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EU FOREST-BASED INDUSTRIES 2050:

CO2 effect calculation supporting sector's vision of sustainable choices for a climate-friendly future

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**Director General,
Confederation of European Paper Industries (Cepi)**

Why a CO_2 effect calculation?

In 2019, the European Forest-based Industries came together to present their vision of the European society in 2050 and the essential role that they can play, delivering on the carbon neutrality goal.

In light of the climate crisis and following the European Green Deal set of proposals by the European Commission, Cepi took the initiative to commission an independent study “Climate effects of the forest-based sector in the European Union”.

Key findings

The European forests and the forest-based sector provide integrated solutions to the global climate challenge on a very large scale.

The overall climate effect is calculated as a sum of:

- Net sink
- Fossil emissions
- Substitution

Total: -806 Mt CO2e/yr
20% of all fossil emissions

Net sink
-447 Mt CO_2e/yr

Fossil emissions
+51 Mt CO_2e/yr

Substitution
-410 Mt CO_2e/yr

Total

-806 Mt CO_2e/yr
20 % of all fossil emissions in the European Union

United Nations IPPC advocates the systemic view

IPCC[3] 1ST ASSESSMENT REPORT 1990. PRIMARY RECOMMENDATION ON FORESTS

Increase wood production and forest productivity by silvicultural measures and genetically improved trees, thus helping to increase the forest carbon sink, to meet increasing demand for wood **as well as to support replacement** of **fossil fuels and other materials by wood** and to avoid inappropriate land use conversion.

IPCC 4TH ASSESSMENT REPORT 2007

Mitigation options by the forestry sector include extending carbon retention in harvested wood products, product substitution, and producing biomass for bio-energy. This carbon is removed from the atmosphere and is available to meet society's needs for timber, fibre, and energy.

In the long term, a sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber, fibre or energy from the forest, will generate the largest sustained mitigation benefit.

The Intergovernmental Panel on Climate Change (IPCC) is the United Nations body for assessing the science related to climate change.

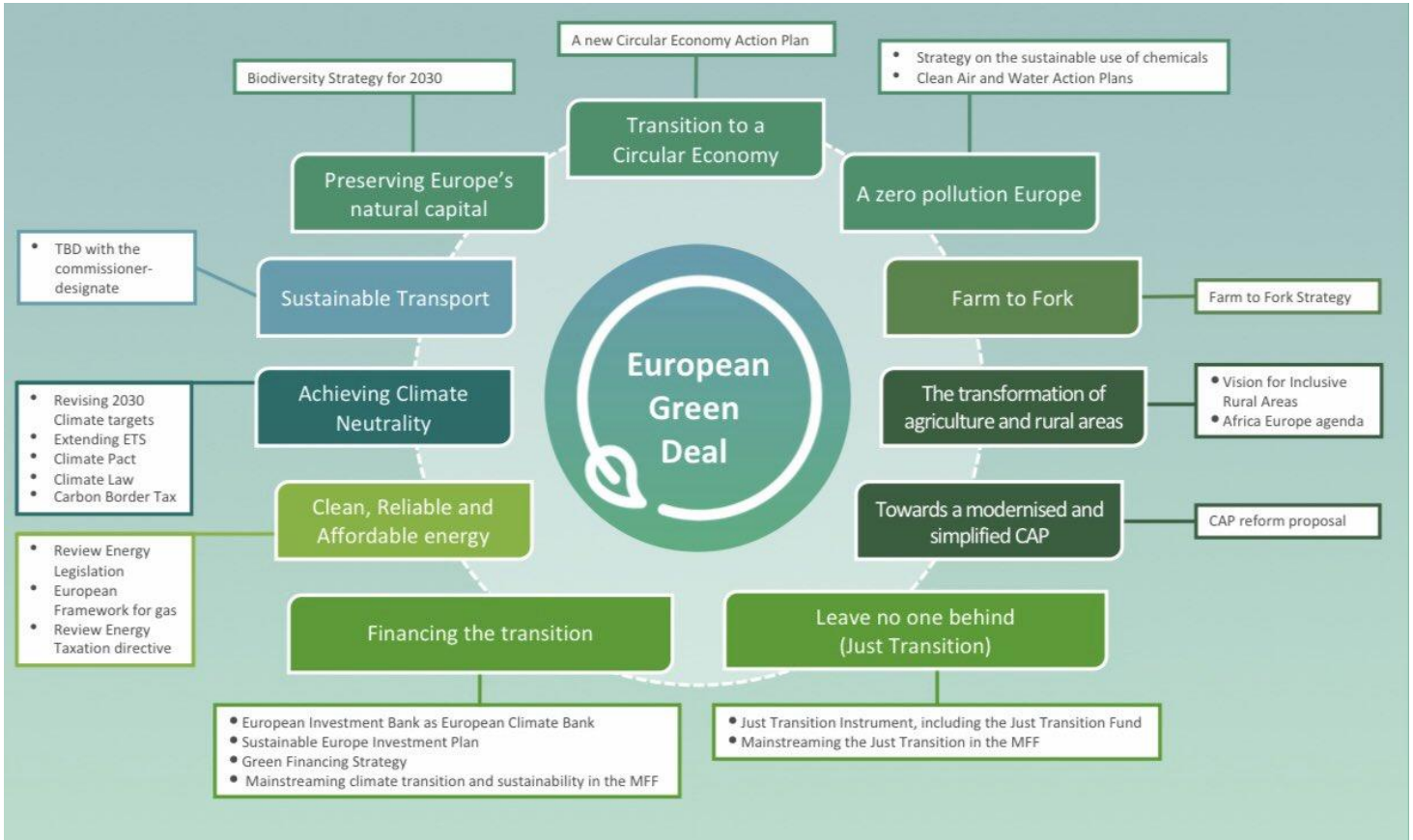
Significance of results for EU Policy-making

The Forest-based Industries wish to contribute to EU climate action, we call the EU to look beyond the LULUCF framework that only addresses one part of climate effects of the forest-based sector – the storage of carbon in the forest.

