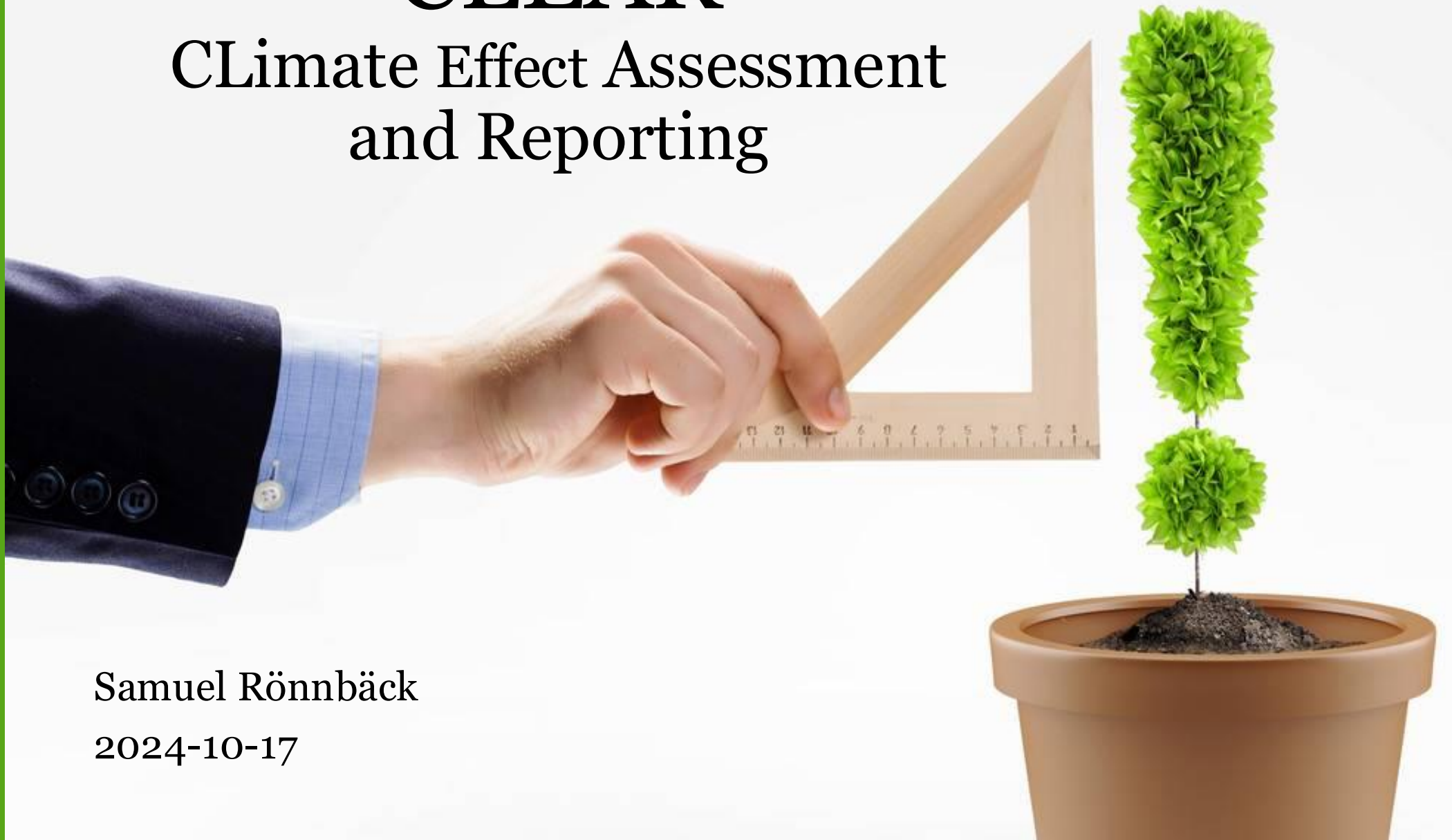# CLEAR
CLimate Effect Assessment