

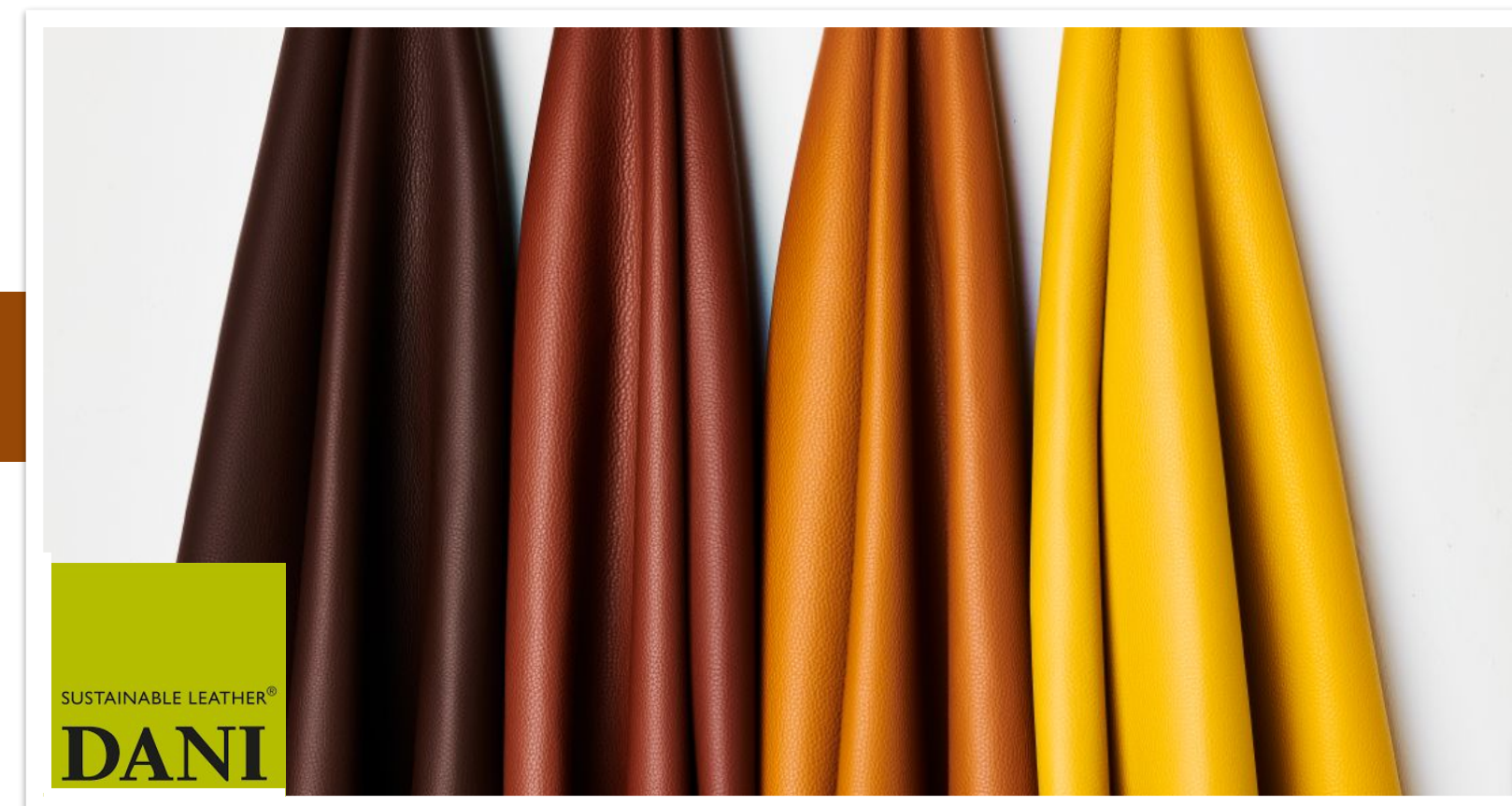


PRODUCT ENVIRONMENTAL

DECLARATION

Box Land DANI

Finished cowhide leather



Data reference period:
2020

PEFCR:
Finished leather

Geographical scope:
Europe



**This Product Environmental Footprint Declaration Statement
was created as part of the Life MAGIS project**

LIFE MAGIS - MAde Green in Italy Scheme is a project co-financed by the LIFE Program of the European Union to support the spread of the "Made green in Italy" scheme – promoted by the Ministry of Ecological Transition to enhance Italian products with the best environmental performance – and the Product Environmental Footprint.

To find out more about the objectives and actions of the project, visit the website: <https://www.lifemagis.eu>

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01 INTRODUCTION

What is the Product Environmental Footprint?

The Product Environmental Footprint (PEF) is an LCA (Life Cycle Assessment) methodology that is used to measure the environmental impacts of a product over its entire life cycle. These impacts are expressed in specific indicators, such as greenhouse gas emissions, water consumption, resource consumption, etc.

