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CORK
SOLUTIONS

Sustainable by nature

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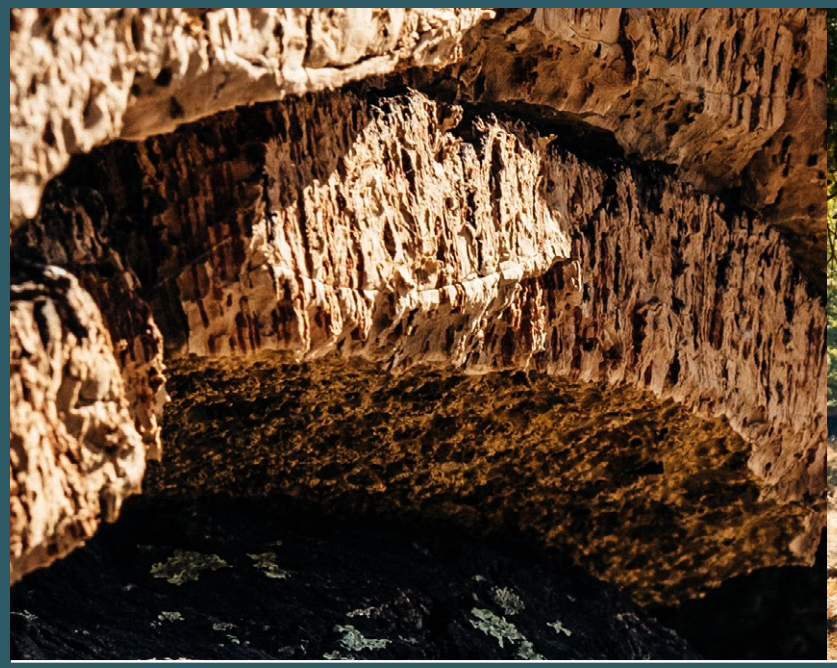

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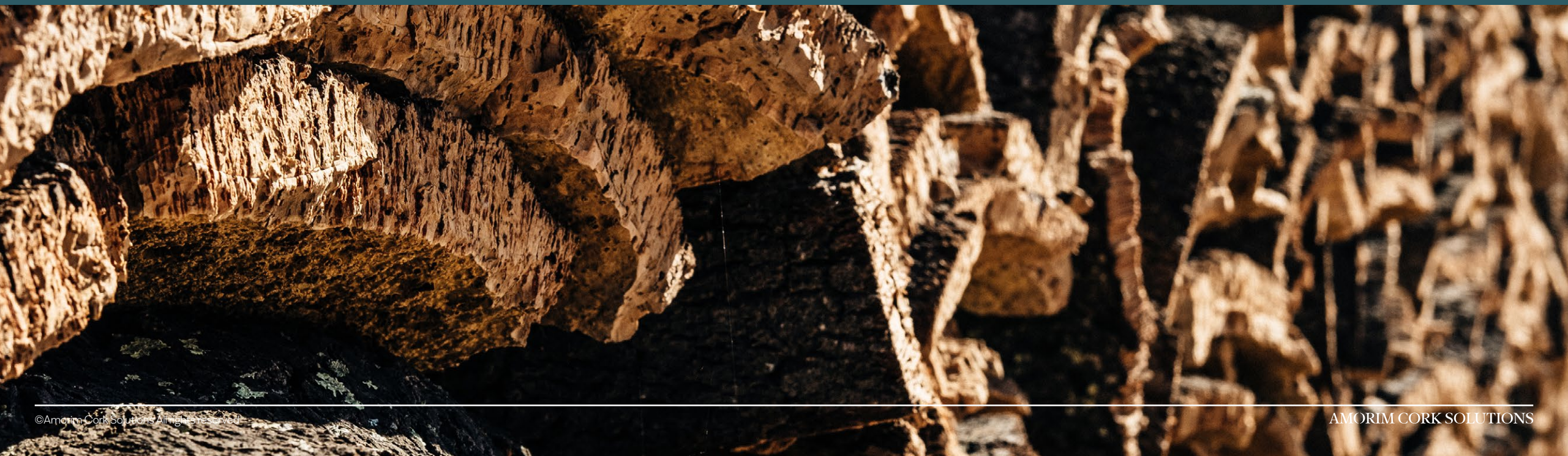
Cork and Sustainability



Nature as the starting point for a sustainable future

Our industry core raw material is 100% natural, which allows us to promote a circular economy at all stages of the industrial process.

In Corticeira Amorim, we add value to cork, in an ethical, competitive, distinctive and innovative way that is in perfect harmony with Nature.

Cork: a gift from nature

Cork is the outer bark of the cork oak tree *(Quercus suber L.)*. It's a 100% natural raw material, with unique properties that give it an unrivaled character and make it valuable in several industries and multiple applications.

Cork. Versatile. Sustainable.
Technological. Matchless.

9 years
The period of time between each cork oak harvest.

25 years
The average time before the cork oak tree is harvested for the first time.

200 years
The average lifespan of cork oak tree.

