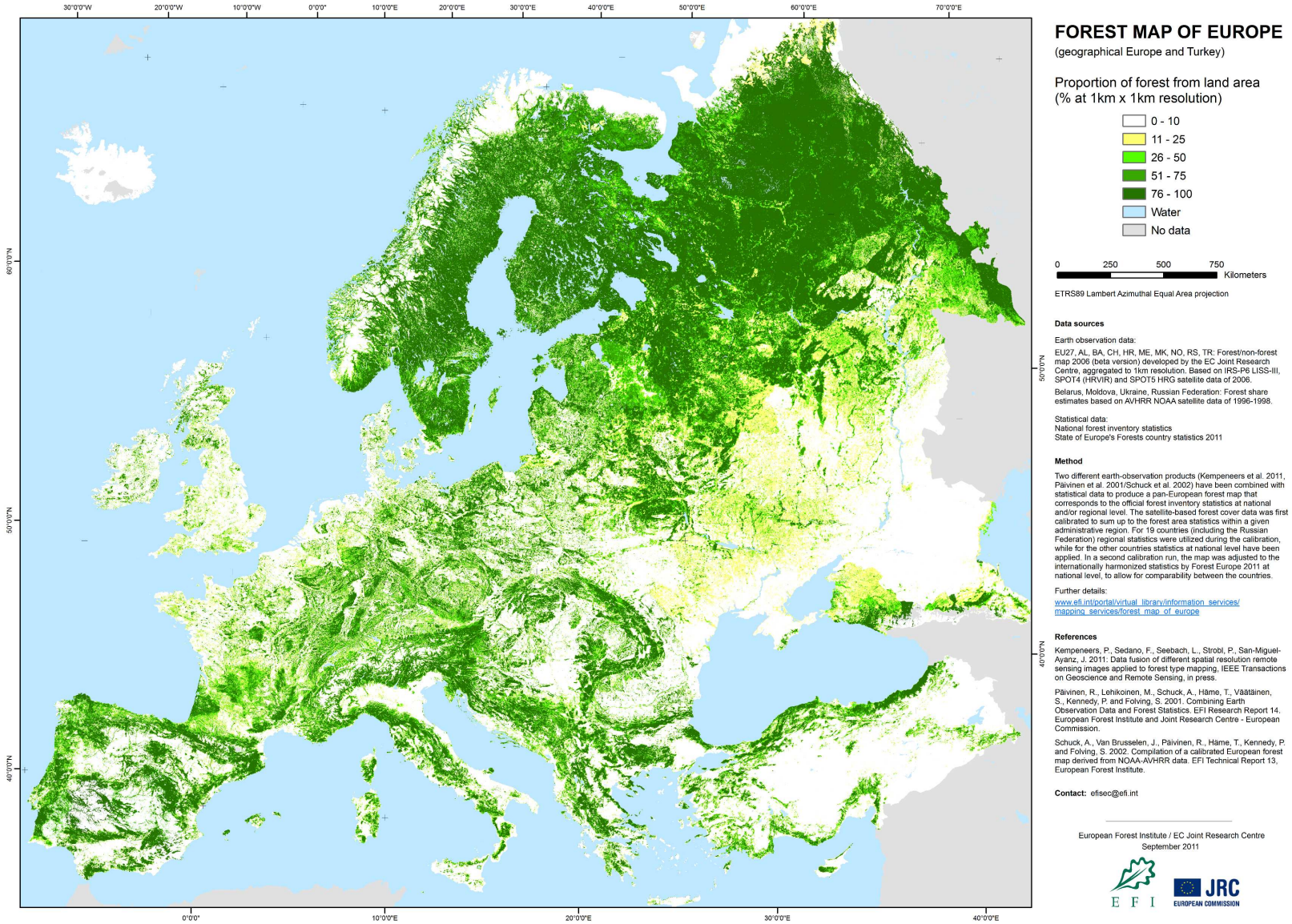


Source: Swedish Energy Agency

Diverse availability of biomass



Forest in Europe



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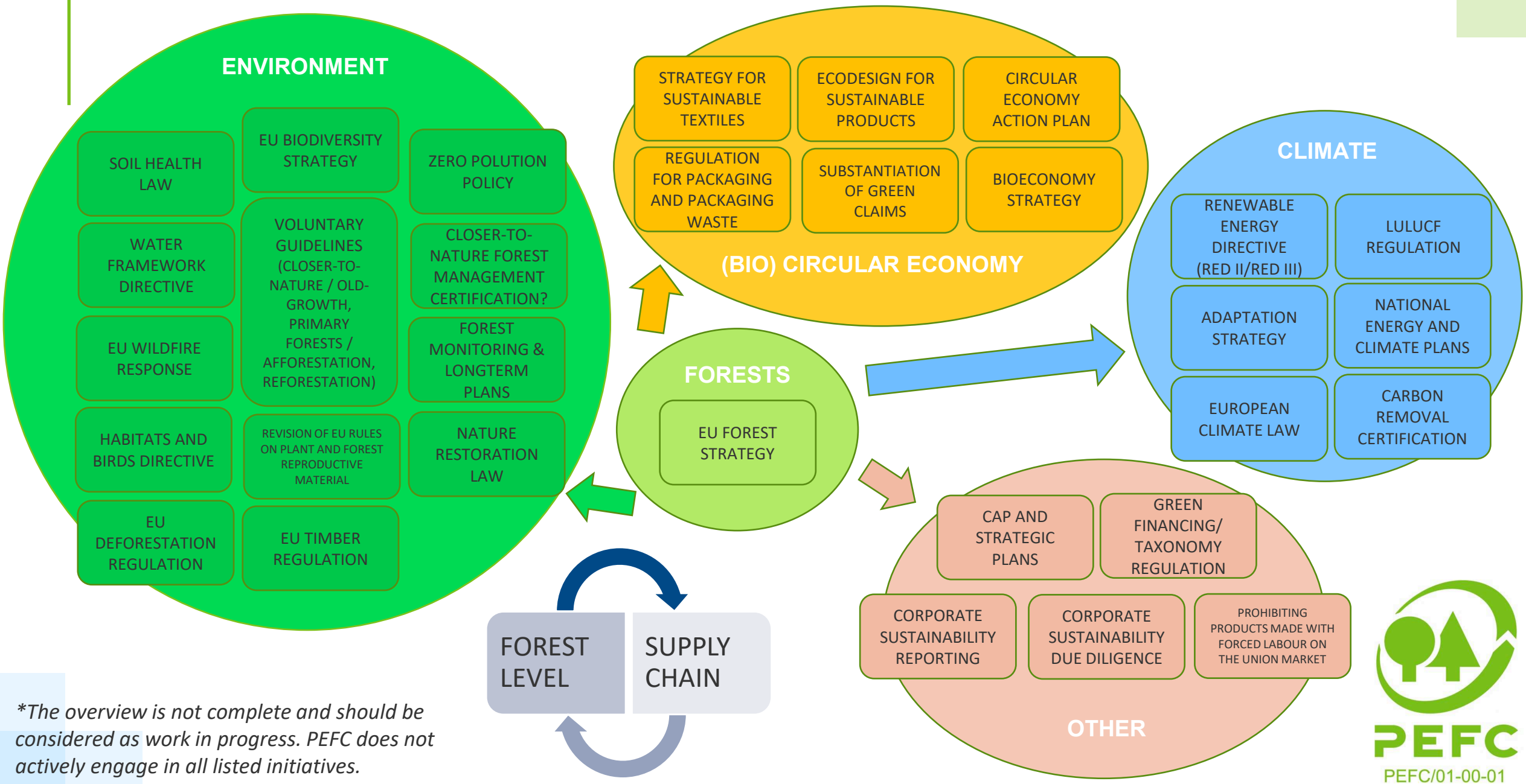
EU POLICIES IMPACTING FORESTS IN THE EU



**The overview is not complete and should be considered as work in progress. PEFC does not actively engage in all listed initiatives.*

PEFC

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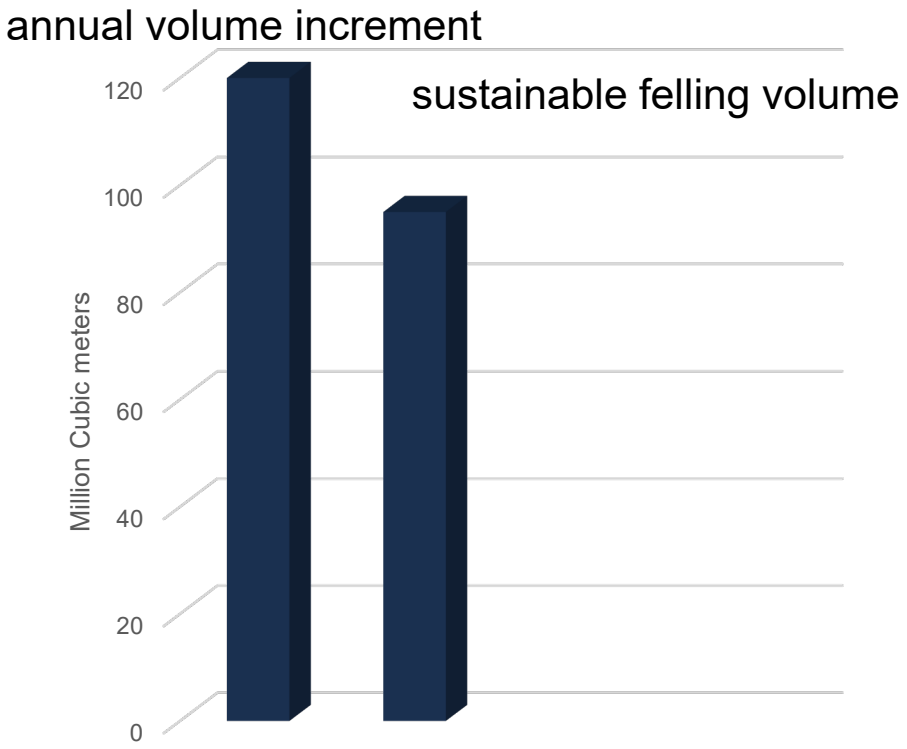
Forest growth and sustainable harvest levels

Mean annual volume increment 2016 (average) was **120 million m3**.

Highest annual sustainable felling volume until 2035 will be **95– 100 million m3**



Source: Swedish Forest Agency

Potential of harvest residues as bioenergy from Swedish forest

Annual use of harvest residues for the period 2016-2020 compared to potential annual use for the period 2025-2034 under four scenarios.

Potential on forest available for wood supply with deduction according to the recommendations from the Swedish Forest Agency.

Total potential without deduction within brackets.

Numbers in TWh.