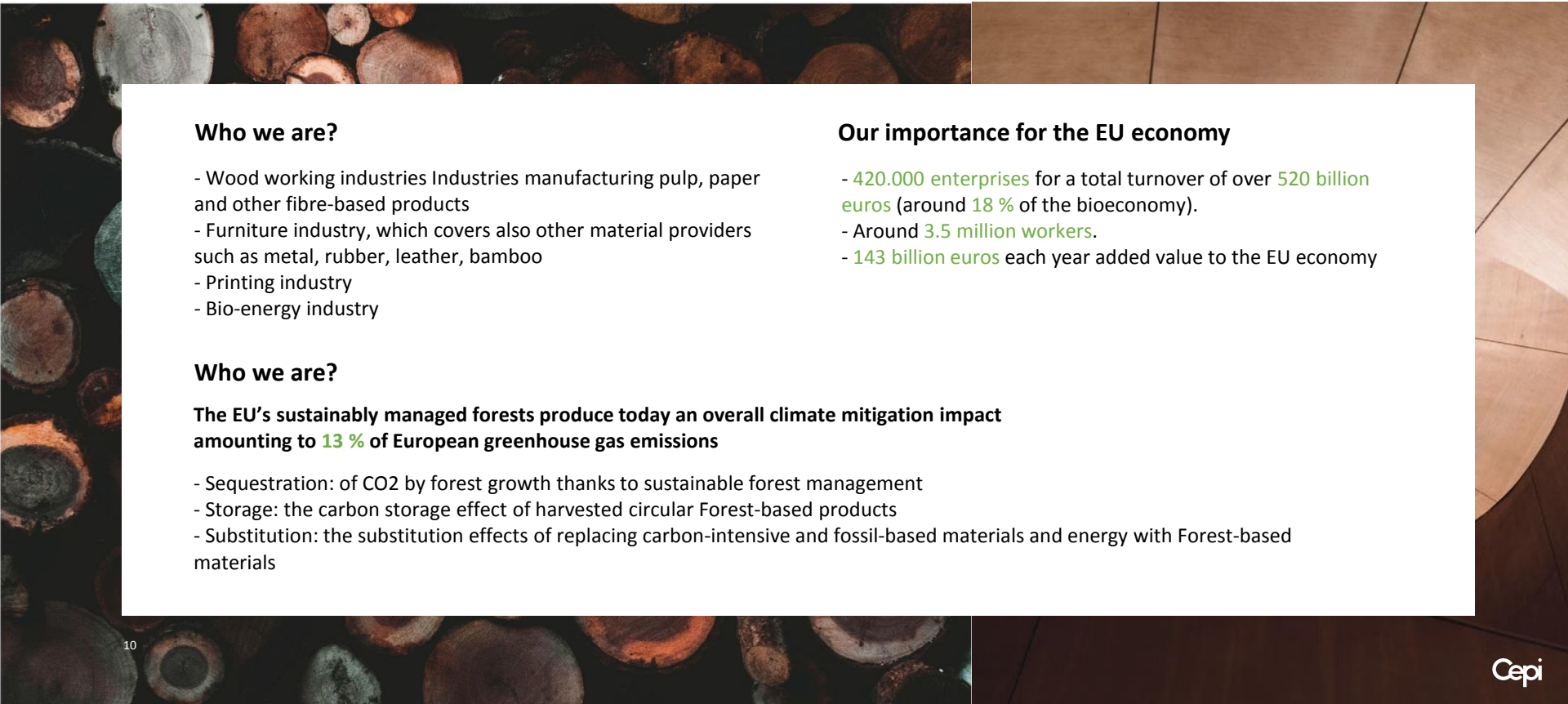
Viewing the forest-based sector as a “circular bioeconomy” is the only approach that provides an accurate evaluation of the Forest-based Industries overall positive climate contribution.

The key to appreciating the study results is to look at the overall contribution of forests through the entire system, including forest-based sector products via the substitution effect.

Conclusions for the EU Green Deal Agenda



The EU Forest-based industries today: State of play



Who we are?

- Wood working industries Industries manufacturing pulp, paper and other fibre-based products
- Furniture industry, which covers also other material providers such as metal, rubber, leather, bamboo
- Printing industry
- Bio-energy industry

Our importance for the EU economy

- 420.000 enterprises for a total turnover of over 520 billion euros (around 18 % of the bioeconomy).
- Around 3.5 million workers.
- 143 billion euros each year added value to the EU economy

Who we are?

The EU's sustainably managed forests produce today an overall climate mitigation impact amounting to 13 % of European greenhouse gas emissions

- Sequestration: of CO2 by forest growth thanks to sustainable forest management
- Storage: the carbon storage effect of harvested circular Forest-based products
- Substitution: the substitution effects of replacing carbon-intensive and fossil-based materials and energy with Forest-based materials

Cepi

Parties involved

Leaders

Confederation of European Paper Industries (Cepi)

Supporters

- European Confederation of Woodworking Industries (CEIBois)
- European Furniture Industries Confederation (EFIC)
- European Panel Federation (EPF)
- Confederation of European Forest Owners (CEPF)
- European Organisation of Agricultural, Rural and Forestry Contractors (CEETTAR)
- Federation of the European Parquet industry (FEP)
- Forest-based Sector Technology Platform (FTP)
- European Association for Print and Digital Communication
- European State Forest Association (EUSTAFOR)

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Climate effects of the forest-based sector in the European Union: Interpretation of key findings

