

Amorim Wise Inspire 700 SRT carbon footprint

Amorim Cork Flooring

July 2020

Disclaimer

EY carbon footprint analysis follows a life-cycle approach based on ISO Standard 14040 and is based on Amorim Cork Flooring data and business assumptions. The results presented are not third-party verified.

Agenda

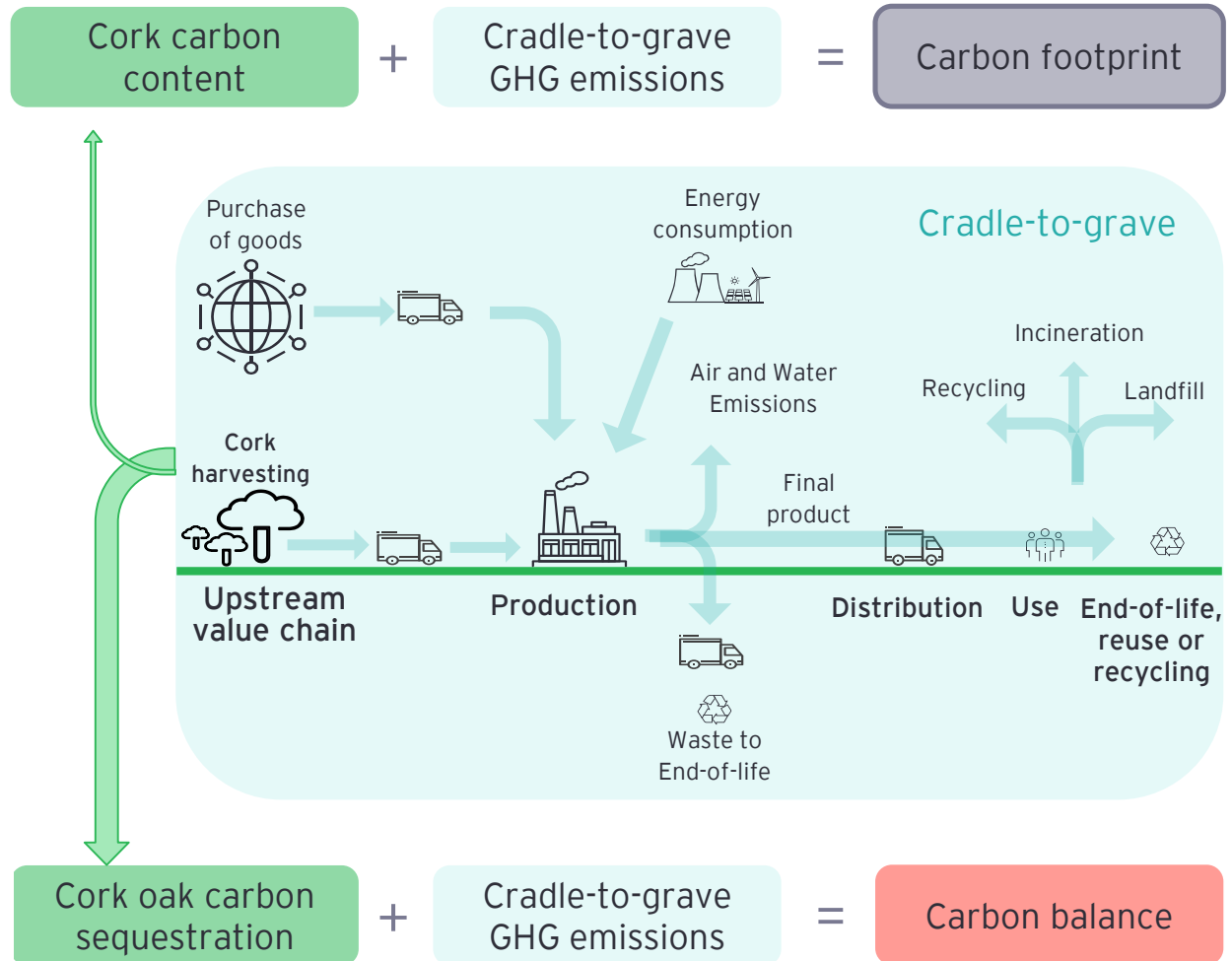
1. About the study

2. Carbon footprint

Cradle-to-gate
Cradle-to-grave

3. Carbon balance

Scenario analysis with carbon sequestration at the forest stage



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About the study

About the study

- ▶ The **main purpose** is to quantify the potential environmental impacts of Amorim Wise Inspire 700 SRT (average specific weight: 7,36 kg/m²; thickness: 7 mm; average composition: 20% cork, 55% recycled HDPE, 6% HDPE, 5% PET, 14% other materials and customization products) produced by Amorim Cork Flooring, through a life cycle approach.
- ▶ **Guidelines:** The study was based on ISO 14040/44 series of standards, complemented with the guidelines from the International Reference Life Cycle Data System (ILCD) Handbook - General guide for Life Cycle Assessment - Detailed guidance
- ▶ **Approach:** *cradle-to-grave (from raw material extraction to the product end of life)*
- ▶ **Functional unit :** 1 m² of product
- ▶ **Modelling software and database :** SimaPro 9 with ecoinvent 3.5 database
- ▶ **Method :** Midpoint characterization factors recommended by the International Reference Life Cycle Data System (ILCD).