	Current annual use	BAU potential harvets	Focus Climate adaptation	Focus Diversity	Focus Growth
Sweden	8,7	40,2 (60,8)	37,4 (56,9)	28,5 (42,7)	39,8 (62,6)

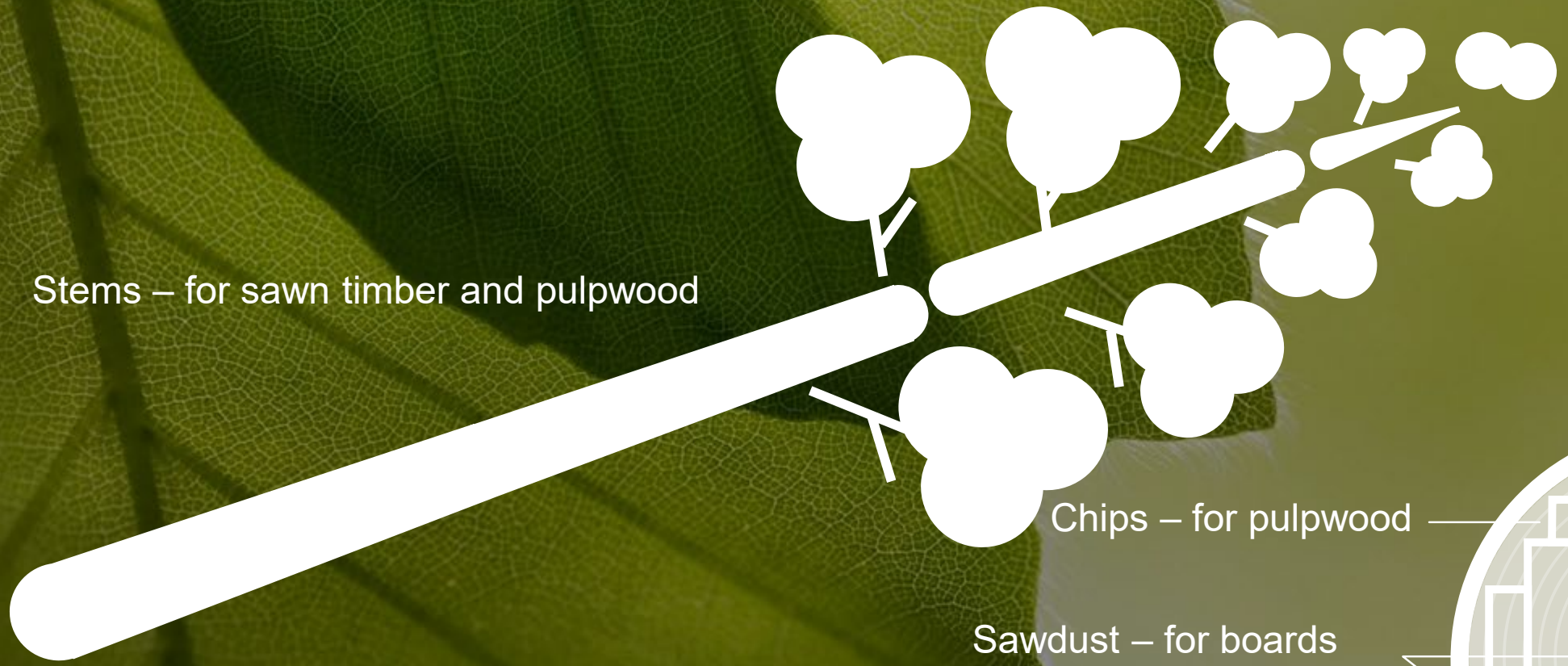
SWEDISH GOVERNMENT INQUIRIES

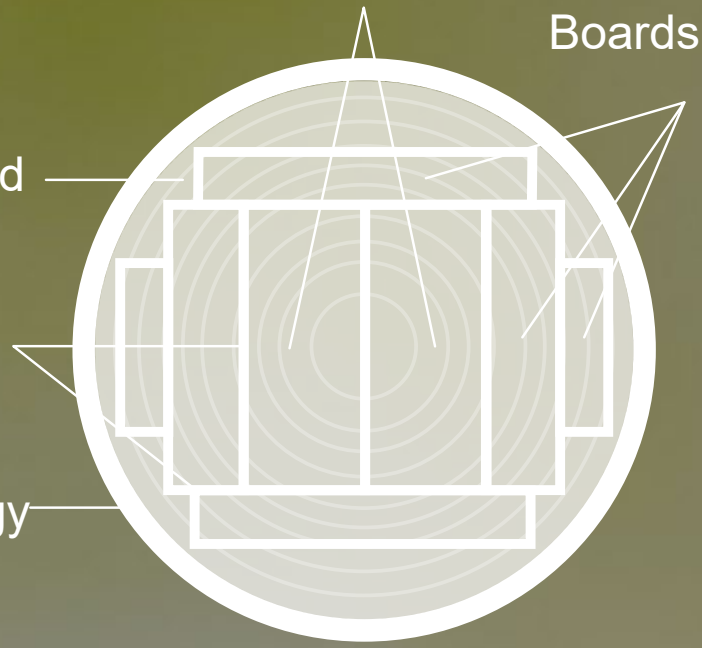
Source:Swedish Forest Agency. Forestry impact analysis, called SKA 22