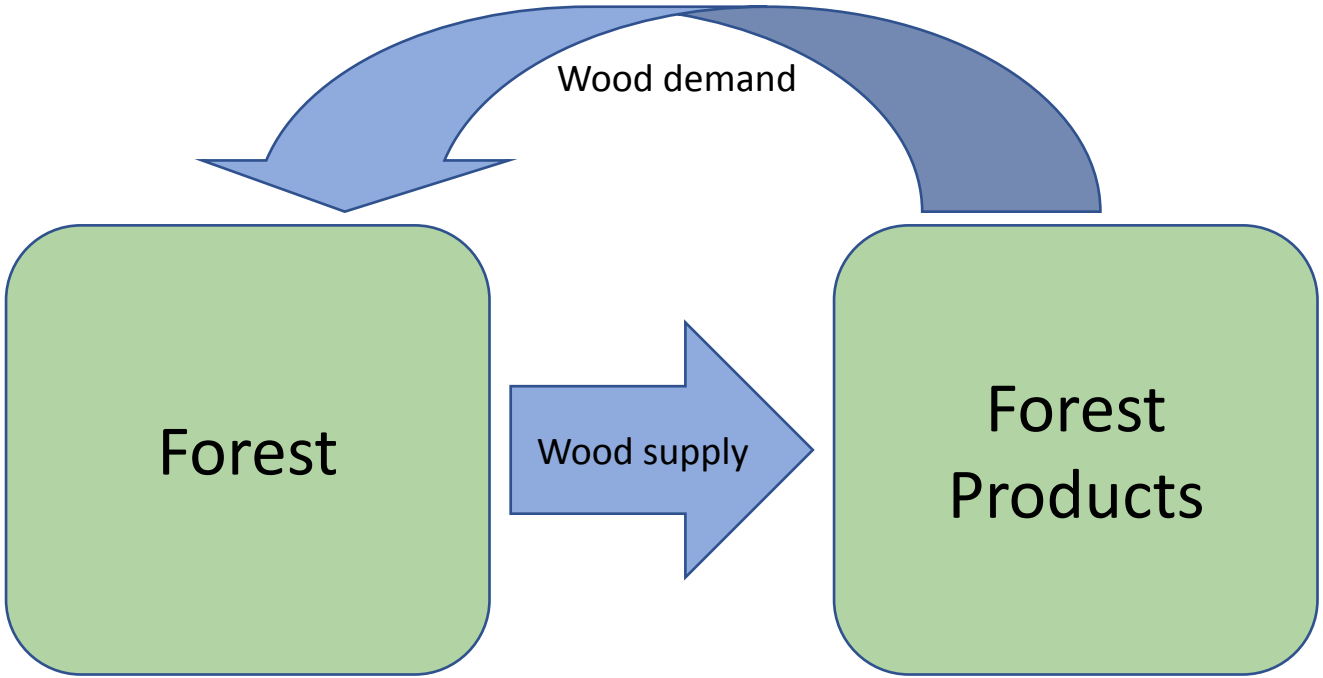
Peter Holmgren

FutureVistas

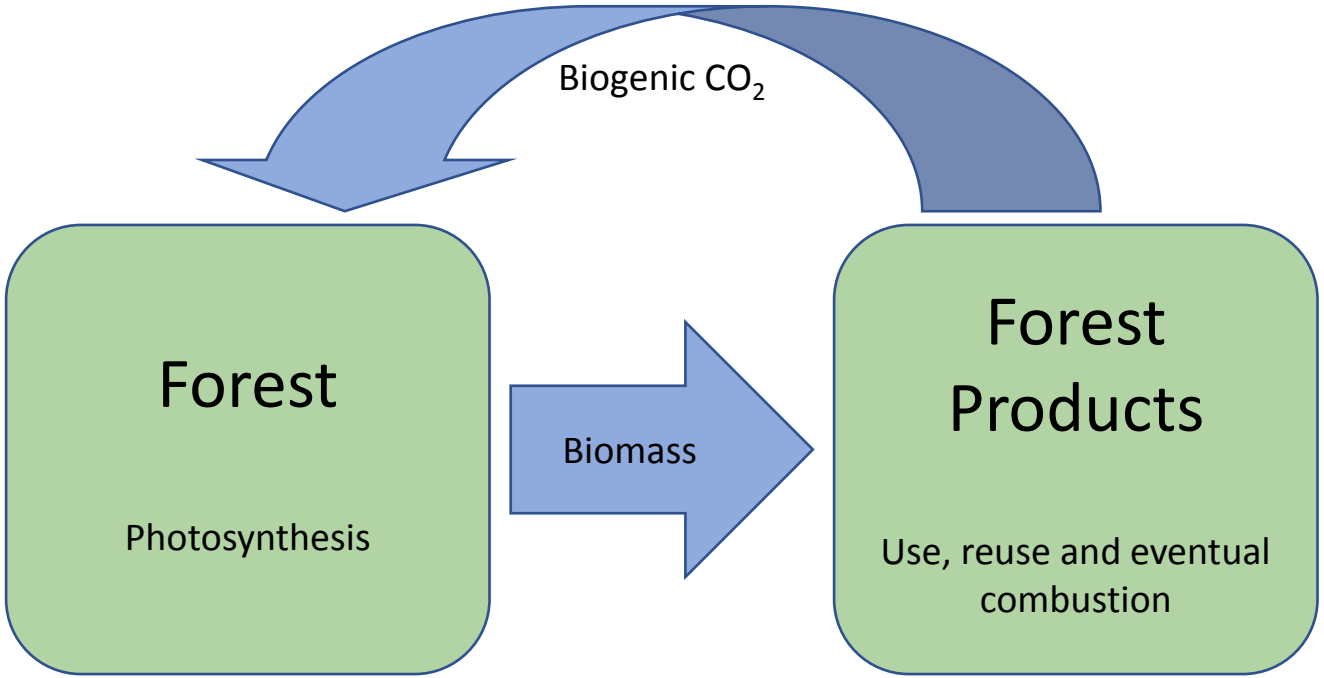
19 June 2020

1.
The circular bioeconomy and the climate

Basics of the forest-based circular bioeconomy



Basic biophysics of the forest-based circular bioeconomy