and Reporting
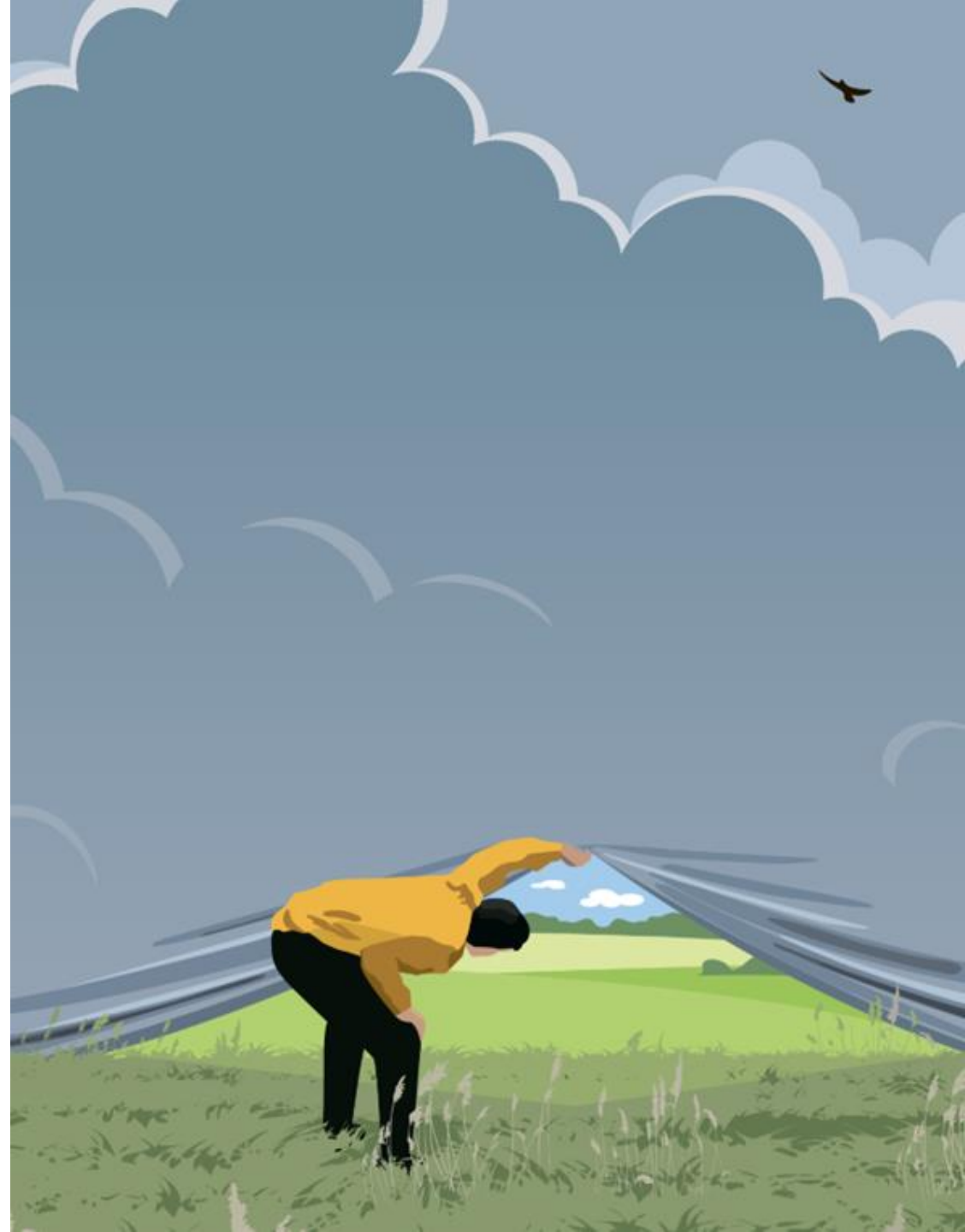
Samuel Rönnbäck