Cork's main features

100% natural, reusable and recyclable

Resistance to fire and high temperatures

Thermal insulation

Resistance to friction

Lightness and buoyancy

Impermeability to liquids and gases

Acoustic and anti-vibration insulation

Elastic, compressible and resilient

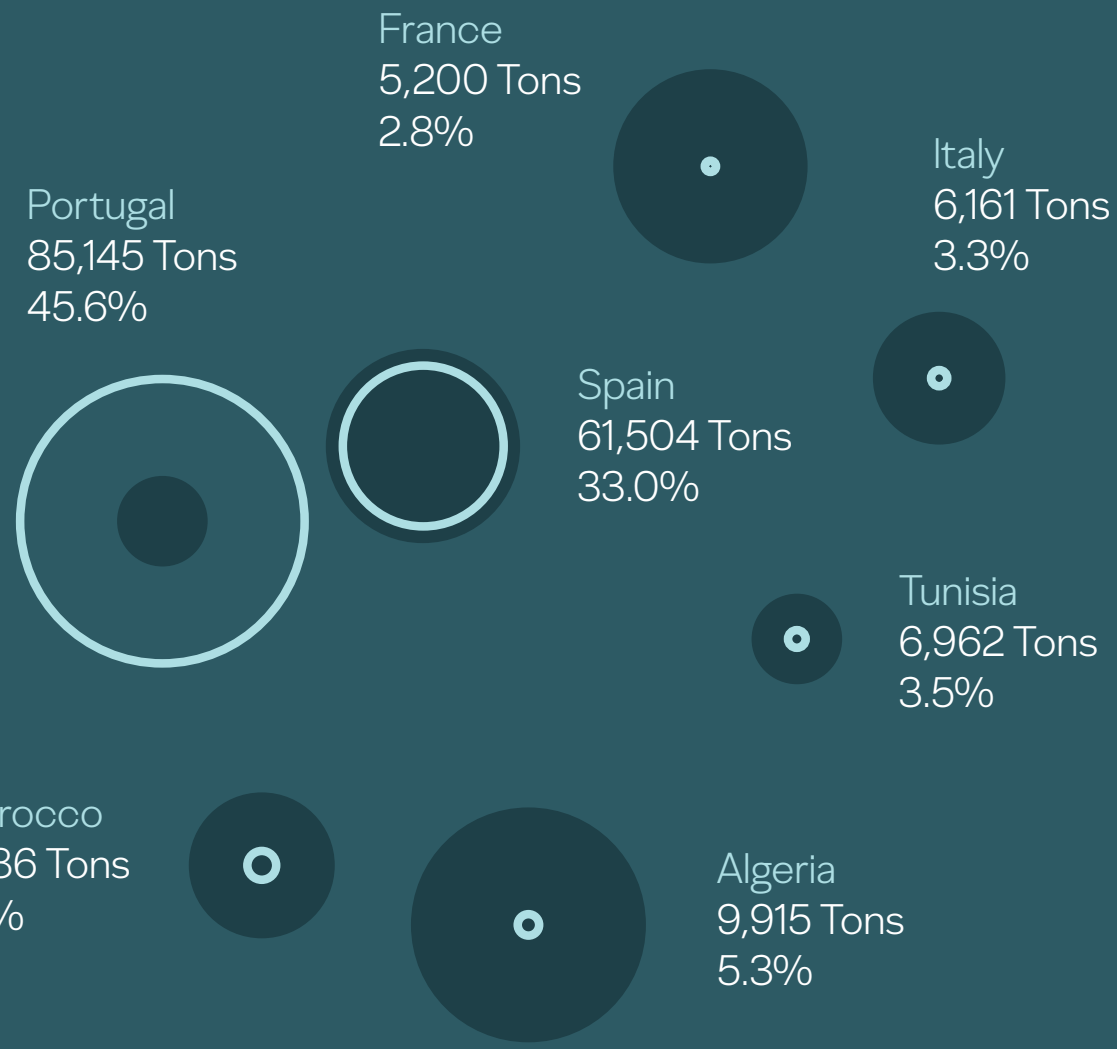
Soft touch

Annual cork production and cork oak forest area

Cork oak forest area (thousand hectares)		
Portugal	720 ha	34%
Spain	574 ha	27%
Morocco	383 ha	18%
Algeria	230 ha	11%
Tunisia	86 ha	4%
France	65 ha	3%
Italy	65 ha	3%

Source: Portugal: IFN6, 2019; Spain: MARM, 2012; Italy: FAO, 2005; France: IM Liège, 2014; Morocco: HCEF Marroc, 2011; Algeria: EFI, 2009; Tunisia: Ben Jamaa, 2011.

2.1 million hectares in the West Mediterranean Basin, with ideal growing conditions for this species: soil composition, temperature, water and altitude.



Cork, a natural CO_2 retainer

Cork oak forests are important natural carbon sinks. They make a key contribution to the air we breathe because they capture CO_2 and it is estimated that for every ton of cork produced, cork oak forests can sequester up to 73 tons of CO_2.

1 ton of cork produced

CO_2

Up to 73 tons of CO_2 sequestered by the cork oak forest

* Source: https://apcor.pt/uploads/Media/Brochura/1-%20brochura%20ambiente/Brochura_Ambiente__EN.pdf

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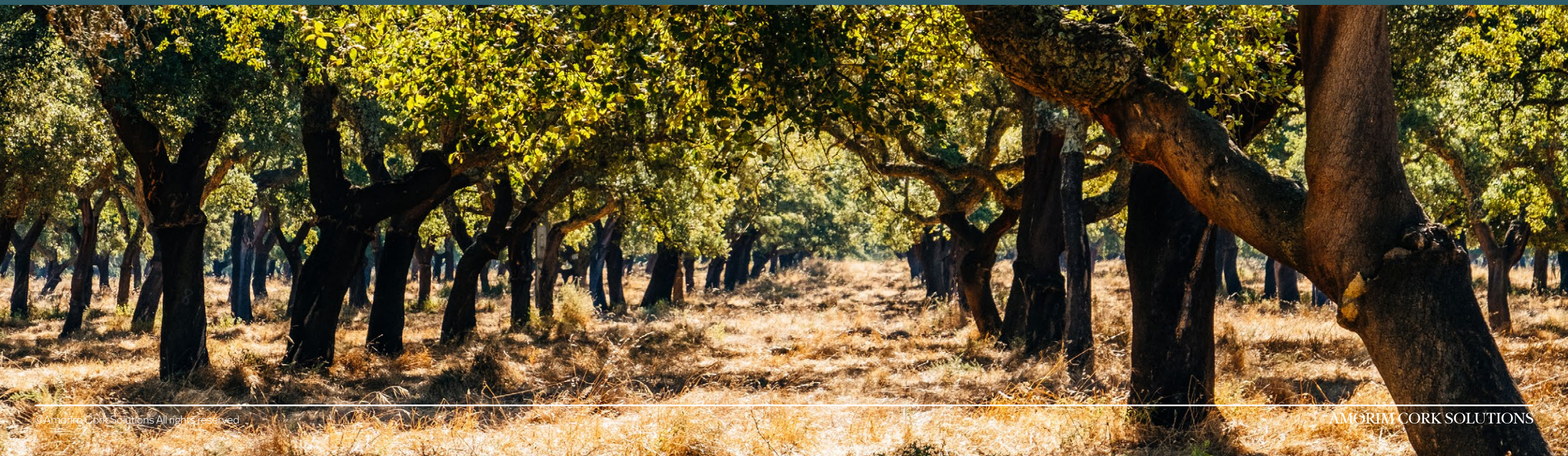
Sustainability: going further

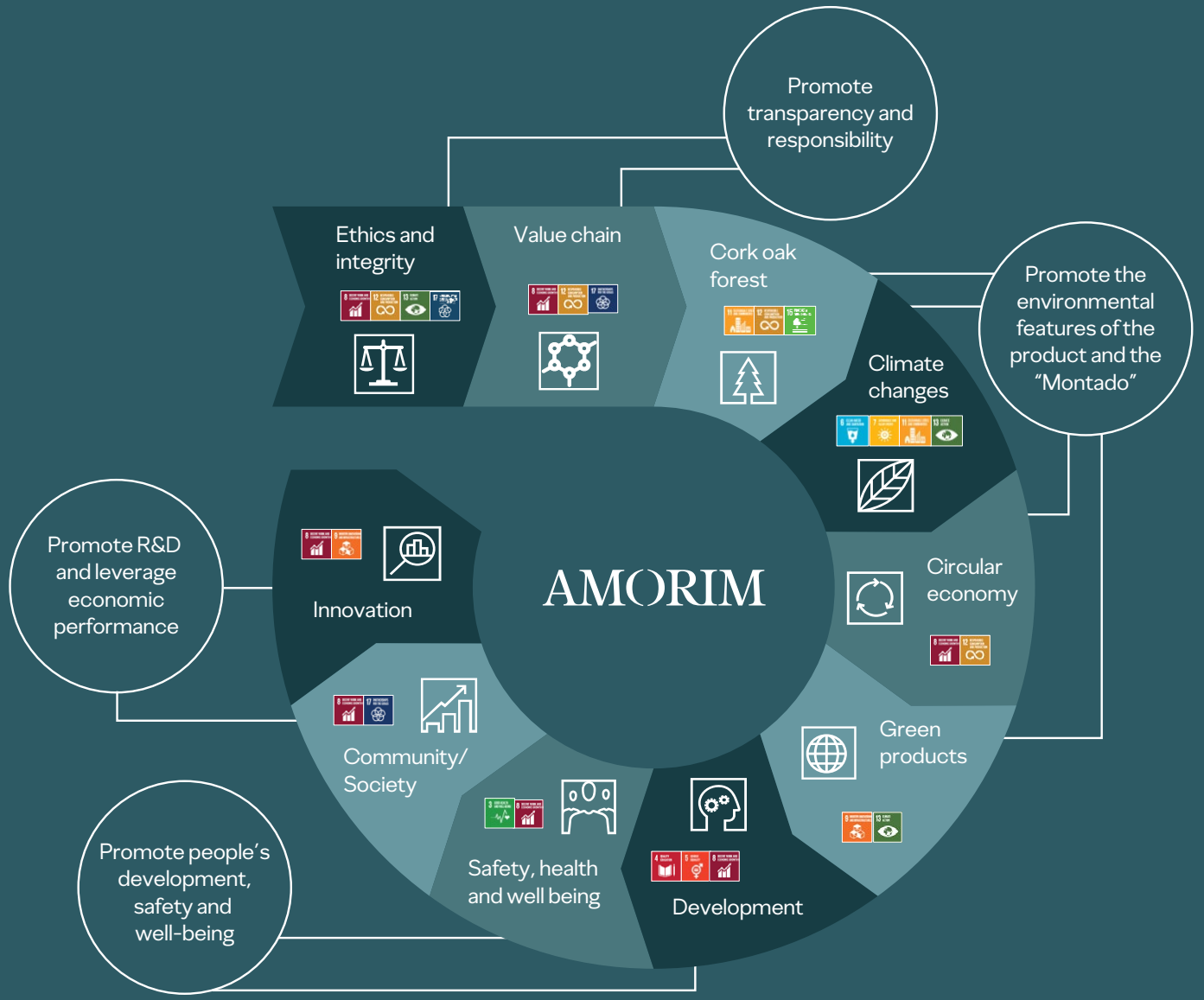


Our ESG Strategy

Committed to a solid and dynamic future with sustainability as the main reference.