Measure to know... know to improve!

The results of an LCA study constitute a fundamental knowledge tool for achieving a very important goal: finding solutions to make products more sustainable for the environment

02 ABOUT THE COMPANY

History

Dani is a tanning company founded in 1950 by Angelo Dani as a family-owned business and over the years has become an international company with more than 1,200 employees, 4 full-cycle tanneries in Italy, 2 foreign plants for finishing operations and sales offices in the USA and China.

Our two business units, Dani Automotive and Dani Home Style and Fashion, partner with the most prestigious international brands.

In the 1970s, responsibility for the company passed to the six children.

Union of purpose, passion and dedication, intuition and foresight allow in the next thirty years dimensional growth, product diversification (furniture, footwear, clothing, leather goods, automotive and transportation, equestrian and smart devices) and geographic development

The new millennium opens the door to internationalization with the opening of showrooms and sales offices in New York and Shanghai.

The mission

I skills, reducing risks along the supply chain, and honesty and transparency in communication with stakeholder**S**.

Growth and internationalization also lead to a rethinking of the business model-a commitment that is clearly stated in the "Sustainable Leather" logo

Sustainability and responsible innovation reflect Dani's business philosophy based on: respecting and valuing people, caring for the environment, meeting customer expectations, investing in research and innovation, and seeking profit to sustain the company and the region.

The values that determine the underlying goals of sustainability, captured and formalized in the company's code of ethics, can be summarized as follows: decreasing consumption of natural resources and pollution load, building a safe working environment marked by the development of specific and distinctive organizational skills, reducing risks along the supply chain, and honesty and transparency in communication with stakeholders.

02 ABOUT THE COMPANY

Environmental commitment

For years Dani has chosen to be a sustainable company, recognizing in social and environmental responsibility the principles that guide its business actions, oriented towards the development of the company, the people who work there and the safeguarding of future generations.

In 2011 the first results: first tannery in the world to obtain the "Carbon Footprint of Product" and "Environmental Product Declaration" certifications.

In the same year Giancarlo Dani receives from the hands of the President of the Republic, Giorgio Napolitano, the prestigious award "Prize of Prizes for Innovation"

In 2012 and 2014 named among the one hundred "greenest" companies in Italy by the "GreenItaly Report"

In order to ensure compliance with the instances of ethical management, since 2014 it has adopted a management model consistent with Legislative Decree 231/01, which also provides for the application of a Code of Ethics and in 2016-2017 the certifications of environmental management systems and worker health and safety.

The ethical and strategic value of socio-environmental responsibility is declined in Dani through research, innovation, inclusion and redistribution projects, reported annually in the Sustainability Report, a global report that manifests the company's attitude to sustainable doing in all its forms: environmental, social and economic.

It invests in certifications as a means of communicating its daily commitment to improving worker safety, product quality, process reliability, and the environmental compatibility of its operations.

Research and innovation activities are considered in Dani an essential point for the company's development in the medium and long term, which is why it invests about 1.5 percent of its turnover in such activities. The activities are related to the reduction of resource consumption and environmental impacts to the improvement of leather performance and production efficiency, supply chain approach, collaboration with universities and research institutions, and increasing international projection.

03 PRODUCT

Box Land

Box Land is a finished leather intended for various manufacturing industries: furniture, apparel, footwear, etc.

Box Land is a firm and durable leather, pigmented with a pronounced grain print and characterized by a rubbery, full hand.

Within this project, for the purpose of comparison with the benchmark, the automotive industry was chosen as the intended use.



The process and plants

The life cycle of Box Land begins with the livestock rearing stage, followed by slaughter, both activities falling outside the control of the Dani company. The raw hides, a by-product of the food industry, are later transported to the tannery where all the activities necessary for processing into finished leather take place. These manufacturing processes are under the direct control of the company and involve both resource consumption in inputs (raw materials, energy, etc.) and flows in outputs (waste, discharges, emissions, etc.).

All production facilities are located in Italy to ensure control, quality and reliability of products and production processes.

Traciability

For greater transparency DANI maps the traceability of hides and skins upstream of the tannery to Technical Specification ICEC_TS_SC410 and to ICEC Regulation TR01. The degree of traceability of raw materials upstream of the tannery was rated Excellent up to the breeding countries (CERT-061A-2021-TRACEABILITY)

04 METHODOLOGY

TO MEASURE THE PRODUCT ENVIRONMENTAL FOOTPRINT

This Life Cycle Assessment (LCA) study was conducted according to the PEF (Product Environmental Footprint) methodology for assessing the product environmental footprint as defined in the European Commission Recommendation 2013/179/EU, of 9 April 2013.

The software used is Simapro 9.1.0.8 and the calculation method is the Environmental Footprint, EF 2.0, adapted by Pré Consultants in order to be better used with the databases contained in SimaPro.

