

# Model used by SCA for reporting its climate impact

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## Contents:

|                             |   |
|-----------------------------|---|
| Introduction .....          | 2 |
| Model components .....      | 3 |
| Forest carbon.....          | 3 |
| Wood-based carbon.....      | 3 |
| Value chain emissions ..... | 3 |
| Prevented emissions .....   | 3 |
| References.....             | 4 |

## Introduction

***The forest-based sector contributes strongly to the two principal climate change mitigation objectives stipulated by the UNFCCC. SCA's operations lead to a positive climate impact.***

The purpose of this brief is to introduce the updated climate reporting methodology applied by SCA from 2023. The reporting of climate impact is based on the updated methodology guidance developed by the Swedish Forest Industries and The Forest Research Institute of Sweden, Skogforsk (Forest research Institute of Sweden, 2024). Furthermore, an ISO standard for the methodology is under development with publication expected in 2025 (International Organization for Standardization, 2023). The ongoing work with the ISO standard may result in changes in the terminology and/or methodology described in this document.

The methodology has been developed to respond to the two principal objectives for climate change mitigation set up by the United Nations Framework Convention on Climate Change (UNFCCC), found in (United Nations, 1992, Article 4.1):

1. “[...] control, reduce or prevent anthropogenic emissions and of greenhouse gases in all relevant sectors [...]”.
2. “[...] conservation and enhancement, as appropriate, of sinks and reservoirs of all greenhouse gases including biomass, forests and oceans as well as other terrestrial, coastal and marine ecosystems”.

The methodology describes how managed forests can contribute to both the carbon storage in the forest, and the positive effects of wood-based products (Figure 1).



*Figure 1. Managed forests can contribute to both principal goals for climate change mitigation as stipulated by the United Nations Framework Convention on Climate Change (UNFCCC).*

## Model components

The reporting model has four components, see figure 2. The climate impact is calculated separately for each of these, as described further below. The methodology has been developed to build on existing and agreed standards for each of the four components.

| Forest Carbon  | Wood-based carbon              | Value chain emissions                   | Prevented emissions                        |
|--|--------------------------------|---|--|
| <b>Living biomass:</b><br>- above ground<br>- below ground<br><b>Soil organic matter</b> | <b>Harvested Wood Products</b> | <b>GHG emissions</b><br>- Scope 1, 2, 3 | <b>Emissions from alternative products</b> |

*Figure 2. The four components included in the model. The two left-hand components relate to the biogenic carbon cycle. The two right-hand components refer to greenhouse gas emissions mainly from fossil sources and cement production.*

### Forest carbon

The forest carbon component refers to the change of carbon in the forest during the reporting period. This includes changes in the living biomass (trees), dead wood, litter and soil carbon. "Forest" includes all land classified as forest according to the applicable national/international definition. This means that the reporting of forest carbon change is similar to annual reporting at the national level, see e.g. the Swedish report for 2022 (UNFCCC, 2022).

SCA purchases large quantities of wood from other landowners, primarily in Northern Sweden. The forest carbon balance in these forests is not part of SCAs climate reporting, although data exists that show a similar positive carbon development as in SCAs forest. For the purpose of SCAs climate reporting, however, the change in carbon storage in these forests is assumed to be 0, which represents a conservative approach to SCAs climate impact.

### Wood-based carbon

Wood-based carbon refers to the change of carbon storage in wood-based products that are in use. In national climate reporting, this is referred to as Harvested Wood Products (HWP) pool. Products delivered during the year, add to the HWP pool and products reaching end-of-life reduce the HWP pool. The difference represents the change of carbon storage. The methodology provided by IPCC Guidelines for national-level reporting has been modified for corporate reporting.

### Value chain emissions

SCA's reported value chain emissions are currently covering emissions from the forest to the customer gate using the Greenhouse Gas Protocol and covering Scopes 1-3. An annual internal report is compiled for this purpose and the result is presented in the Annual Report. There is no separate calculation of value-chain emissions for the overall climate impact described in this document.

### Prevented emissions

Prevented emissions refer to the greenhouse gas emissions that would potentially be generated if SCAs products were not supplied to the market. If so, these products would have to be replaced with counterfactual non-wood alternatives with the same functionality.

Prevention of emissions by using wood-based products is part of the overarching UNFCCC framework but, contrary to the other three components above, does not have a place in official climate reporting as stipulated by IPCC guidance. One reason is that these effects mainly occur in other economic sectors (for example using wood prevents emissions in the construction sector; biofuels prevent emissions in the transport sector).

Prevented emissions must instead be calculated based on comparative Life-Cycle Assessments and published research. In doing that, a displacement factor (DF) is established for each product category to reflect the quantity of greenhouse gas emissions (tCO<sub>2e</sub>) that are prevented per quantity of wood-based product delivered (tCO<sub>2e</sub>). This is expressed in tCO<sub>2e</sub>/tCO<sub>2e</sub>. It is calculated as the total of prevented emissions for:

- the first use of the wood material in products.
- the quantity of recovered material for energy use in the time period (final use).

Future recycled uses are not included, as they fall outside of the time period in question, however, the first use calculation may include material that has been recycled.

## References

Forest Research Institute of Sweden, 2024. Manual for reporting corporate impact of wood-based products on the global climate - Overview of the Climate effect assessment and reporting (CLEAR) model, Arbetsrapport 1187-2024.

UNFCCC, 2022. National Inventory Report, Sweden 2022 [WWW Document]. URL <https://unfccc.int/documents/461776> (accessed 2.15.23).

United Nations, 1992. United Nations Framework Convention on Climate Change [WWW Document]. URL <https://unfccc.int/resource/docs/convkp/conveng.pdf> (accessed 6.14.19).