- ▶ **Data collection procedure**

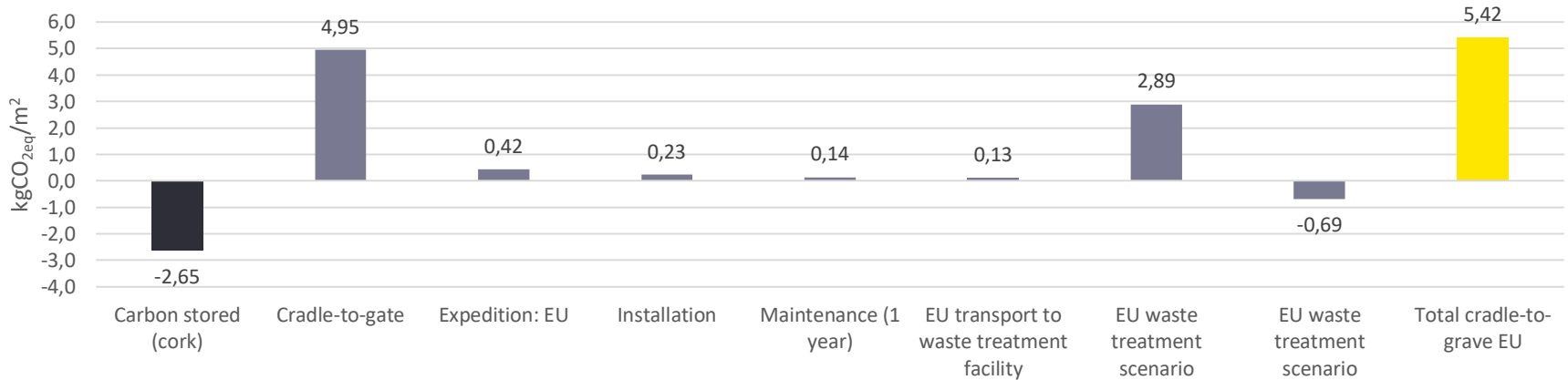


- ▶ Carbon stored in the final product is included
- ▶ Additional scenario analysis of the potential carbon sequestration at the forest stage

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Carbon footprint

Carbon footprint : results



- ▶ Product destination: European market
- ▶ End-of-life mix scenario (70% landfill; 10% incineration; 20% recycling)
- ▶ ILCD accounts for GHG emissions and removals from Fossil, Biogenic and Land Transformation sources.

Amorim Wise Inspire 700 SRT carbon footprint:

- ▶ Cradle to grave: **+5,42** kg CO_{2eq}/m²
- ▶ Cradle to gate: **+2,30** kg CO_{2eq}/m²

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Carbon balance

Carbon balance: results

Scenario analysis with carbon sequestration in the cork oak montado

For Amorim Wise Inspire 700 SRT when considering carbon sequestration in the cork oak* montado:

There is a forest storage up to:

- 102
kg CO₂/m²

Therefore, the carbon balance reaches up to

-93
kg CO₂/m²



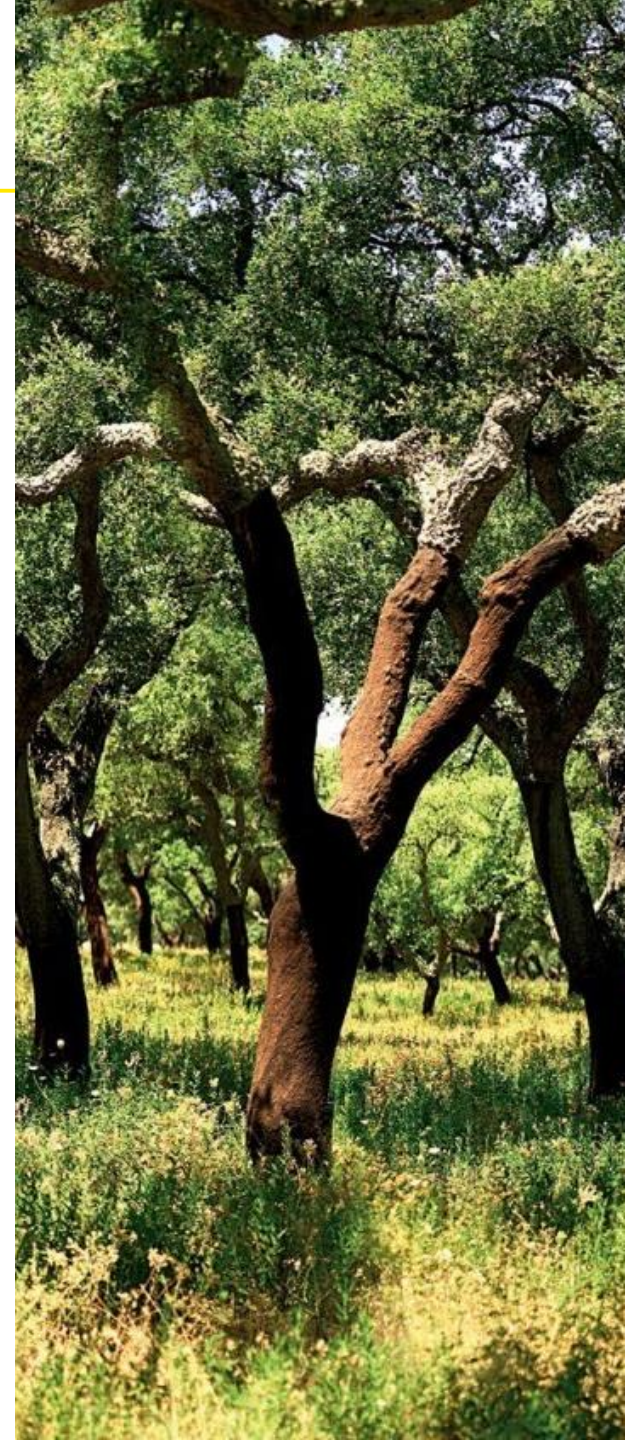
scenario analysis based on well-managed cork oak montado

73 t CO₂/t cork

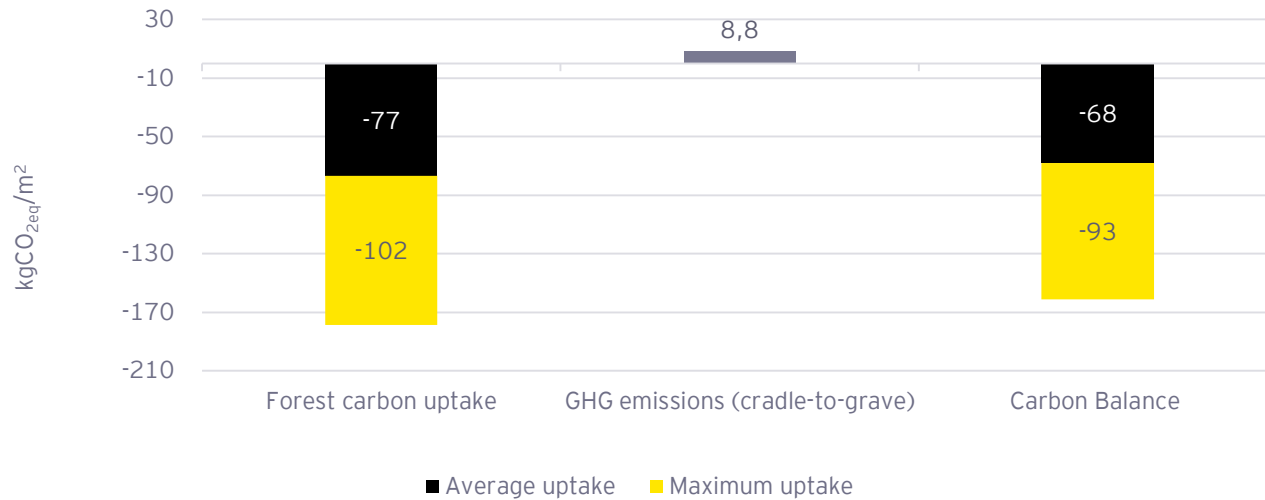
Maximum ecosystem CO₂ uptake registered (14,7 tCO₂/ha) (Costa-e-Silva et al., 2015).

with the average ecosystem CO₂ uptake being - 55 t CO₂/t cork, considering wet and dry years in well managed forests (11 t CO₂/ha).¹

¹ figures used in "The value of cork oak montado ecosystem services, EY 2019"



Carbon balance: results



Carbon balance reaches up to:

-93 kg CO_{2eq}/m²

Considering:

- ▶ Maximum ecosystem CO₂ uptake capacity registered in a well managed cork oak montado in weight-based perspective
- ▶ Cradle-to-grave GHG emissions, thus excluding carbon stored and potential future benefits beyond the system boundary.
- ▶ Destination: EU scenario
- ▶ End-of-life mix scenario (70% landfill; 10% incineration; 20% recycling)
- ▶ 1-year maintenance (for 20 year reference service life adds aprox. +2 kgCO₂/m² in GHG emissions)

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