63% of stemwood growth is harvested in EU27+3

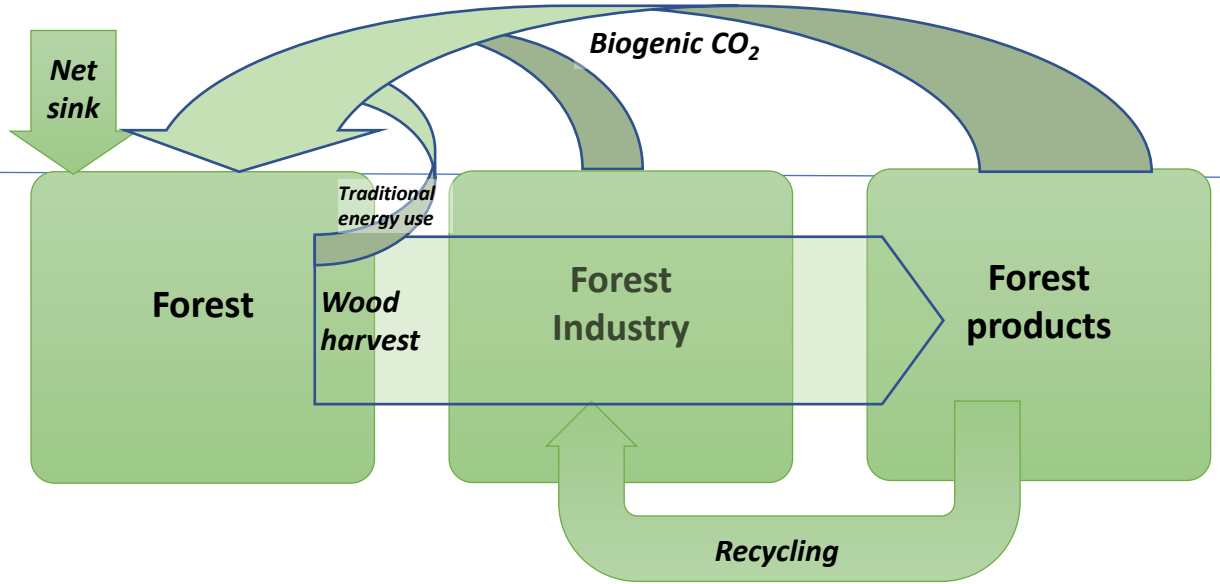
Corresponds to 5-6% of biological NPP

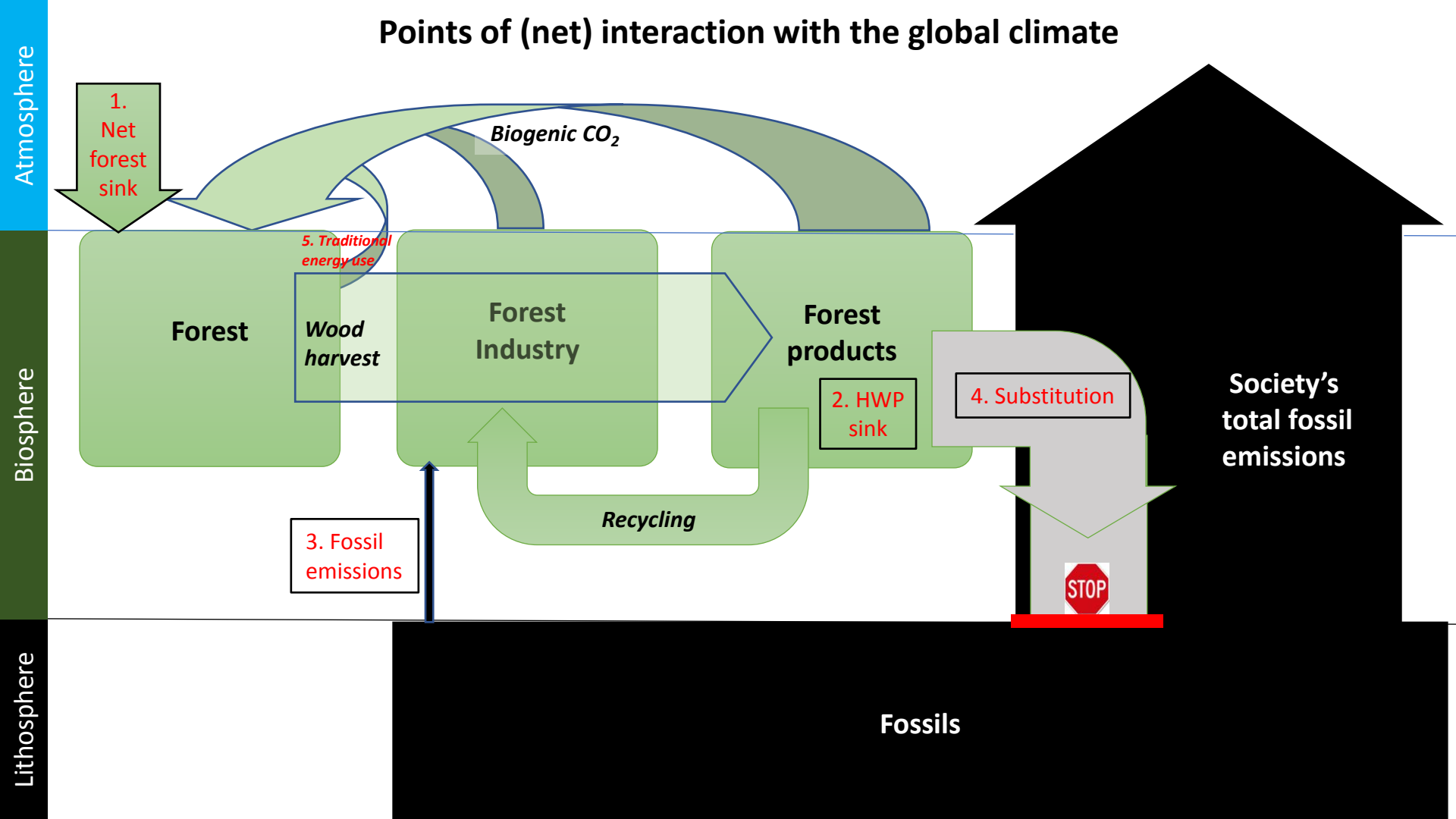
The forest-based circular bioeconomy operates in the *atmosphere* and the *biosphere*