The whole tree is used – for different purposes

Branches and tops – for bioenergy

Stems – for sawn timber and pulpwood





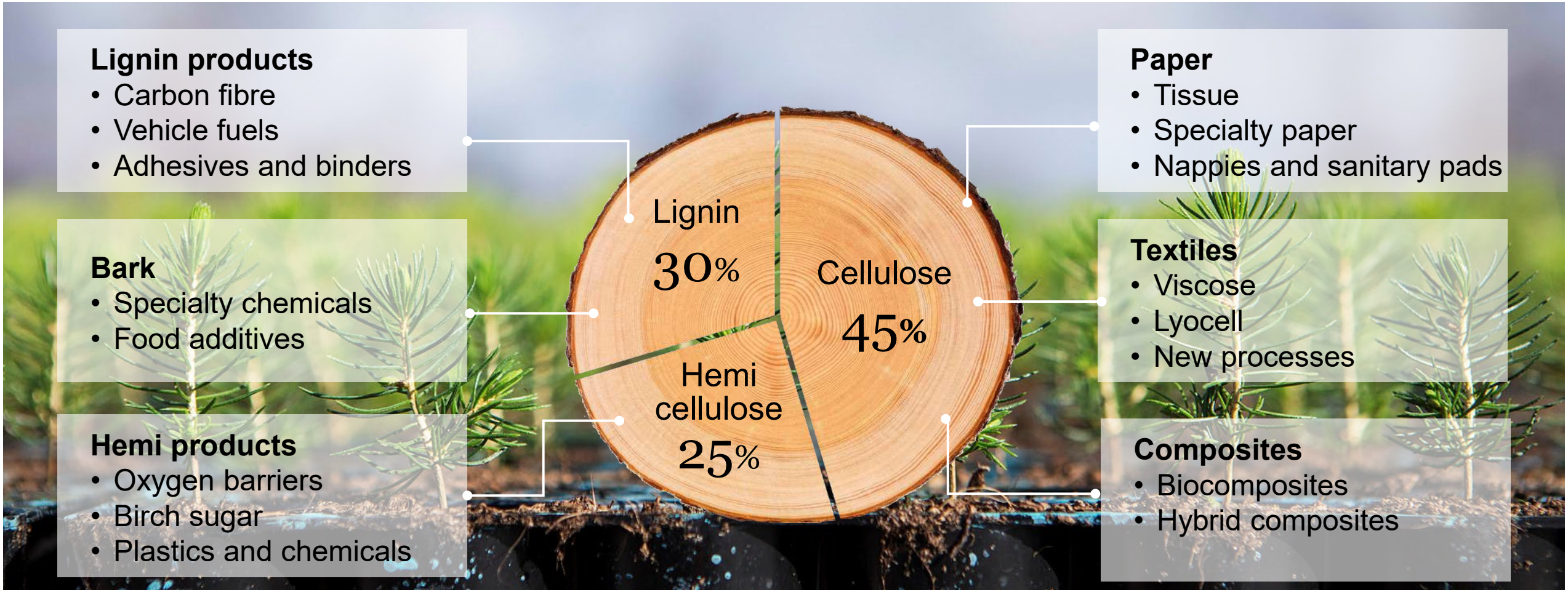
Chips – for pulpwood

Sawdust – for boards and bioenergy

Bark - for bioenergy

Source: Swedish Forest Industry Federation

The forest as a renewable resource



The Bioeconomy in the EU

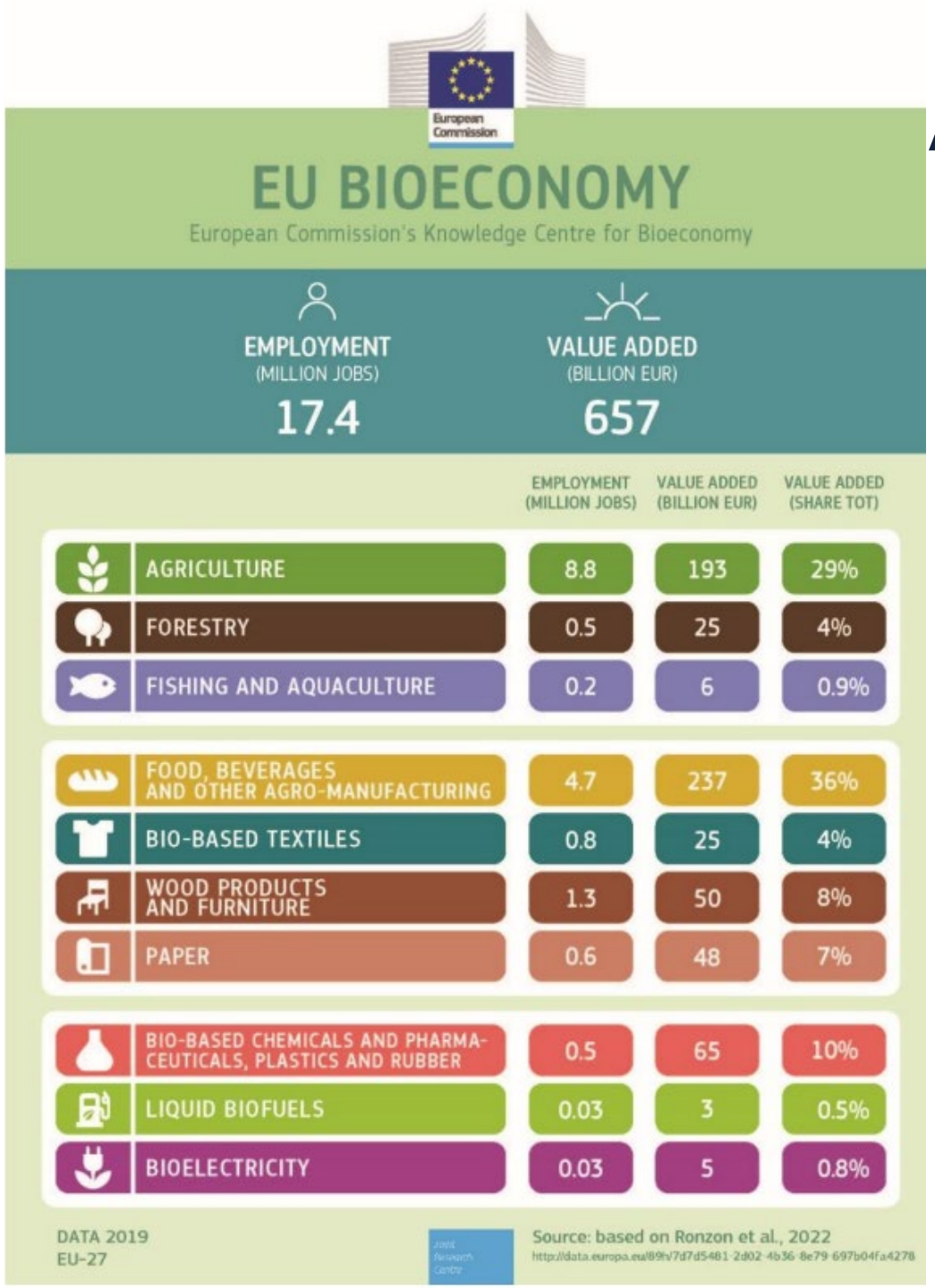
EU's understanding of the Bioeconomy:

"All sectors and associated services and investments that produce, use, process, distribute or consume biological resources (animals, plants, micro-organisms, including organic waste), including ecosystem services".

- Ecosystem **services** on land and sea
- Primary **production** systems - agriculture, forestry, aquaculture / fisheries – incl. **waste/side streams**
- Food, feed, fibre, **bio-based industry**, fuels and bio-energy

SWEDISH GOVERNMENT INQUIRIES

Source: European Commission, 2023



A key sector of the EU's economy

- **8.3%** of the EU's workforce and **4.7%** of GDP
- Agriculture and the manufacture of food, beverage and tobacco provide **65%** of the total value added
- The bioeconomy's share in GDP (10.4% for EU-28 in 2020) + labor force is much higher, when including **bioeconomy services** (e.g. nature tourism, transport + trade of biobased goods, education and research)
- **High job creation potential**, in rural, coastal and urban areas, through the growing participation of primary producers and deployment of bio-based solutions

Source: European Commission, 2023

European bioeconomy policy development

2012

Communication on Bioeconomy

2017

Review of Bioeconomy Strategy

2018

Updated Bioeconomy Strategy

The European Green Deal

2022

EU Bioeconomy Strategy Progress Report

SWEDISH GOVERNMENT INQUIRIES

Source: European Commission, 2023

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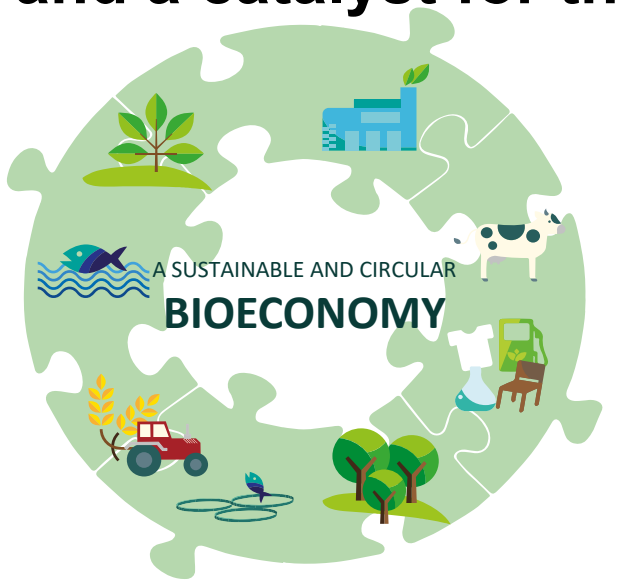
OBJECTIVES