Sustainable development goals are an integral part of our sustainability strategy.

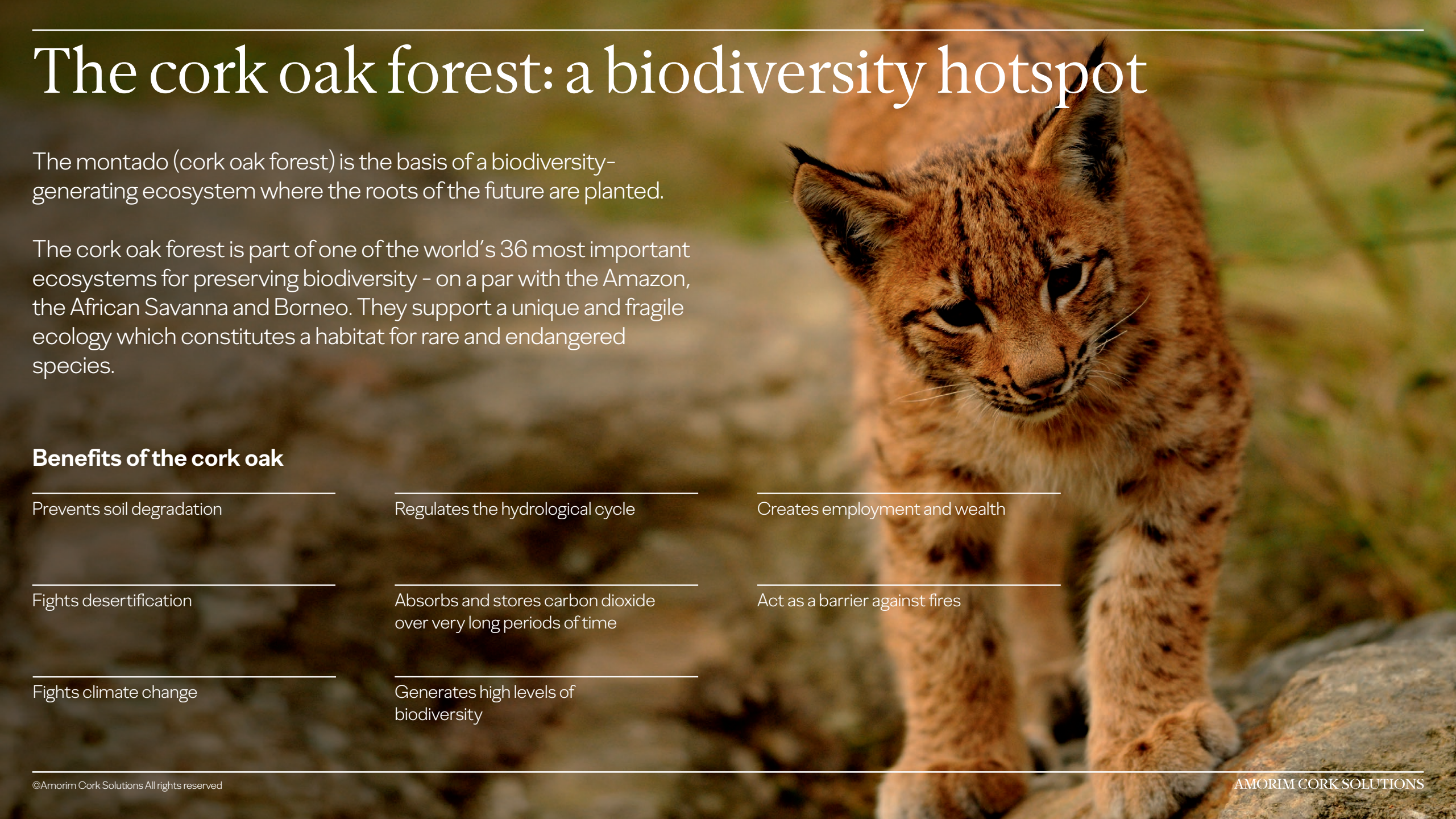
Our strategy is aligned with 12 sustainable development goals.



The cork oak forest: a biodiversity hotspot

The montado (cork oak forest) is the basis of a biodiversity-generating ecosystem where the roots of the future are planted.

The cork oak forest is part of one of the world's 36 most important ecosystems for preserving biodiversity - on a par with the Amazon, the African Savanna and Borneo. They support a unique and fragile ecology which constitutes a habitat for rare and endangered species.



Benefits of the cork oak

- Prevents soil degradation
- Regulates the hydrological cycle
- Creates employment and wealth
- Fights desertification
- Absorbs and stores carbon dioxide over very long periods of time
- Act as a barrier against fires
- Fights climate change
- Generates high levels of biodiversity

Average value estimated of the ecosystem services

Corticeira Amorim commissioned an independent study of the ecosystem services of the cork oak forest. Considering four case studies EY was able to identify three main ecosystem services provided:

Climate regulation

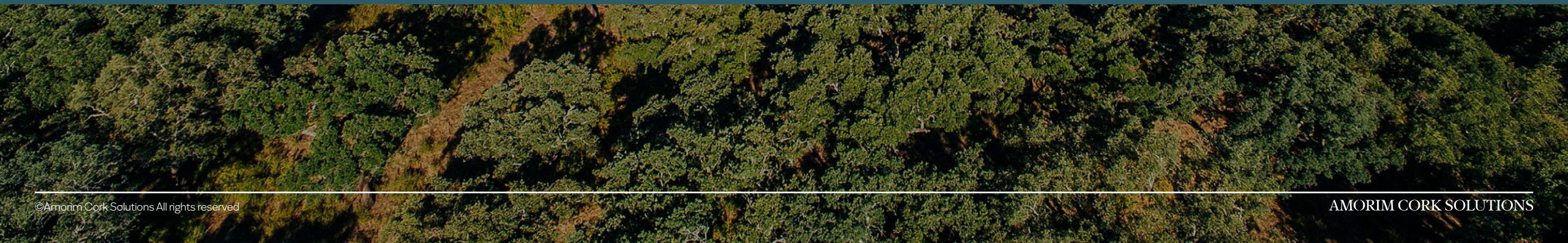
estimated by "putting a price on carbon", taking into account that different ecological conditions of the montado have different carbon sink capacities.

Fire prevention

estimated by comparing average costs with fire defense, fire damage and recovery for the montado Ecosystem vs typical rural land use in Portugal.

Avoided soil loss

service of regulating water flows and soil protection provided by the montado (the amount of soil not lost to water erosion is estimated and valued).