2024-10-17

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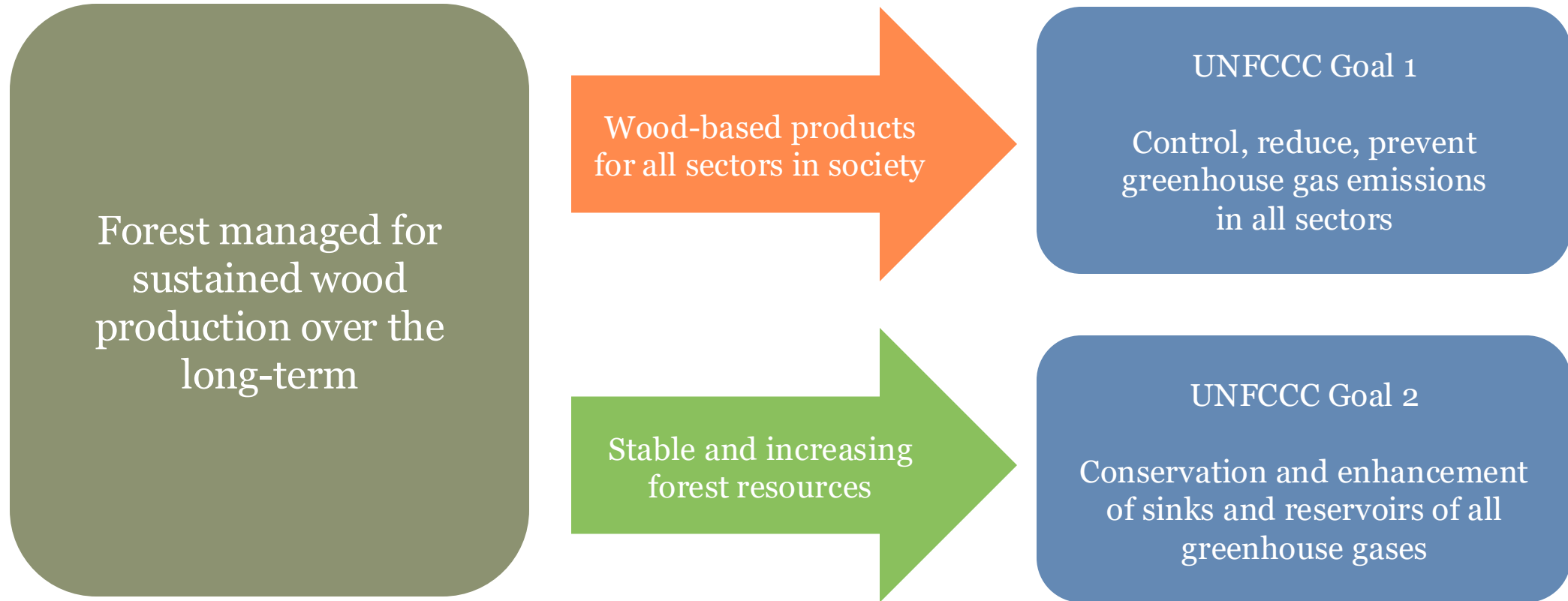
What is CLEAR?

- CLEAR is a **methodology for assessment** and reporting of the climate effects of corporations in the forest-based sector.

- The model provides a stepwise guide to assessments at the corporate level.

- Can be used in annual financial and sustainability reports.

The model is based on the two principal climate change mitigation objectives stipulated by the United Nations Framework Convention on Climate Change (UNFCCC):

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Forest managed for sustained wood production over the long-term

Wood-based products for all sectors in society →

UNFCCC Goal 1

Control, reduce, prevent greenhouse gas emissions in all sectors

Stable and increasing forest resources →

UNFCCC Goal 2

Conservation and enhancement of sinks and reservoirs of all greenhouse gases

Components of CLEAR

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CLEAR consists of four components for assessing the climate effect for the wood-based value chain from forest to product.

Each component builds on established methodologies/standards that each represent a long history of climate-related reporting.

The components together provides a more complete picture of the corporation's climate effect from forest to product.

Total climate effect

Value chain emissions

GHG- emissions in the value chain (including recycling and final use)

Prevented emissions

GHG- emissions avoided as a result of using wood-based products (potential)

Forest carbon

Changes in the carbon stock in forests where wood was sourced

Carbon in wood-based products

Changes in the carbon stock in wood-based products

Mål 1

Mål 2

The stepwise approach

Preparatory work → Value chain emissions → Prevented emissions → Forest carbon → Carbon in wood-based products → Reporting results

Preparatory work

- Define/collect data on:

  - Entity for assessment

  - Time period

  - Market interface

  - Set of product categories

  - Volume delivered for each product category (measured in tCO2e)

  - Forest management units (FMU)

Value chain emissions

- Upstream and downstream emissions from:
  - forestry operations
  - transportation
  - manufacturing processes

- The model refers to the GHG protocol for calculating greenhouse gas emissions.
  - Scopes 1-3
  - Cradle to gate
  - Emissions included should relate specifically to the defined wood-based product categories.

Prevented emissions

- **Displacement factor (DF)** – A factor of how much greenhouse gas emissions are avoided per unit of wood products delivered.