A circular and sustainable Bioeconomy

A model for green growth and a catalyst for the European Green Deal



Mitigating and adapting to climate change

Reducing dependence on non-renewable, unsustainable resources

Ensuring Food and Nutrition security

Managing natural resources sustainably

Strengthening European competitiveness and creating jobs

SWEDISH GOVERNMENT INQUIRIES

Finland's Bioeconomy Strategy

Sustainably towards higher value added

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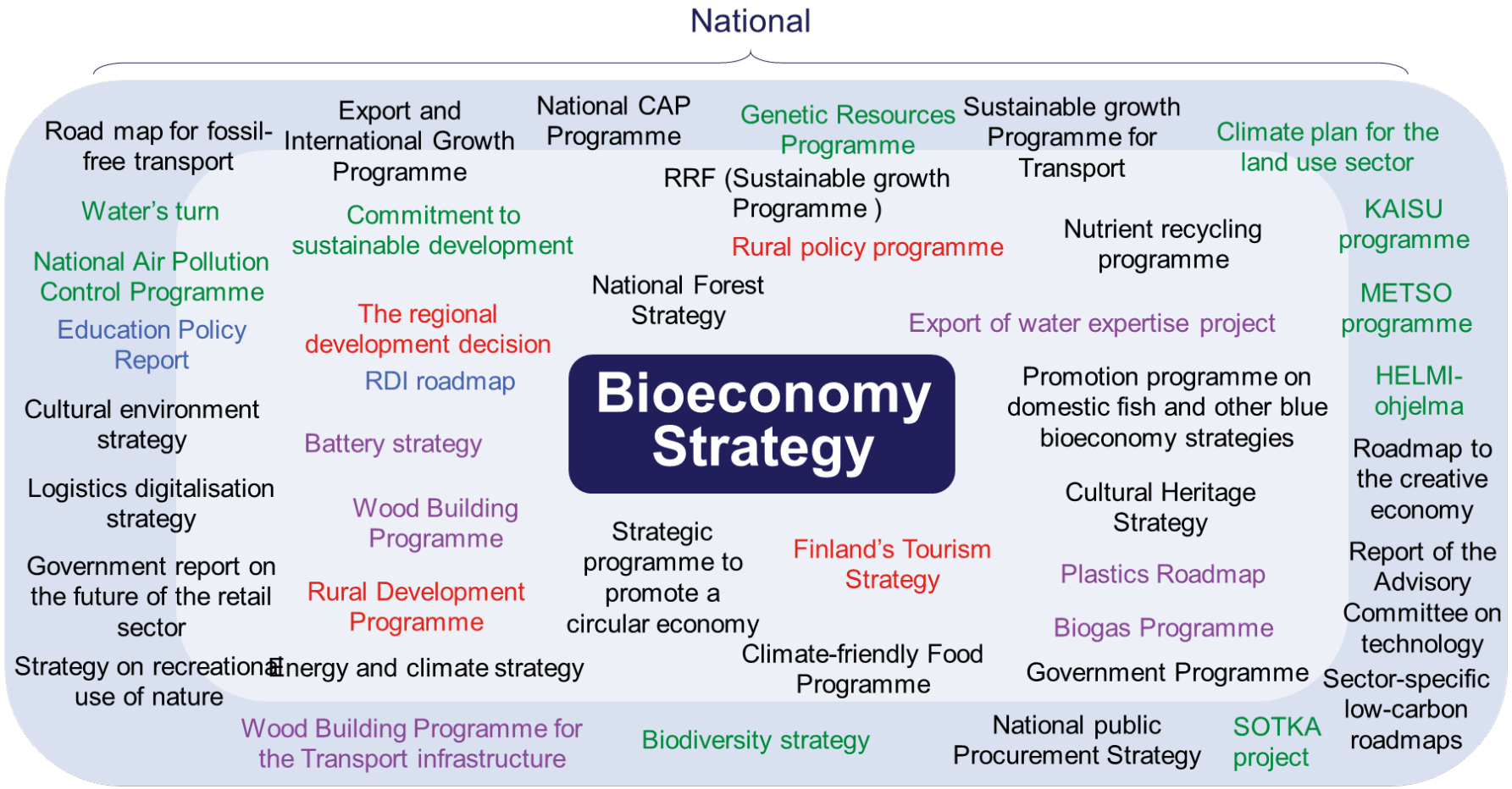
Bioeconomy is guided by a wide range of strategies



Strategic priorities of the Bioeconomy Strategy

- A competitive operating environment
- A strong knowledge and technology base
- Muut ja läpileikkaavat
- Higher added value from bioeconomy
- Usability and sustainability of biorecources and other ecosystems