Average value estimated of the ecosystem services

1,300 €/ha/year estimated average value of the ecosystem services associated with a cork oak forest that is properly managed.

Climate regulation
Avoided costs range from 424€/ha/year to 768€/ha/year.

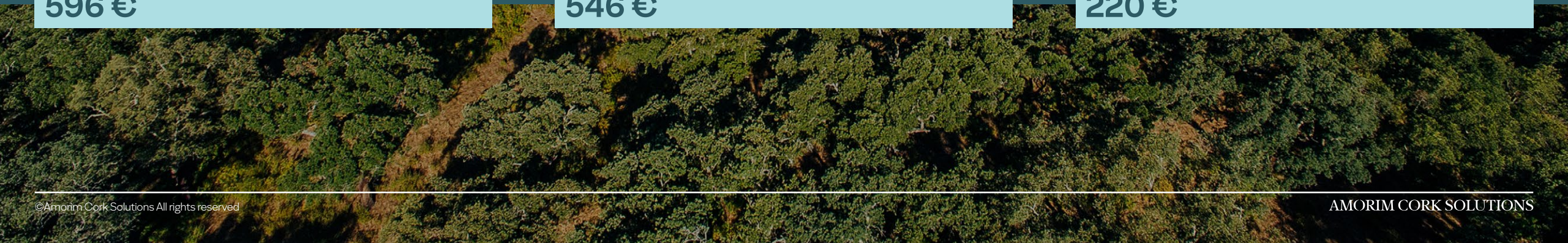
596 €

Fire prevention
Avoided costs range from 211€/ha/year to 751€/ha/year.

546 €

Avoided soil loss
Costs range from 56€/ha/year to 500€/ha/year.

220 €



Total net value ecosystem services

Total net value of Corticeira Amorim's contributions to society when considering ecosystem services induced by the activity (over 7x higher than the estimated direct gross value added).

* Environmental, economic and social impacts, EY 2019

Forestry intervention project

Leading the implementation of an innovative management model in partnership with forestry producers, research institutions and local authorities

Encouraging a responsible Supply Chain

- Valuing certified forests
- Purchasing cork from controlled sources

Developing a Forestry Intervention Project

- Investigation: more resilient species (climate change, pests and diseases)
- Intervention: new planted areas and increase density of existing forests, using innovative processes and technologies
- Induction: share knowledge and technical support to forestry producers

Valuing and increasing awareness of ecosystem services

57%
Industrial units with FSC® certification

96%
Cork/cork products from controlled sources

15 years
reduction of the first cork extraction cycle from the current 25 to 10/12 years

2 studies
of ecosystems services over the past 15 years

Cork oak tree CO_2 capture

3.000 to 4.000 kg of CO_2*
Forest carbon uptake

40 to 60 kg of cork
80 to 120 kg of CO_2 cork carbon uptake

* Annual values based on Instituto Superior de Agronomia scientific study (2016) | 1 ton of cork = 73 Ton CO_2
(This slide is an extrapolation)

Our path to carbon neutrality

We want to play our part in tackling climate change and work continuously on reducing our carbon footprint.

85%

emissions associated with the value chain

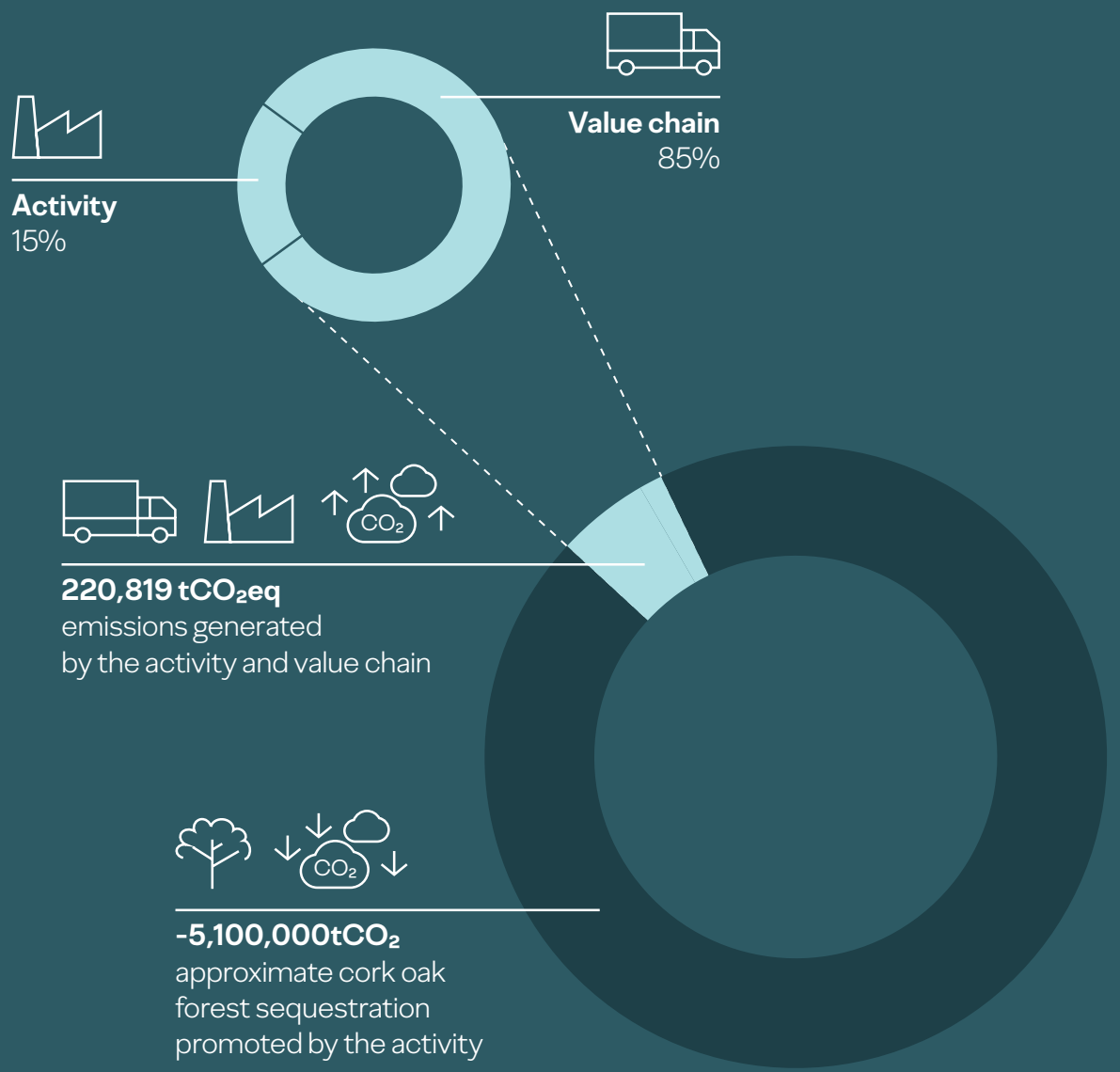
Scope 3 of GHG Protocol All Other Indirect Emissions from activities of Corticeira Amorim, concerning emissions associated with business travel, procurement, waste and water.

15%

emissions generated by the activity

Scope 1 of GHG Protocol All Direct Emissions from the direct activity under Corticeira Amorim's control, including fuel combustion on site.

Scope 2 of GHG Protocol Indirect Emissions from electricity purchased and used by Corticeira Amorim's activity.



Circular Economy

More than 50 years of circular economy principles.