The PEF study is conducted in accordance with the following documents:

- Zampori, L. and Pant, R., Suggestions for updating the Product Environmental Footprint (PEF) method, EUR 29682 EN, Publications Office of the European Union, Luxembourg, 2019 (hereinafter PEF method);
- Recommendation 2013/179/EU of the European Commission of 9 April 2013;
- European Commission, PEFCR Guidance document, - Guidance for the development of Product Environmental Footprint Category Rules (PEFCRs), version 6.3, December 2017 (hereinafter PEFCR Guidance v.6.3);
- PEFCR for Leather final version 25 April 2018
- Product Category Rules of leather products, drawn up as part of the LIFE MAGIS project, in action B1 (hereinafter leather PEFCR).

Functional unit declared

The study and the results presented refer to **1 m² of Box Land leather** produced by DANI in the year 2020.

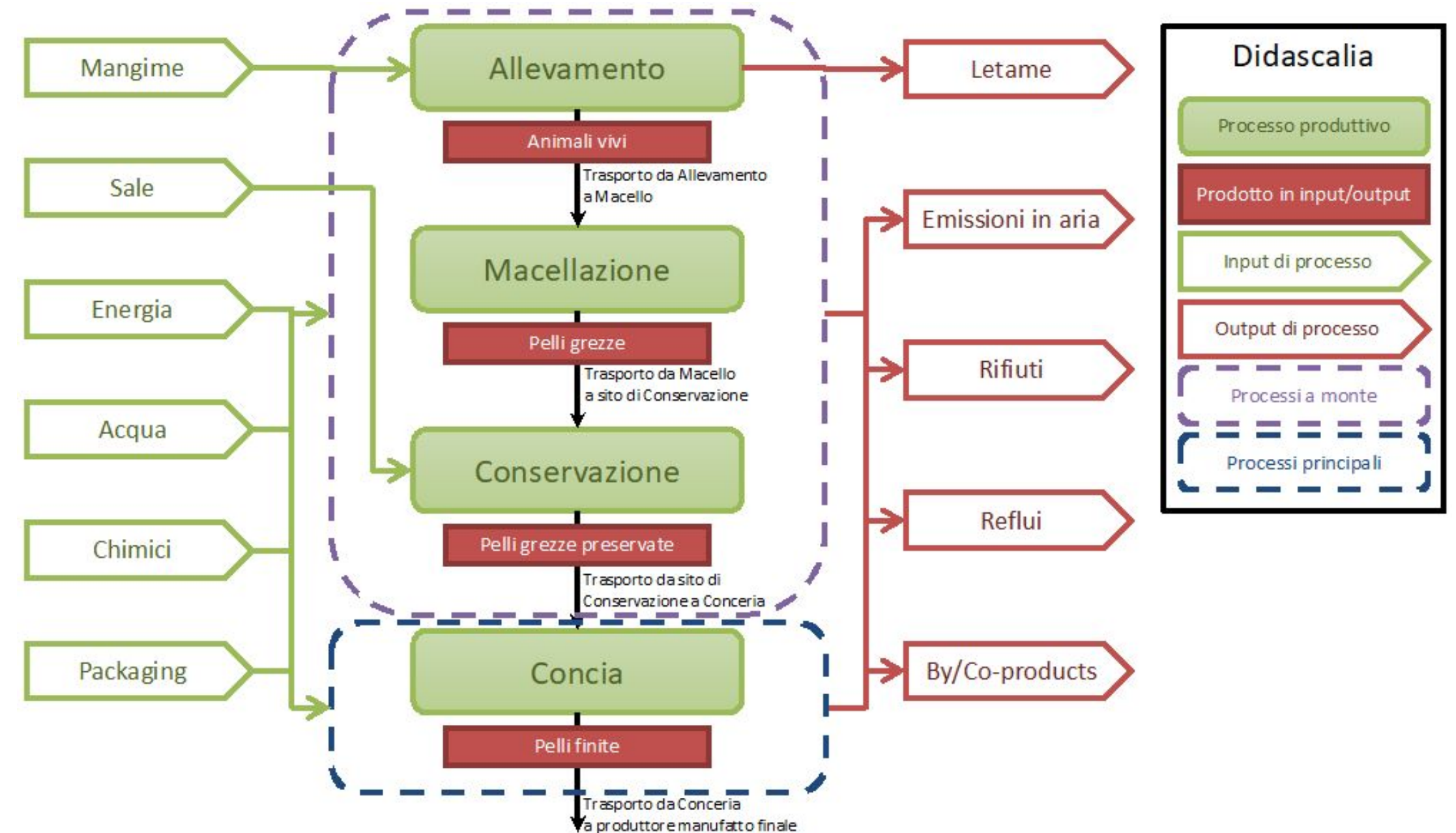
The reference flow of the product is 5,71 kg/m².