Atmosphere

Biosphere

Lithosphere




Points of (net) interaction with the global climate
Atmosphere
Biosphere
Lithosphere
1. Net forest sink
Biogenic CO_2
5. Traditional energy use
Forest
Wood harvest
Forest Industry
Forest products
2. HWP sink
4. Substitution
Society's total fossil emissions
Recycling
3. Fossil emissions
STOP
Fossils

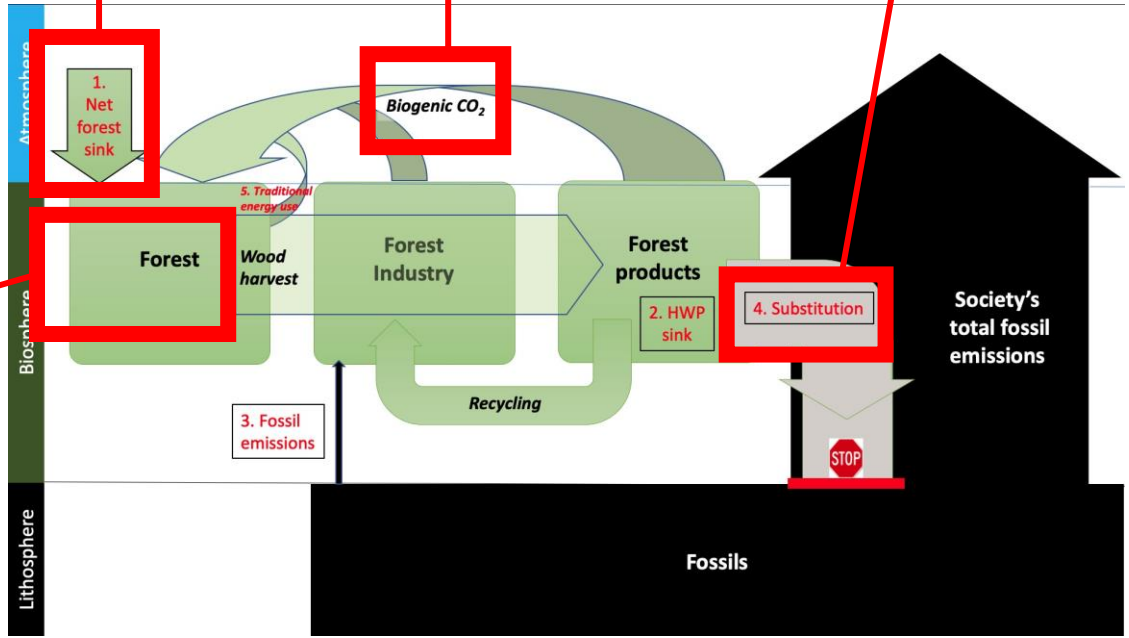
..and a few points that need attention..

Net sink is reported in LULUCF but excluded from IPCC global models

Some still argue that biogenic emissions be counted as fossil ones

Substitution is hidden from view in official climate reporting

The forest is typically separated from value chain and circularity in climate policy



2.
The European forest-based sector

FOREST

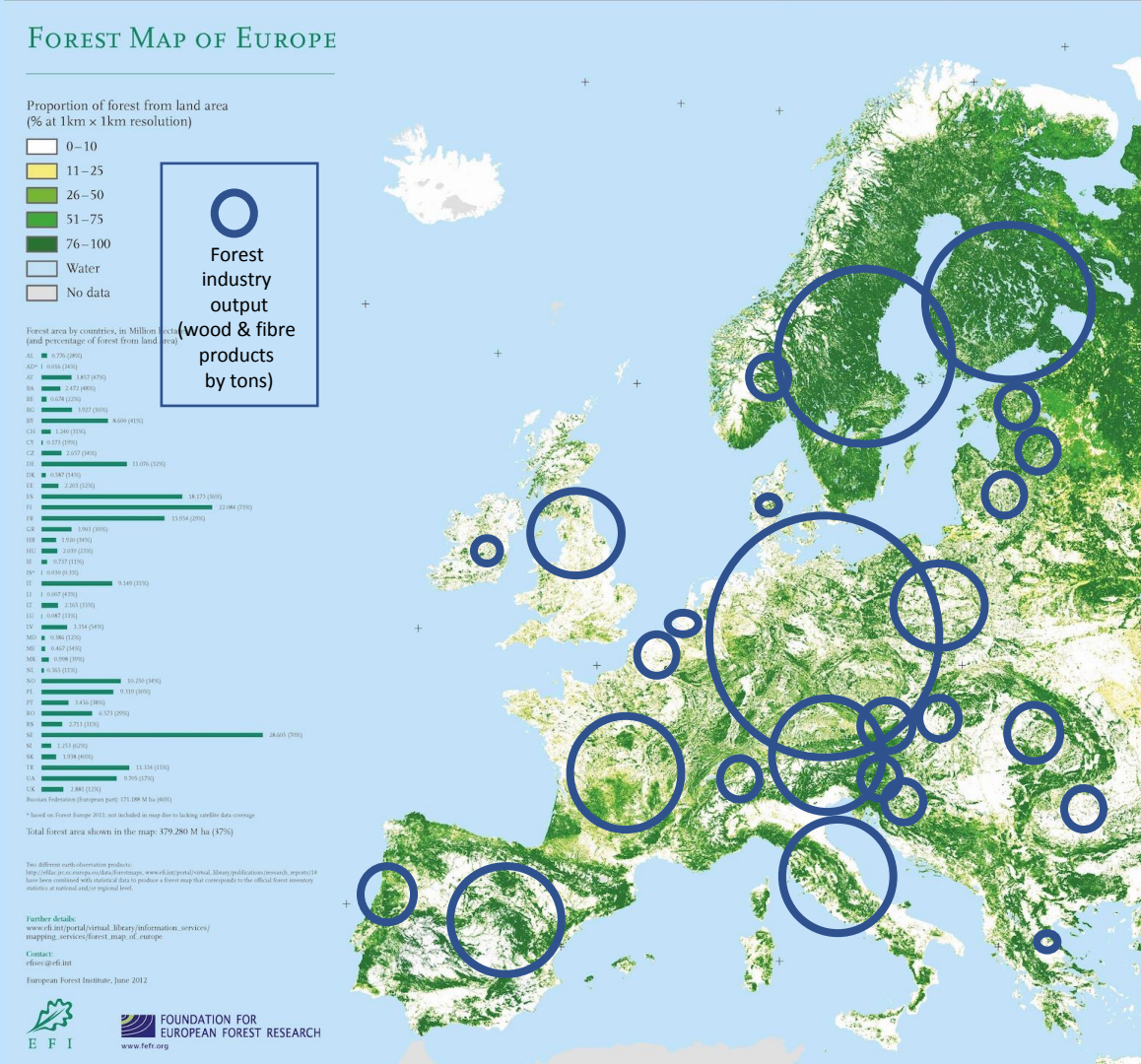
175 Million ha of forest
Grows by **800** million m^3 stemwood/year
Harvest is **500** million m^3/year (**63%** of growth)
23% of harvest is wood fuel
+8% forest area since 1990 (=2*(NL+BE))
+40% standing volume since 1990