Striving continuously to reach zero waste and to optimise the added value of all raw materials

- **Integrated production process** that reuses all by-products associated with cork processing
- **Reducing the generation of non-cork waste** and **promoting its valorization**
- Extending the life of materials through **industrial symbioses**
- **Recycling** of cork products at the end of their life-cycle

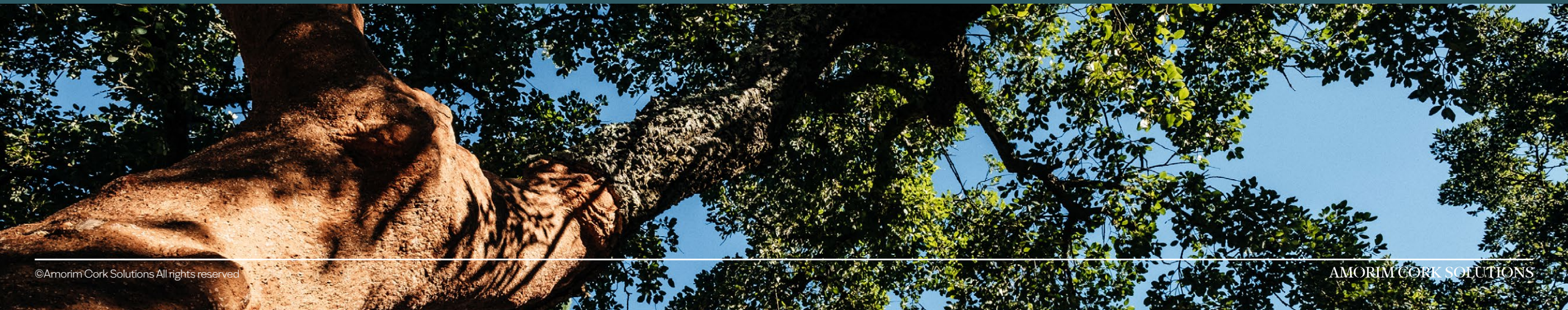
Sustainable practices of the company

Packaging

- Reduction of the thickness of pallet film.
- Study to reduce the wall thickness of the carbon tube.
- Study to reduce the thickness of the pre-stretch film.
- Study of alternatives to virgin plastic packaging.

Energy Efficiency and Renewable Energy

- Reduction of the consumption of non-renewable energy sources.
- Use of photovoltaic solar energy.
- Installation of chargers for electric cars.
- Reduction of energy consumption.
- Reduction of gas consumption.



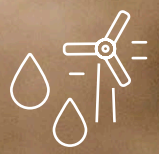
100% cork valorization

Based in our driving motto “Nothing is wasted, everything is transformed”, we value 100% of cork.

100%
use of cork

915
tons of recycled cork

87%
non cork waste recovery rate



88,7%
renewable materials consumed

92,2%
sustainable materials consumed

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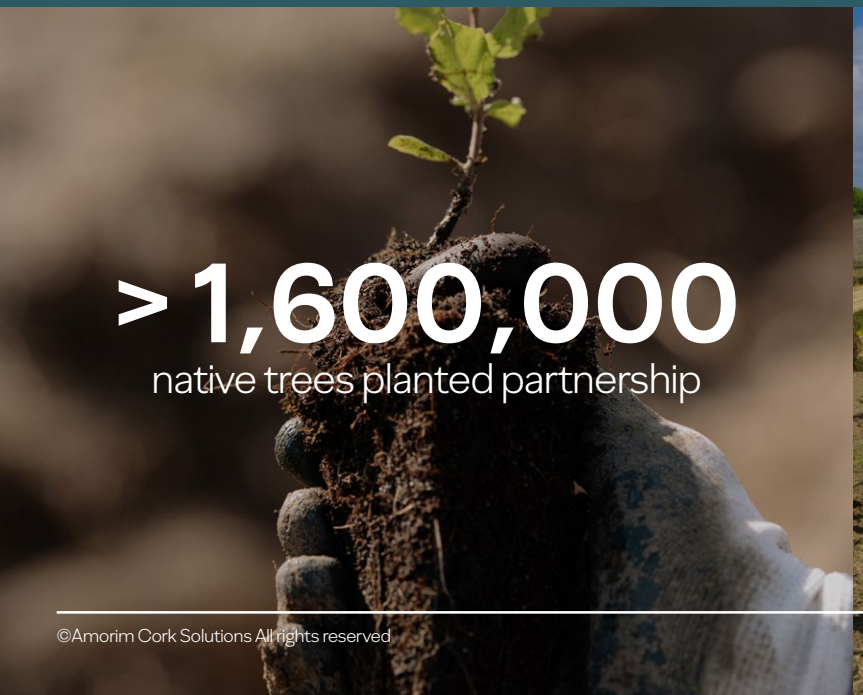
Recycling initiatives

Recycling, in addition to increasing reuse of the raw material, extends the cork life cycle and its environmental benefits, in particular its remarkable CO_2 retention.

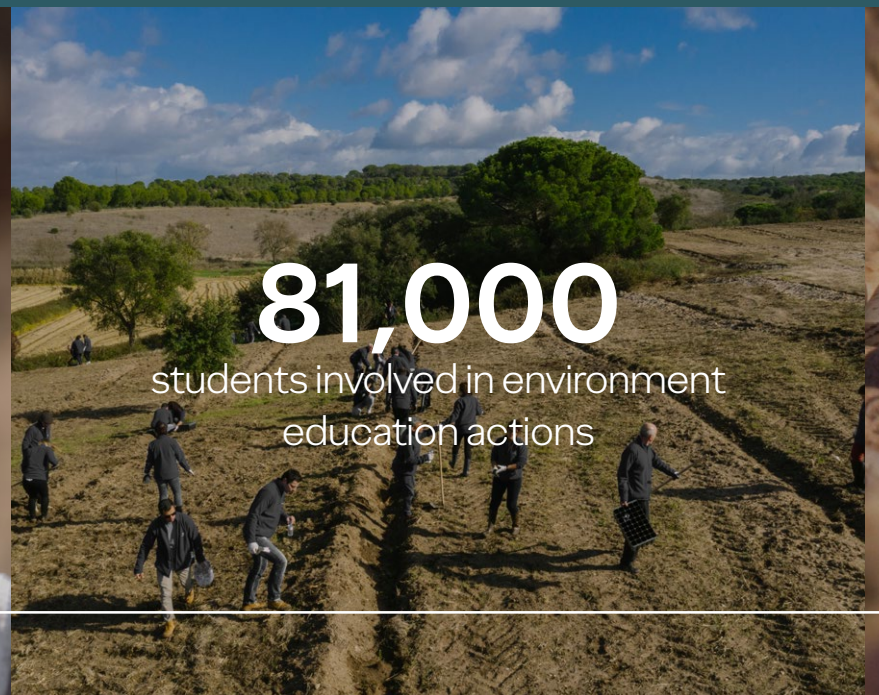
Recycling programs in Portugal, France, Italy, Spain, USA, Canada and South Africa.

Some programs, in particular Green Cork in Portugal, promotes environmental education initiatives and reforestation programs for indigenous trees, including cork oaks.