Source: Ministry of Economic Affairs and Employment

Bioeconomy is guided by a wide range of strategies in EU

Source: Ministry of Economic Affairs and Employment

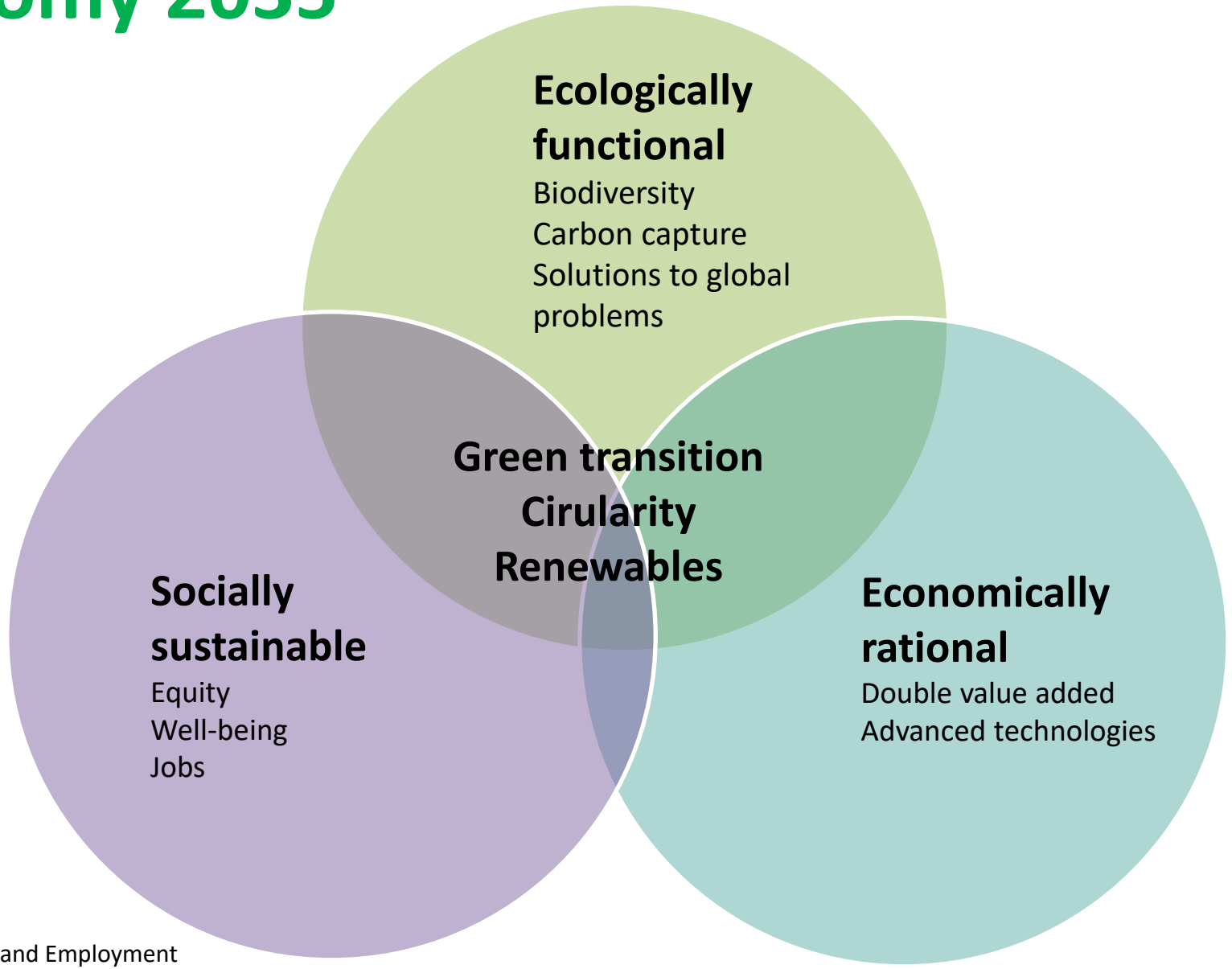
Vision 2035

Sustainably towards higher value added

- increasing **the value added** of the bioeconomy was identified as an important priority that **is not addressed in other strategies**
- **instead of taking a stand on the amount of production, the strive is to create a higher value added**
- timeline in line with Finland's carbon neutrality targets
- focus on creating a broad-based action plan
- productivity of work based on technological development in key role

Source: Ministry of Economic Affairs and Employment

Bioeconomy 2035



Source: Ministry of Economic Affairs and Employment

The Swedish bioeconomy (2019)