05 PRODUCT LIFE CYCLE

System boundaries

The study includes the following life cycle phases, ranging from cradle to gate (from-cradle-to-gate)*:

1. Breeding
2. Slaughter/Conservation
3. Transport
4. Production
5. Packaging production



(*). Since it is an intermediate product, therefore without a predetermined final use, the life cycle ends at the gate of the company and the marketing/retail, use and end of life phases are not taken into consideration.

On the other hand, the end of life of packaging material and the management of production waste fall within the scope of the study.

BREEDING

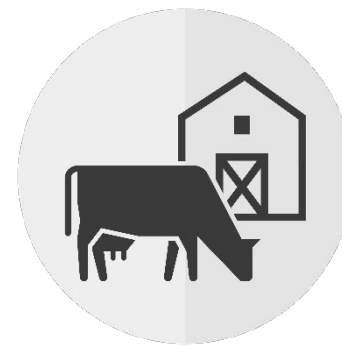


The livestock breeding phase includes activities such as: cultivation and preparation of feed, and animal husbandry.

The breeding activity falls outside the direct control of the DANI company. Not falling within the foreground processes, this phase was modeled using the indications provided by the finished leathers PERCR and the EF datasets

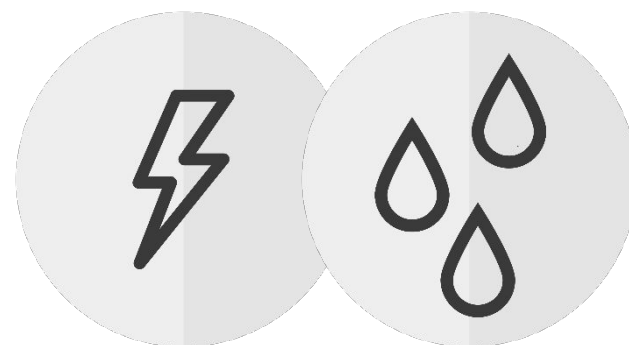


Cultivation and preparation of feed



Animal husbandry

- Cattle's origin is 60% Italian (remaining 26% Germany, 7% Sweden, 5% France, 2% Spain)
- The leather is the waste of the food chain: during the breeding phase, wool, milk and meat are produced
- This multifunctionality was managed according to the indications provided by the finished leathers PEFCR



Energy and water consumption for breeding



Manure management

SLAUGHTER/CONSERVATION

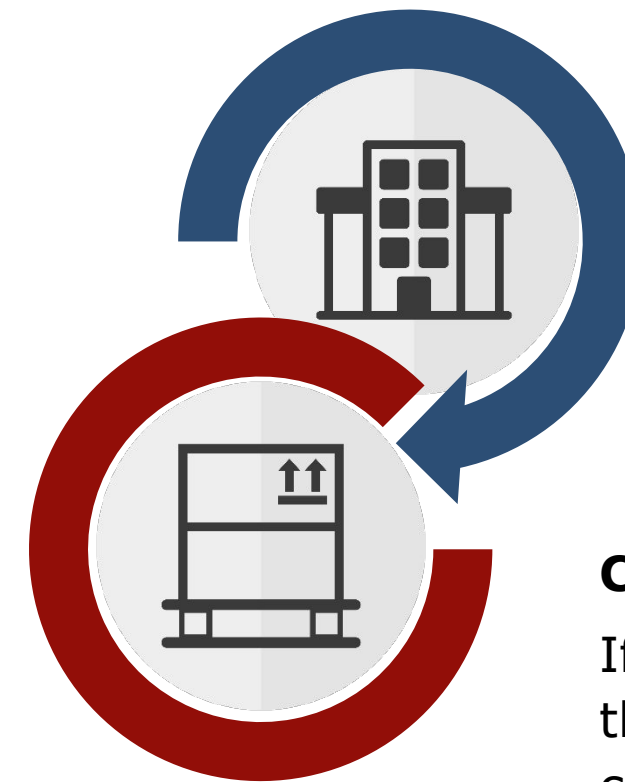


During the slaughtering phase of the cattle, hides are separated from the carcasses and subsequently preserved in salt or dried to avoid putrefaction.

The slaughtering and conservation activity falls outside the direct control of the DANI company. Not falling within the foreground processes, this phase was modeled using the indications provided by the finished leather PERCR and the EF datasets.