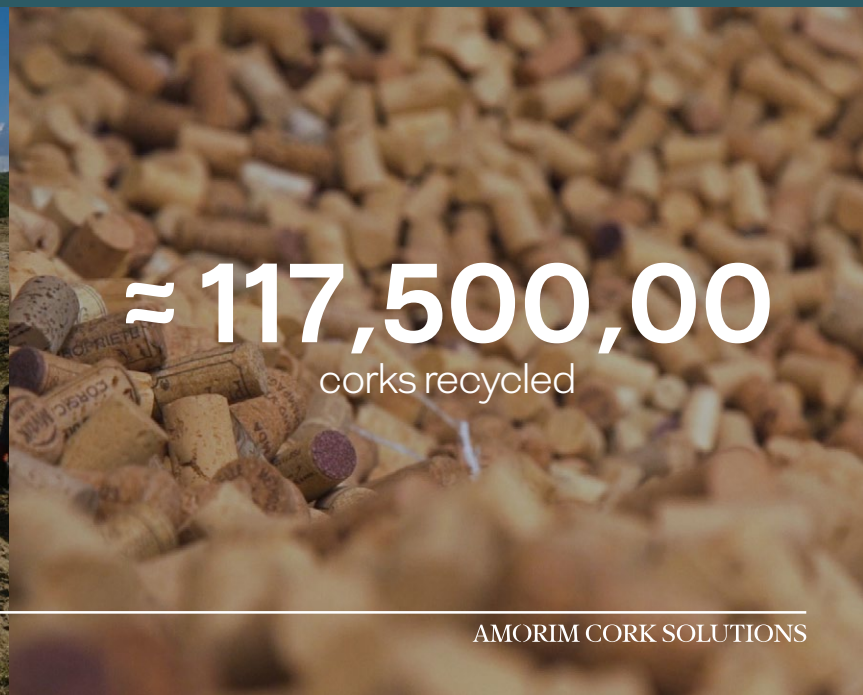
For example, since 2008, Green Cork has achieved:



> 1,600,000
native trees planted partnership



81,000
students involved in environment education actions



≈ 117,500,00
corks recycled

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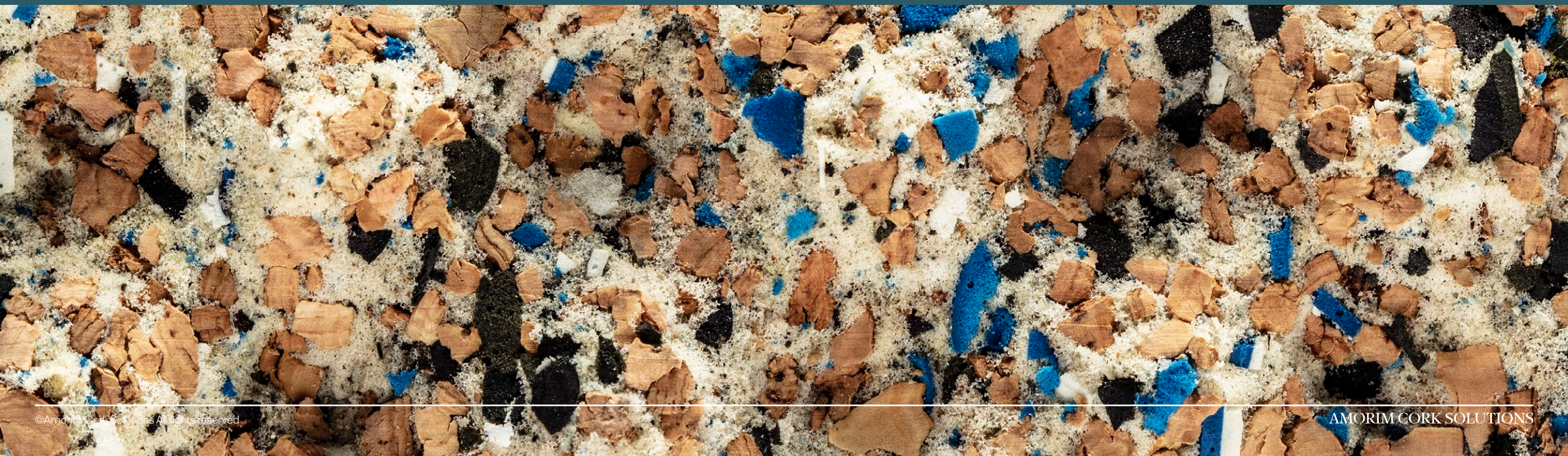
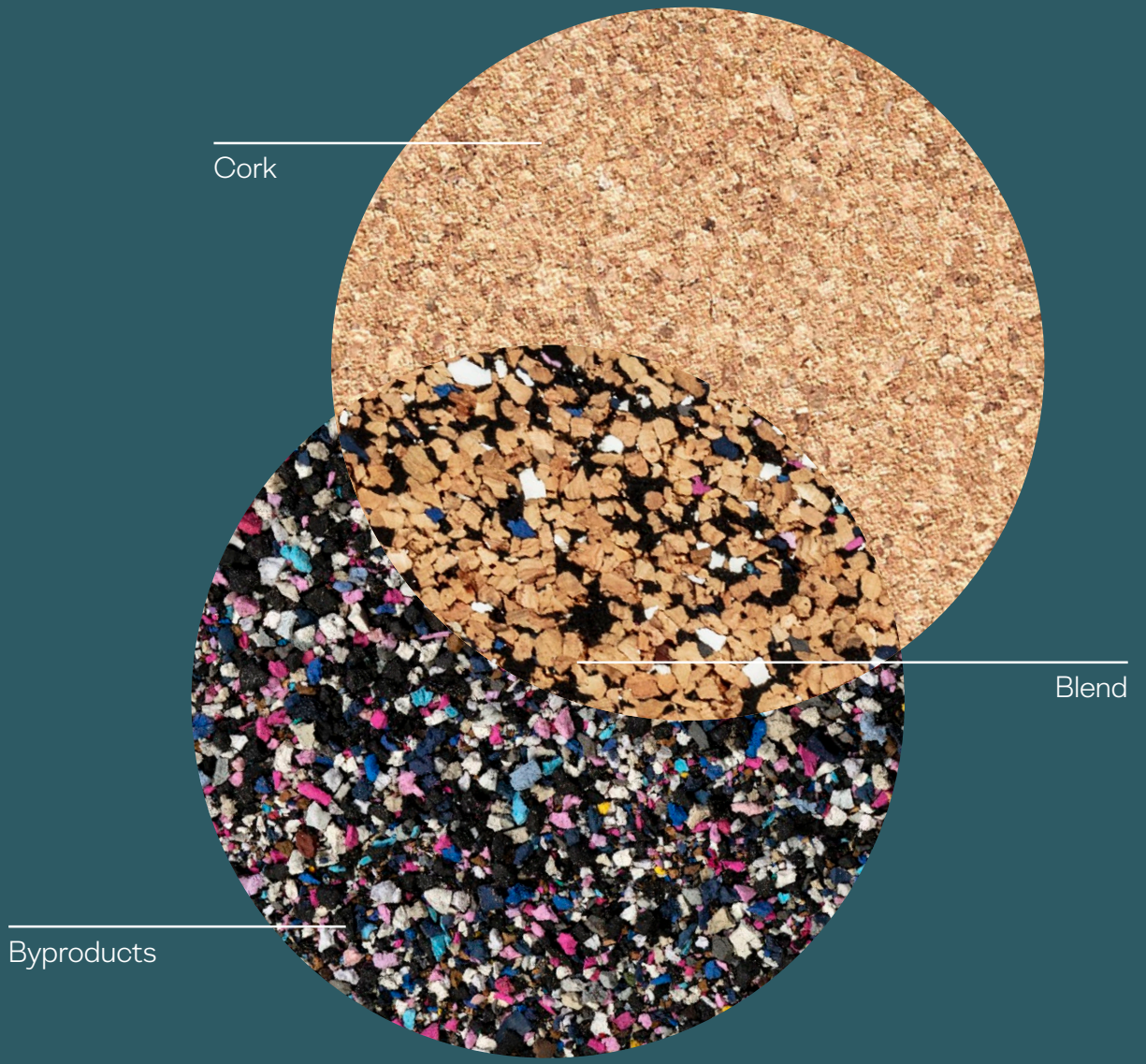
Sustainable products



Growing our circular economy model

Blending cork with other materials.

Over time, our expertise in cork has enabled us to create new and highly technological formulae that blend cork with other materials, leveraging cork's attributes.