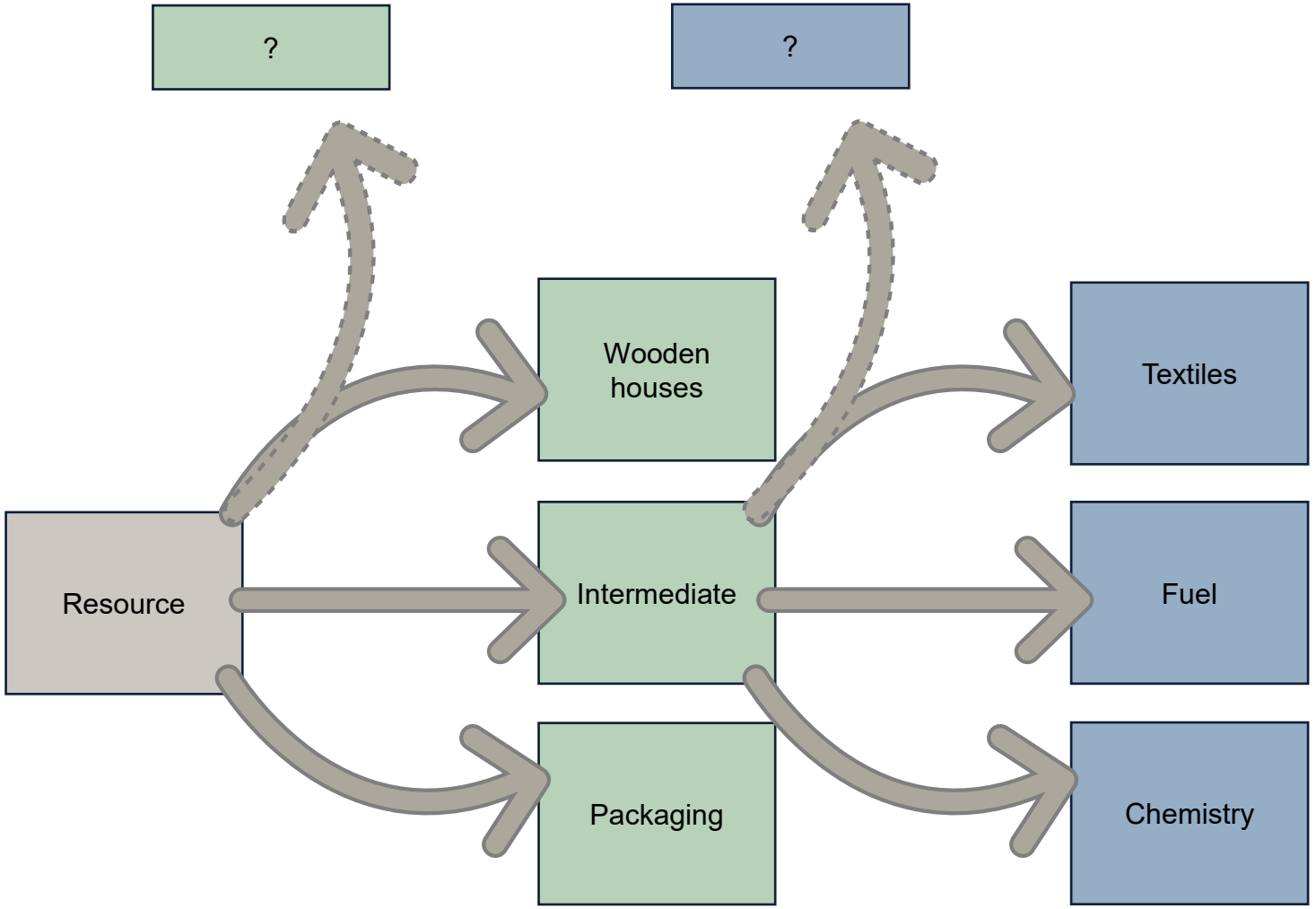
7 procent

of Sweden's total value added

21 procent

of Sweden's total export value

Source: Statistics Sweden.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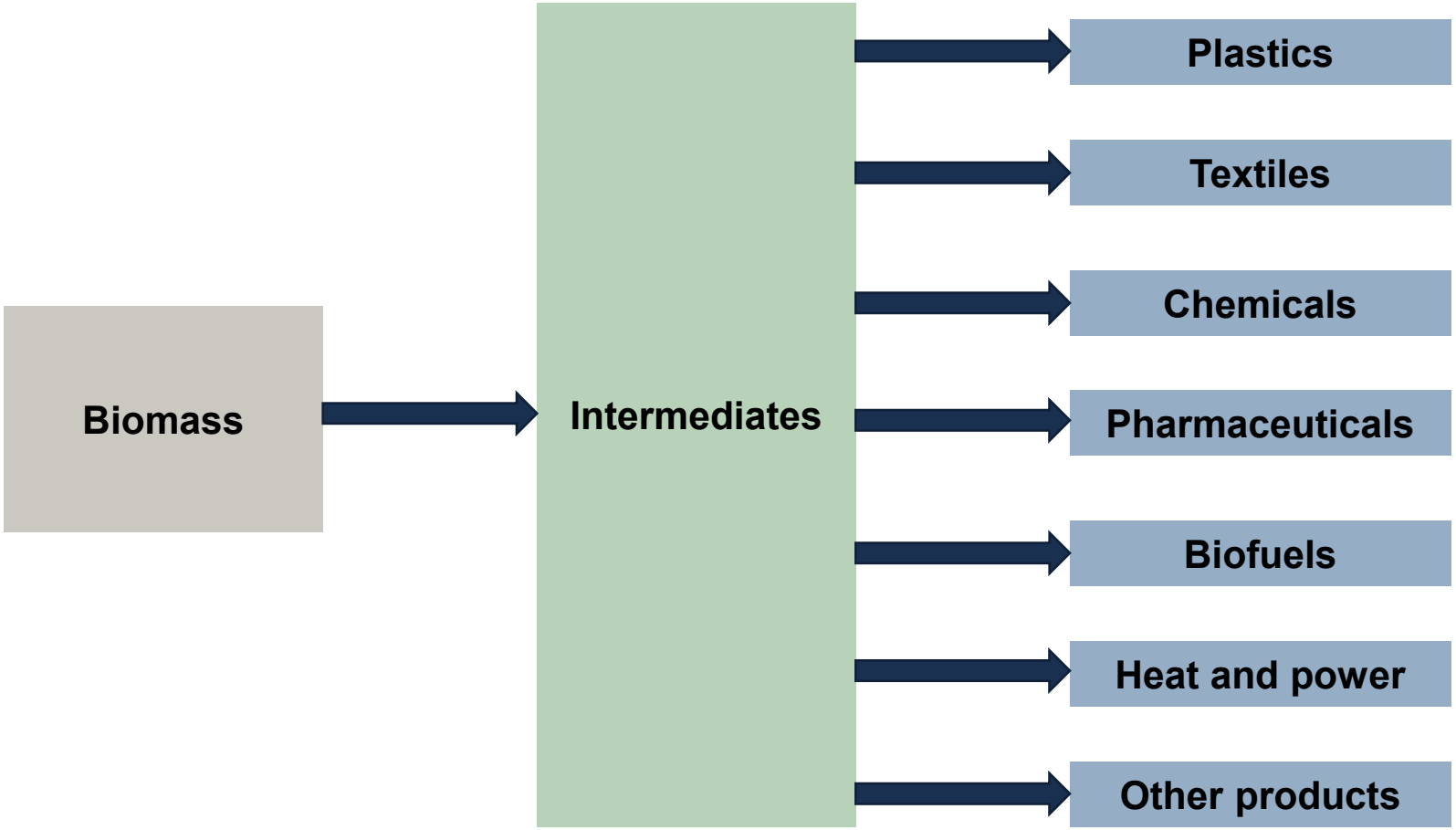
?
Wooden houses
Textiles
Resource
Intermediate
Fuel
Packaging
Chemistry

Bioeconomy is the future and the path away from fossil dependency

Bioeconomy to reduce fossil dependency



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