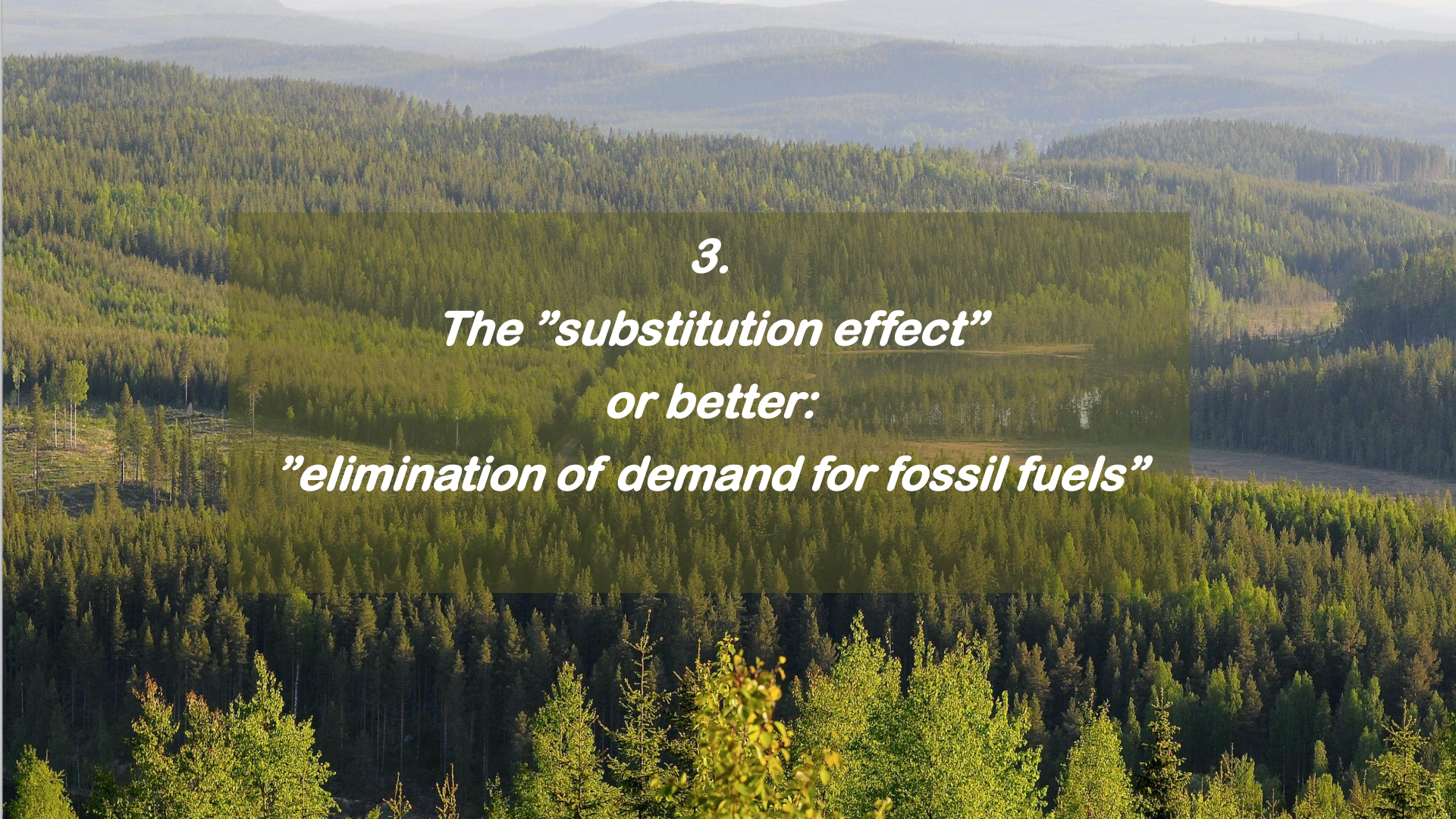
FOREST PRODUCTS

Wood products **180** Mm^3/year
Fibre products **107** Mt/year
(paper recycling rate **52**%)
Marketed bioenergy **324** TWh/year
Traditional bioenergy **85** Mm^3/year

(all refers to EU27+3)

Sweden+Finland:
29% of forest area
22% of growth (it is cold..)
20% of output (less recycled input)





3.

The ”substitution effect”

or better:

”elimination of demand for fossil fuels”

What is the question?