Boosted by our innovation DNA

We are constantly developing new products with innovative formulae that blend cork with other materials.

That's why we created Cork Inside, a seal of quality that guarantees that cork is present in the optimal amount in our products, rigorously tested by Amorim Cork Solutions' innovation and engineering teams.

Even if cork is not completely visible, this 100% natural and recyclable material with unique technical properties is integrated within the product, creating value and differentiation.

BY **AMORIM** THE WORLD LEADER IN CORK

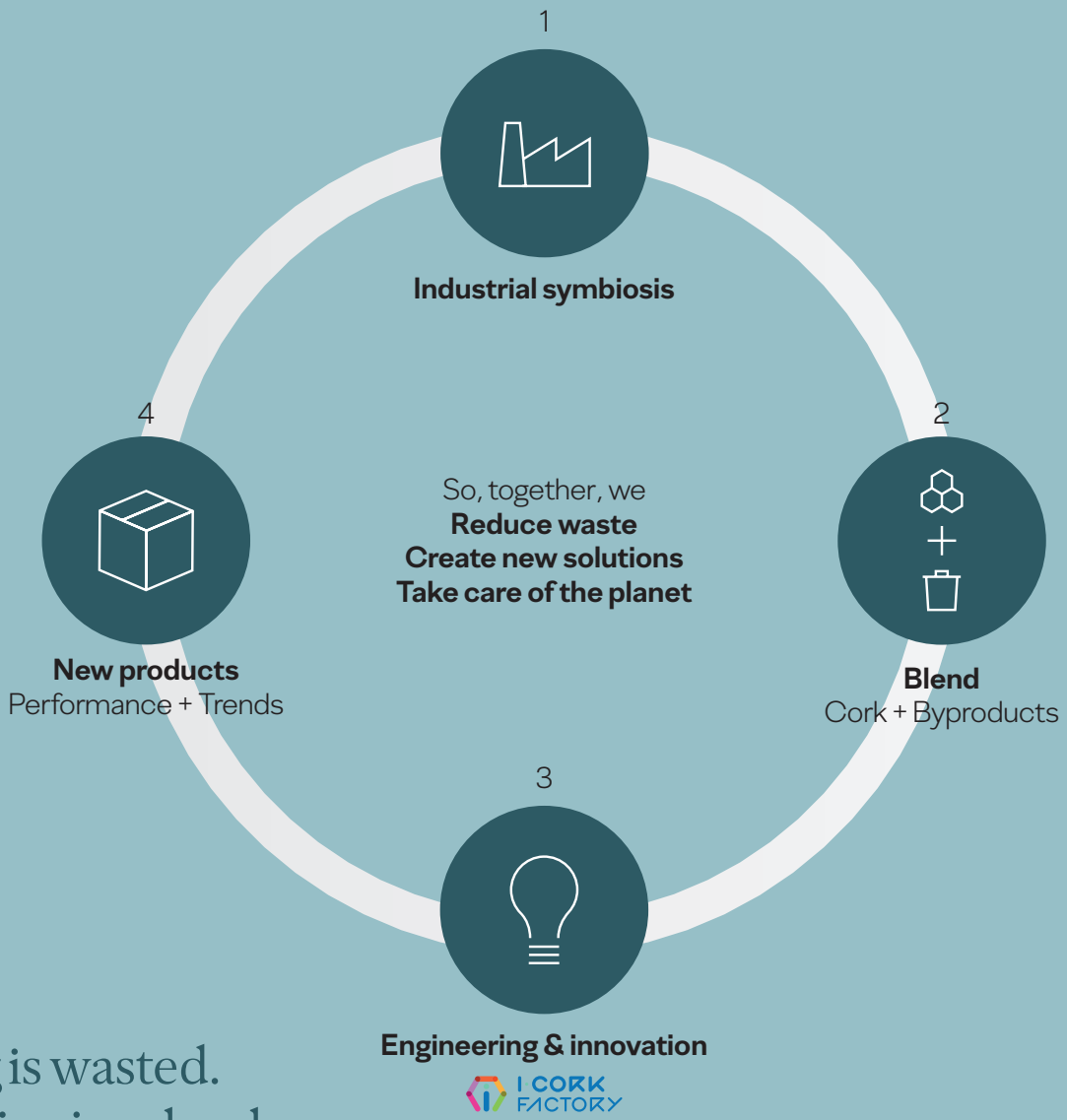
CORK INSIDE®

The **Cork Inside** seal guarantees that the product contains cork in the optimal amount, giving the required performance.

Industrial symbiosis

With cork at the core, blended with other materials - that are byproducts from other industries (industrial symbiosis) - we give materials a new life by creating new products while taking care of the planet.

Closing the loop.
Diminishing waste.



Nothing is wasted.
Everything is valued.

Researching, developing and innovating for the future

New products, new markets, new applications, and creating an added value for cork and its characteristics are our development drivers.

i.cork factory was founded to respond to the growing process of creation. It is where our new products are devised in response to current market trends and needs.

Using cork and other materials (thermoplastics, resins, foams, rubbers, natural & synthetic fibers...) and new technologies we challenge ourselves every day to find new and disruptive solutions.

i·CORK FACTORY

Grinding & mixing
Grinding & mixing technologies to address very different materials sourced from the circular economy.

Lamination
Lamination to address real multilayered materials and panels.

Compounding & extrusion
Materials compounding, dry blends and pelletizing.

Materials by design
Simulation and virtual testing of new materials – simulation lab.

Mixing & rubber processing
Cork rubber materials development.

Molding & shaping
Thermoforming, injection molding, machining and 3D printing.

Eco design as a tool for new products

The Eco design approach supports a product's entire lifecycle, with the goal of maximizing the saving and recycling of resources.

Main environmental impact criteria analyzed:

- Consumption of raw materials
- Energy consumption
- Releases into the natural environment and other forms of pollution