- Workflow:
  - Assess a displacement factor (DF) for each defined product category
  - Calculate the prevented emissions for each product category: (Volume delivered * DF)
  - Summarise the prevented emissions for each product category into total prevented emissions

- **Note: The assessment shows <u>potentially</u> avoided emissions.**

Forest carbon

- Forest management unit (FMU) is the base unit, delimited based on e.g. ownership, geography, forestry method.

- Can be based on direct forest inventory.

- National inventory or inventory at landscape level can be used if it is representative.

Living biomass

Deadwood

Litter

Soil organic matter

Assess changes of carbon stored in forests

- Use the IPCC framework with guidelines for national greenhouse gas inventories.

- Assess forest carbon change in each FMU during the defined time period, including all forest carbon pools.

- If data is missing, a pool change can be assumed to be 0 if there is reason for the pool being stable or increasing.

Changes of carbon stored in wood-based products (HWP)

- Is calculated based on HWP-coefficients.

- Based on the IPCC's principles for the "production approach", where the products have different half-lives.

- HWP-coefficient = proportional increase of the HWP pool for a product category.
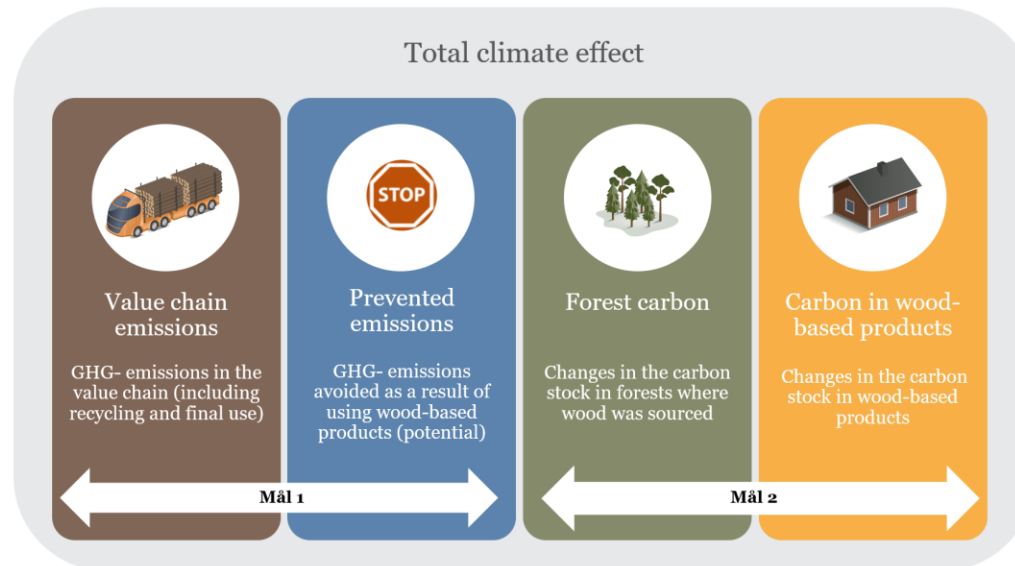

HWP- pool

Assess changes of carbon stored in wood-based products (HWP)

- Assess HWP coefficient for each defined product category.

- Calculate the carbon balance for each product category:
  - Volume delivered * HWP coefficient

- Summarise the carbon balance for the different product categories into a total.

Reporting results

- Reporting should include results for all four components.

- It is important to recognize the different nature of climate effects across the four components.

Total climate effect

Value chain emissions	Prevented emissions	Forest carbon	Carbon in wood-based products
GHG- emissions in the value chain (including recycling and final use)	GHG- emissions avoided as a result of using wood-based products (potential)	Changes in the carbon stock in forests where wood was sourced	Changes in the carbon stock in wood-based products

Mål 1   Mål 2

Advantages of CLEAR

- **The CLEAR- model:**

- Shows the climate effect of the forest-based sector in other sectors.

- Helps to determine which products have more climate benefits.

- Connects investment decisions and climate benefits.

- Facilitates reporting climate effects in, for example, annual reports.

Administration of CLEAR

- Supports development and updates of the CLEAR- model.
  - Displacement factors
  - Transparency
  - Common ground for calculations in the forestry sector
  - platform for discussion and networking

- Link to website: CLEAR website and report: Link to report

- The administration of CLEAR is led by Skogforsk in collaboration with the following parties:

Thank you for listening!
I hope everything was CLEAR

Samuel Rönnbäck

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