Slaughter

During the slaughter phase, fresh meat, offal and raw hide are produced as by-products
This multifunctionality was managed according to the indications provided by the finished leathers PERCR



Conservation

If the leather is sold fresh it is sent immediately to the tannery, otherwise it is salted to increase the conservation time

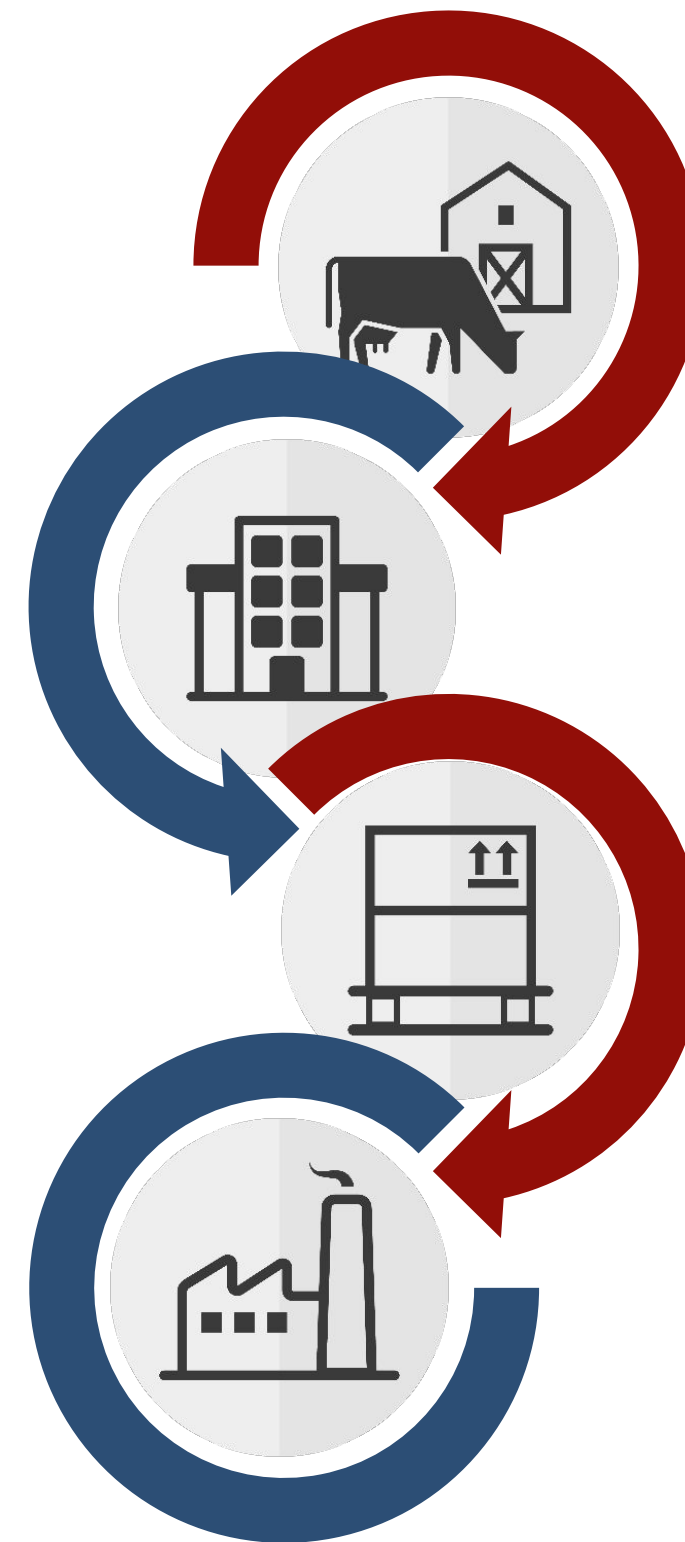
TRANSPORT



From the slaughterhouse to the conservation site

TIR, 50km

The transport of the raw hides from the slaughterhouse to the conservation site was modelled on the basis of the indications of the finished leather PEFCR



From farm to slaughterhouse

TIR, 90km

The transport of the animals from the farm to the slaughterhouse was modelled based on the indications of the finished leather PEFCR