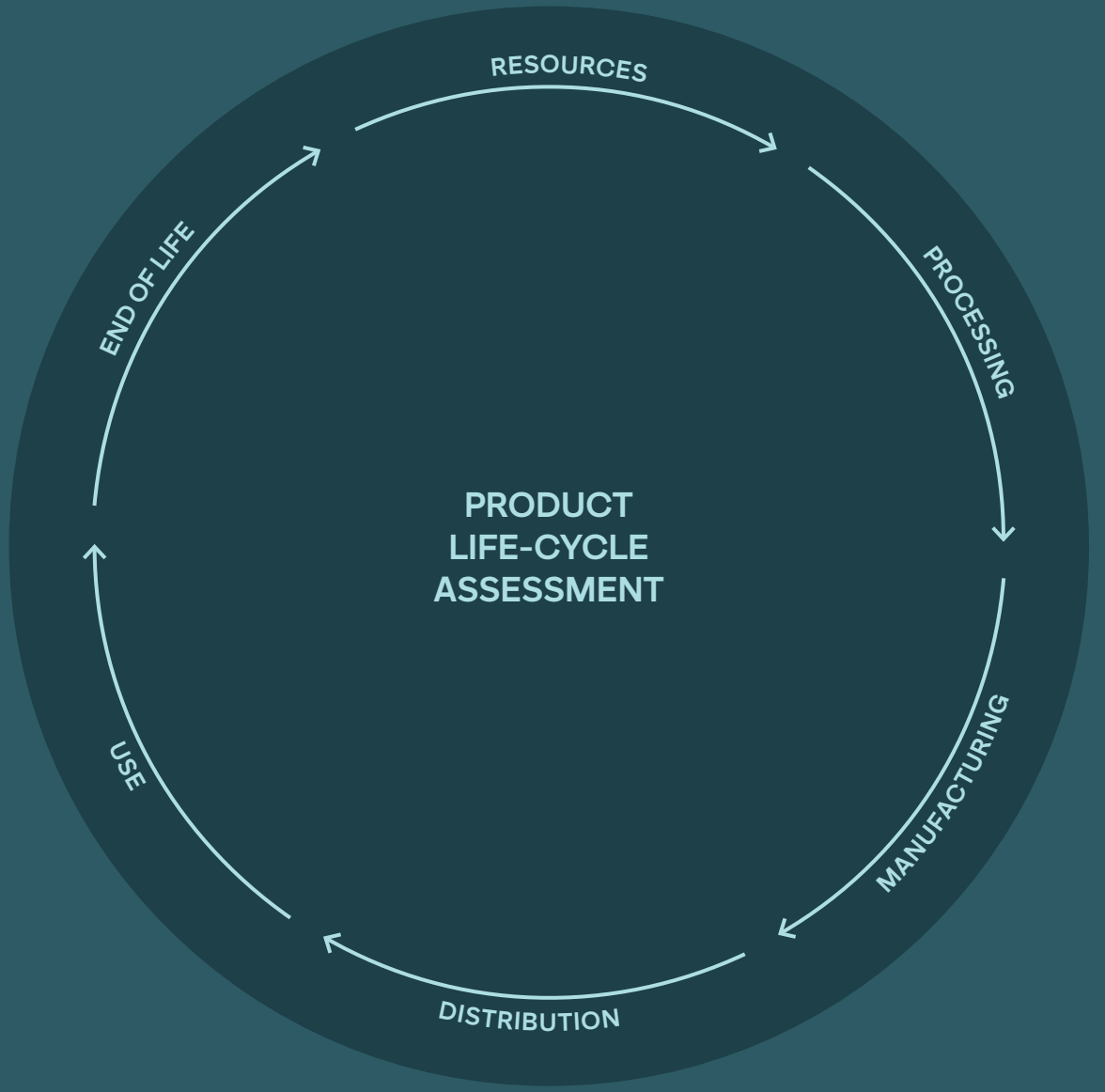
Life-cycle Assessment: measuring products environmental impact

Life-cycle assessment (LCA) is a methodology for assessing environmental impacts associated with all the stages of the life-cycle of a commercial product, process, or service.

Amorim is dedicated to maximizing its own productive performance and reduce its environmental impact and comissioned independent studies that now provide data on the carbon balance of its products.

What are the goals of these studies?

- Have the environmental impact of our products
- Improve our portfolio to reduce products environmental footprint
- Increase our activity's efficiency



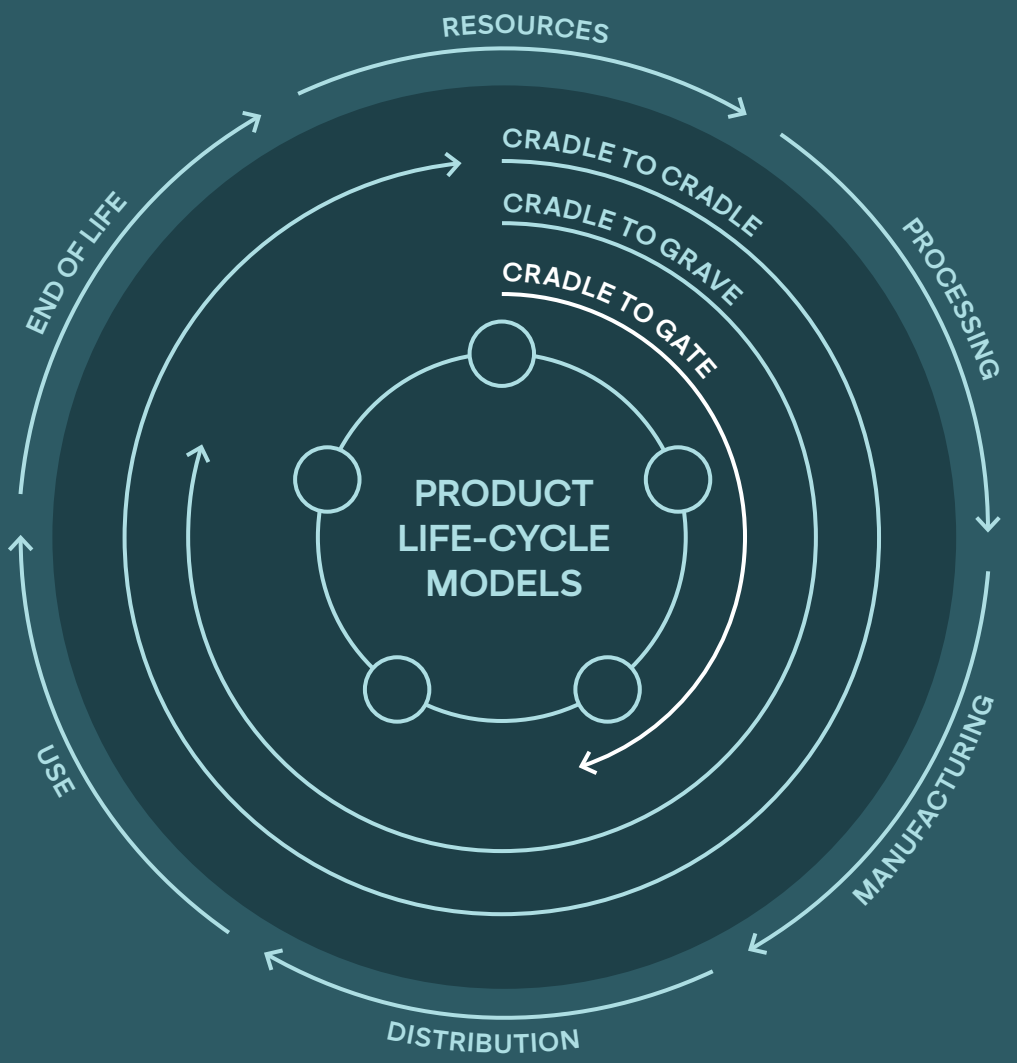
LCA: Cradle to Gate

Cradle to gate was the boundary associated with Amorim Cork Solutions' LCA studies.

A study to these boundaries considers all activities starting with the extraction of materials from the earth (the cradle), their transportation, refining, processing and fabrication activities until the material or product is ready to leave the factory gate.

ILCD · International Reference Life Cycle Data System

- Supported by European Commission
- Based on ISO 14040 and ISO 14044
- Provides a common basis for consistent, robust and quality-assured life cycle data and studies
- Internationally recognized standardized form



Negative Carbon Balance

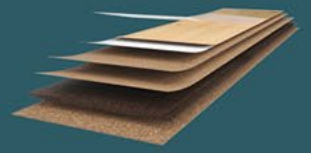
The Negative Carbon Balance seal attests that when taking into account the carbon sequestration from cork oak forests, the manufacture of Amorim Cork Solutions products have a positive contribution to climate regulation.

Negative carbon balance products

Underlays Go4Cork and Acousticork

- Underlays Go4Cork
- Underlays Acousticork
- Underscreed Acousticork

Expanded Cork Granules

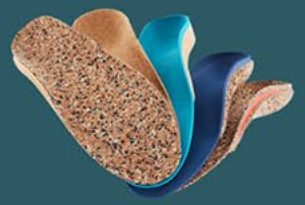


Amorim NRT®

- NRT®62
- NRT®62 VB
- Top Layer NRT®94

Pavimento Final Wicanders Wise

- Wise cork Pure
- Wise cork Inspire
- Wise wood Inspire



Amorim Footcork®

- Evolution

Corkeen

- Corkeen system

Amorim Sports

- Nature infills

Korko

- Building Blocks

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Thank you!