- How many tons of fossil carbon remain under ground for each ton of carbon in forest-based products? (tC/tC)

Some issues:

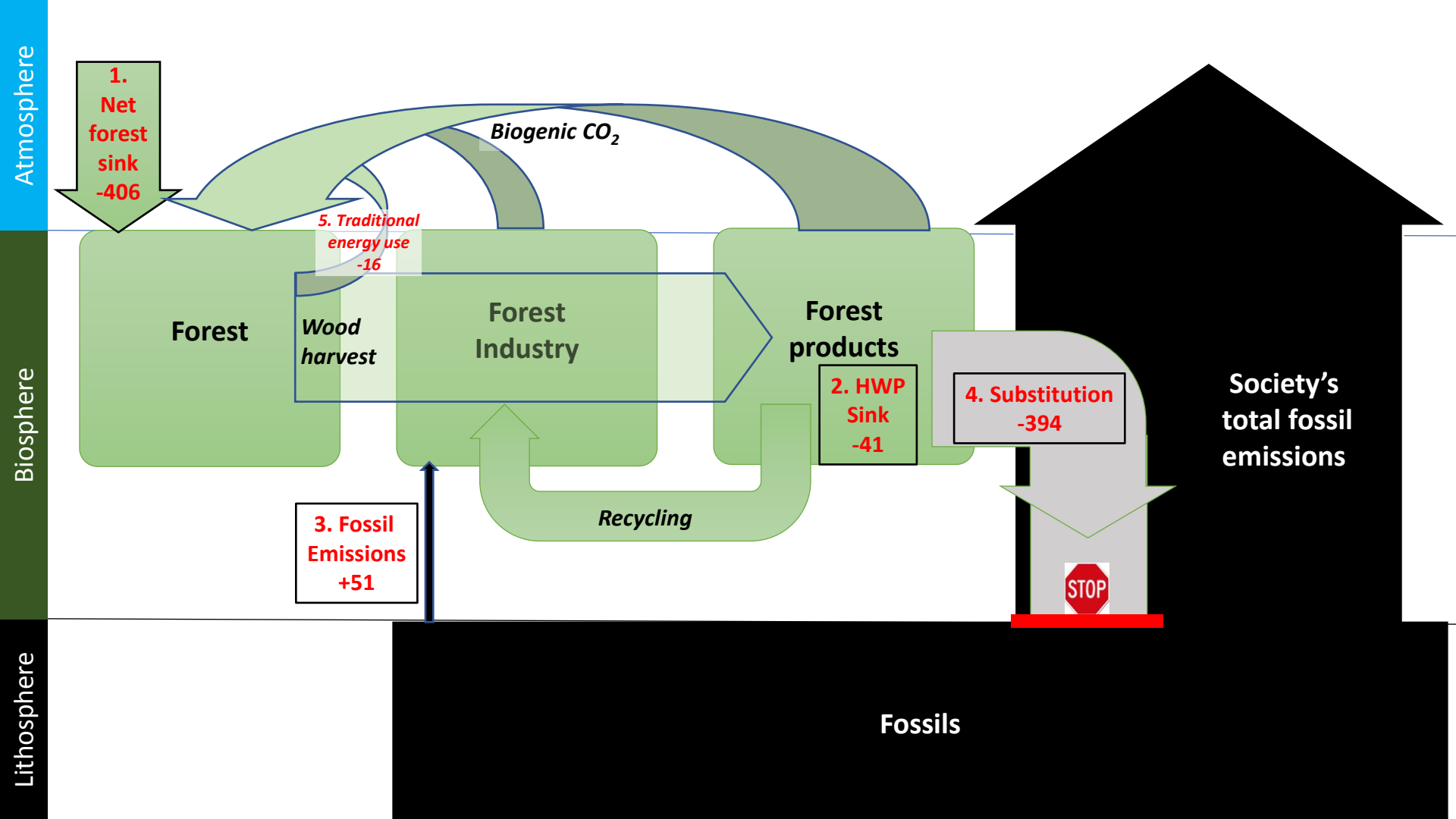
- Risk of focusing on details of products/uses rather than systems analyses – not the complete picture
- Without explicit/formal reporting, methodology standards have not evolved.
- Research results are limited and difficult to compare
- Averages for product categories conceals products with very high effects and those with no effect at all – what will then be the policy guidance?

Factors applied in this study

Product category	Applied substitution factor, tC/tC
Solid wood products	1.5
Fibre products	1
Marketed bioenergy	0.6
Traditional bioenergy	0.2

4.

Results and conclusions


Atmosphere
Biosphere
Lithosphere
1. Net forest sink -406
Biogenic CO_2
5. Traditional energy use -16
Forest
Wood harvest
Forest Industry
Forest products
2. HWP Sink -41
4. Substitution -394
Society's total fossil emissions
3. Fossil Emissions +51
Recycling
STOP
Fossils

Results for EU 27+3

Component	Climate effect Mt CO_2e/year	Note
1. Net sink in forest	-406	= LULUCF 4.A
2. Harvested Wood Products, HWP	-41	= LULUCF 4.G
3. Fossil emissions in value chain	51	Estimate. Input goods not included
4. Substitution effect, industry products	-394	Conservative calculation based on available literature
5. Substitution, traditional bioenergy	-16	
Total climate effect	**-806**	**= 20% of EU emissions**

Comments on link between sink, sequestration and substitution

Fanny-Pomme Langue

Secretary General, Confederation of European Forest Owners (CEPF)

Comments on the contribution of wood and carbon storage in wood products

Margherita Miceli

Policy Officer,
European Confederation of Woodworking industries (CEI-Bois)