Dal sito di conservazione alla conceria

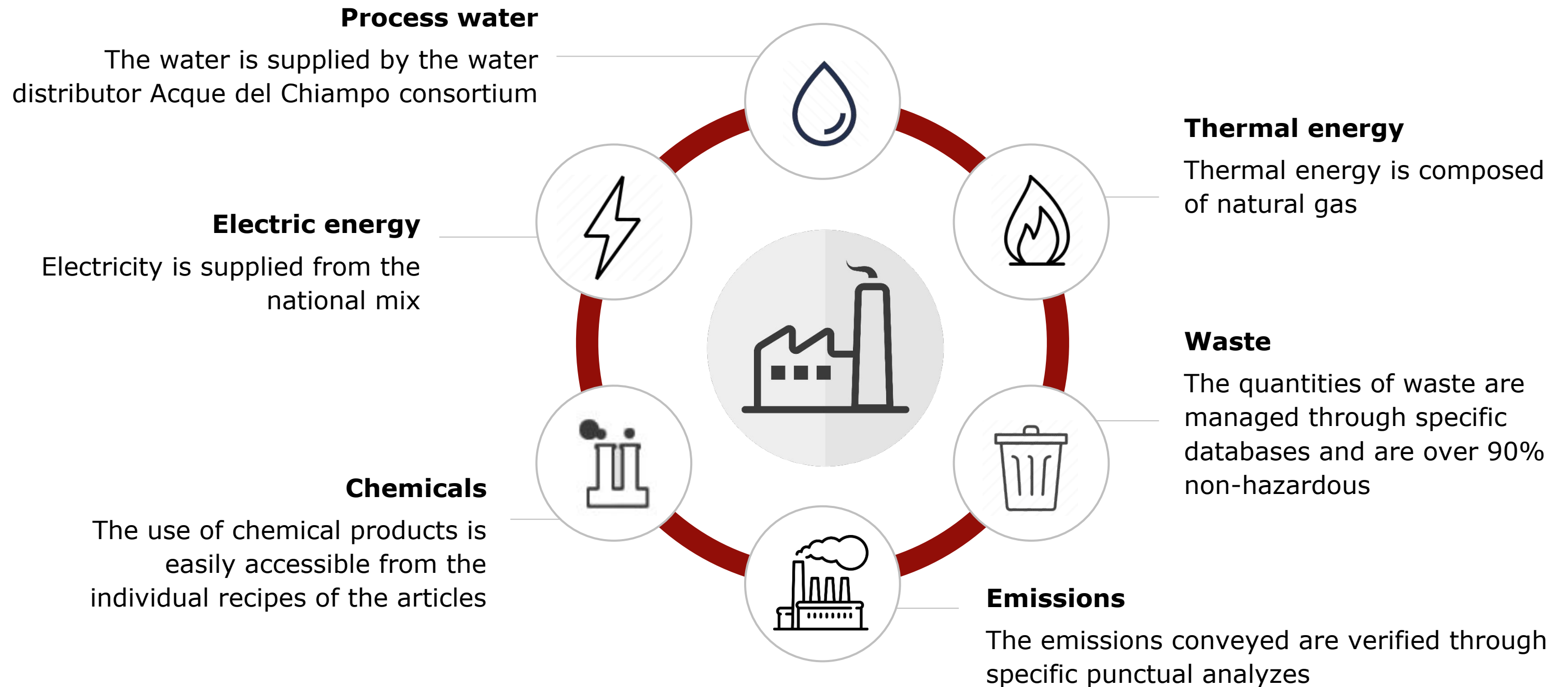
The transport from conservation site to the production site was modelled by measuring the actual distance:

130km (Italy), 1.058km (Germany),
2.102km (Sweden), 1.038km (France),
1.763km (Spain)

PRODUCTION



The production process, aimed at transforming the raw product into finished leather, includes the activities of the so-called "wet phase" (beam house, tanning, re-tanning) and "dry phase" (mechanics operations and finishing). Foreground processes fall within these two phases and, therefore, being under the direct control of the company, are modelled through the collection of primary data obtained directly from DANI SpA

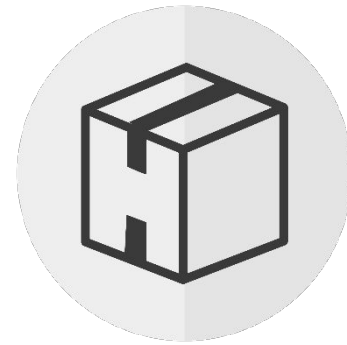


PRODUZIONE PACKAGING



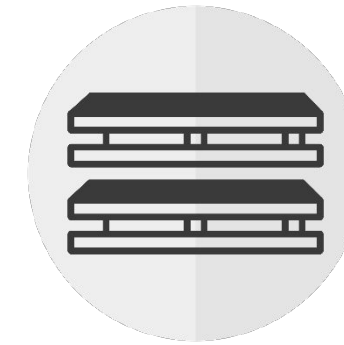
The packaging production activity falls outside the direct control of the DANI company

Not falling within the foreground processes, this phase was modeled using the indications provided by the finished leathers PEFCR and the EF datasets



Secondary packaging

Cardboard box



Tertiary packaging

Stretch nylon – LDPE film

Wooden pallet -
EUROPALLET

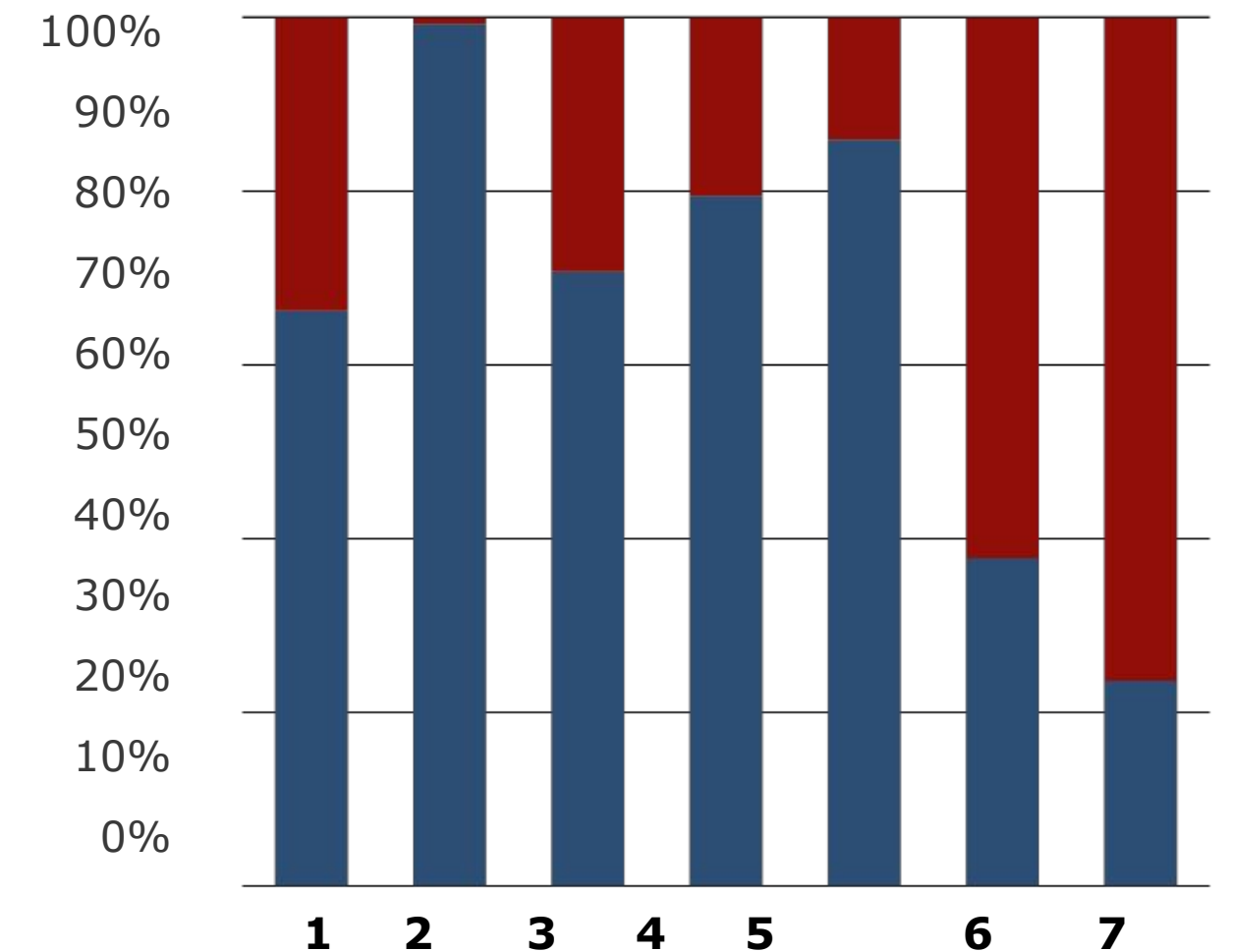
Wooden easels

06 ENVIRONMENTAL FOOTPRINT INDICATORS

IMPACT CATEGORY	UNIT OF MEASURE	OVERALL RESULT	BREEDING AND SLAUGHTER	PRODUCTION
Climate change	kg CO ₂ eq	29,51	66,20%	33,80%
Climate change, biogenic	kg CO ₂ eq	12,25	99,30%	0,70%
Ozone depletion	kg CFC11eq	1,09E-05	0,30%	99,70%
Ionising radiation	kBq U-235 eq	0,53	33,00%	67,00%
Photochemical ozone formation	kg NMVOC eq	6,59E-02	65,00%	35,00%
Respiratory inorganics	disease inc.	1,61E-06	70,70%	29,30%
Non-cancer human health effects	CTUh	1,58E-05	84,60%	15,40%
Cancer human health effects	CTUh	9,07E-07	27,90%	72,10%
Acidification terrestrial and freshwater	mol H ⁺ eq	0,19	79,40%	20,60%
Eutrophication, freshwater	kg P eq	1,60E-03	64,00%	36,00%
Eutrophication, marine	kg N eq	5,69E-02	71,80%	28,20%
Eutrophication, terrestrial	mol N eq	0,75	85,90%	14,10%
Ecotoxicity, freshwater	CTUe	72	50,90%	49,10%
Land use	Pt	2704,44	83,70%	16,30%
Water scarcity	m ³ depriv.	12,94	37,70%	62,30%
Resource use, energy carriers	MJ	173,35	23,60%	76,40%
Resource use, mineral and metals	Kg Sb eq	4,91E-05	37,40%	62,60%