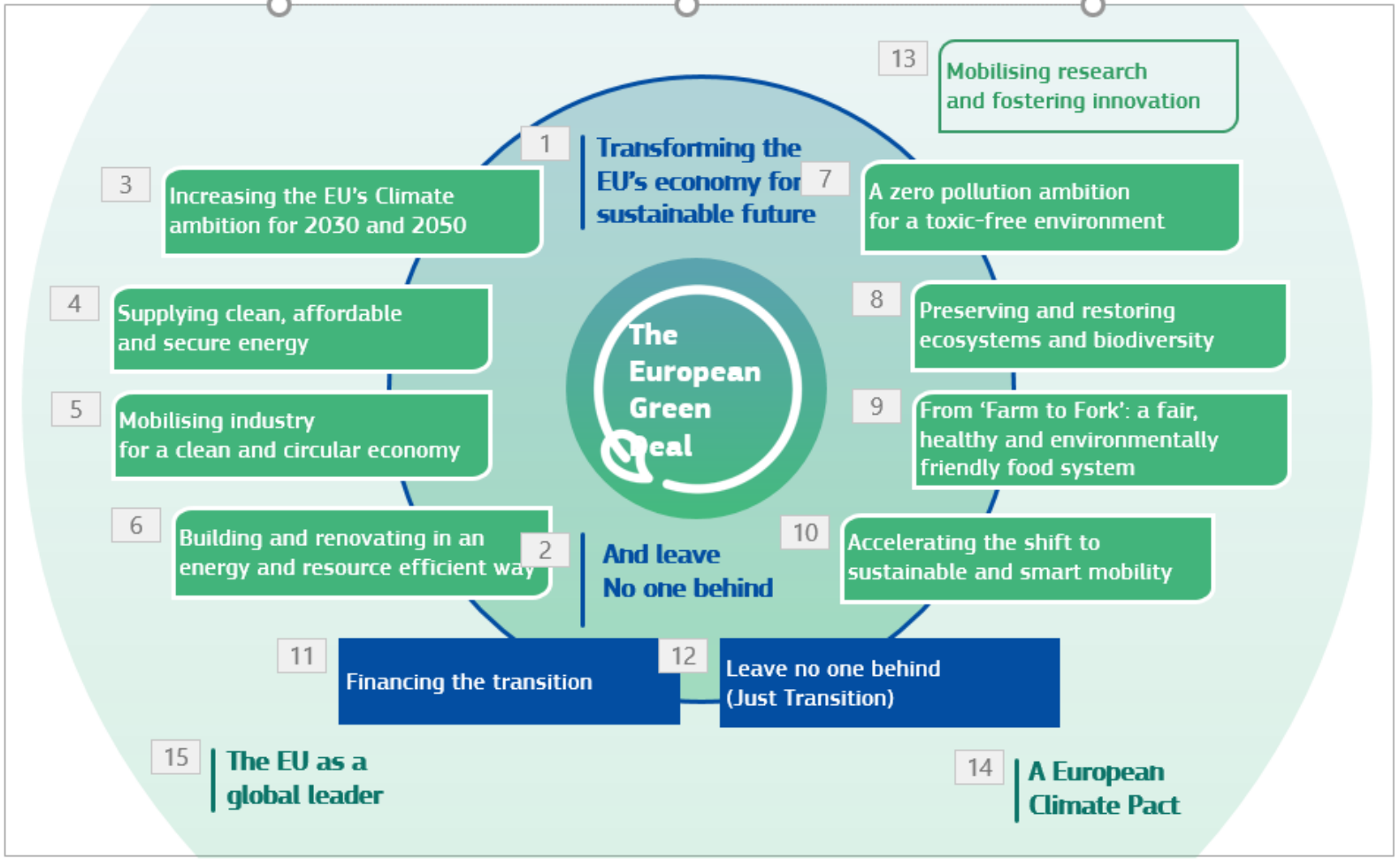
Policy perspective on the climate role of forest-based sector

CEPI Webinar (19 June 2020)

Climate effects of the forest-based sector in the European Union

DG Agriculture and Rural Developmment

The European Green Deal



Forests and the forest-based sector in the EU long-term vision

- ***'A Clean Planet for All**. A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy'*.
- Communication adopted in November 2018
- A portfolio of options (Member States, business, citizens), to achieve the transition to **net-zero greenhouse gas emissions by 2050**, (and contribute to the modernisation of our economy, improve the quality of life of Europeans, protect the environment, and provide for jobs and growth).
- All options together can reduce net emissions by **around 90%**
- Remaining GHG emissions, to be compensated for by absorption in other sectors. **Role for the land use sector** is identified.

Forests and the forest-based sector in the EU long-term vision

Forests, the main potential sink.

- Fundamental role in achieving the 2050 objective.
- This sink is not big enough (300 million tons CO_2)
- The forest sink capacity might be at risk.

Role of **sustainable biomass** to Climate neutrality.

- substitution effect
- Need for increasing biomass consumption
- Trade-offs sink-biomass availability
- Limitations of importing

EU Forest Strategy in the Green Deal

- EU's forested area needs to improve, both in quality and quantity, through sustainable and effective re- and afforestation, the restoration of degraded forests, and forest preservation.
- **Objectives**:
  - to increase absorption of CO2,
  - improve the resilience of forests, and
  - promote the circular bio-economy.
- Must cover **the whole forest cycle** and promote the many services that forests provide.
- **Reference to the CAP.** The national strategic plans should incentivise forest managers to preserve, grow and manage forests sustainably.

Green Deal - Elements of relevance for forests and the forest-based sector to consider in EU Forest Strategy

- The Green Deal is a new growth model: secure the role of forests and the sector in developing a modern, resource-efficient and competitive economy.
- Climate ambition. Seek links with European climate Law towards 2050 climate neutrality; Legislation review (LULUCF, Energy efficiency, RED…); new EU Adaptation Strategy.
- Energy: RED; Role in Renovation wave for building sector.
- Biodiversity & Environment. EU Biodiversity Strategy 2030 & 8th EAP
- Circular economy action plan: Sustainable products initiative, with a focus on resource intense sectors (construction, textiles…)
- Mainstreaming. Just Transition Mechanism and Fund. Sustainable Europe Investment Plan. Review State Aid guidelines.

European Commission

The EU Forest Strategy

EU Forest Strategy (2021):

- Adoption in Q1, 2021
- Find the equilibrium of the 4 basic elements for forests and the forest based sector

    1) Afforestation and forest restoration

    2) Forest Resilience & protection

    3) Sustainable forest management of all forests

    4) Building the new growth model. Contributing to the different dimensions of the Green Deal

- Link with the **EU funding opportun**ities
- Be consistent with our **interational commitments** with forests and sustainability.

European Commission

Thank you

European Commission