06.1 THE THREE MOST RELEVANT ENVIRONMENTAL FOOTPRINT INDICATORS

IMPACT CATEGORY	CONTRIBUTION TO THE TOTAL IMPACT
Climate change	37,36%
Ozone depletion	1,39%
Ionising radiation	0,30%
Photochemical ozone formation	3,66%
Respiratory inorganics	10,70%
Non-cancer human health effects	0,00%
Cancer human health effects	0,00%
Acidification terrestrial and freshwater	10,02%
Eutrophication, freshwater	0,82%
Eutrophication, marine	2,78%
Eutrophication, terrestrial	7,39%
Ecotoxicity, freshwater	0,00%
Land use	7,55%
Water scarcity	4,51%
Resource use, energy carriers	10,49%
Resource use, mineral and metals	3,04%

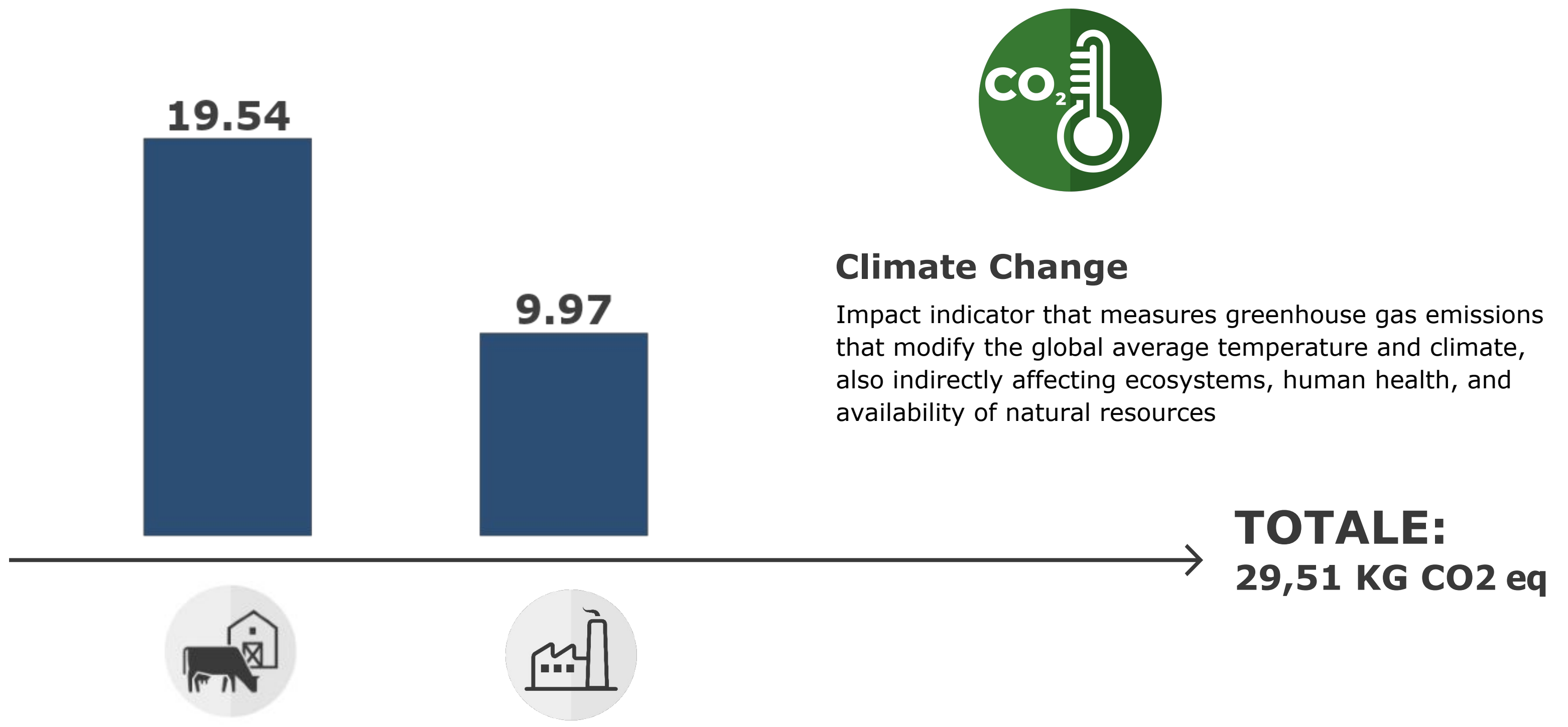


- 1. Climate change**
- 2. Climate change, biogenic
- 3. Particulate matter carriers**
- 4. Acidification**
- 5. Eutrophication, terrestrial
- 6. Water scarcity
- 7. Resource use, energy carriers

● Allevamento e Macello ● Produzione

The three most relevant categories according to the PEFCR are in red

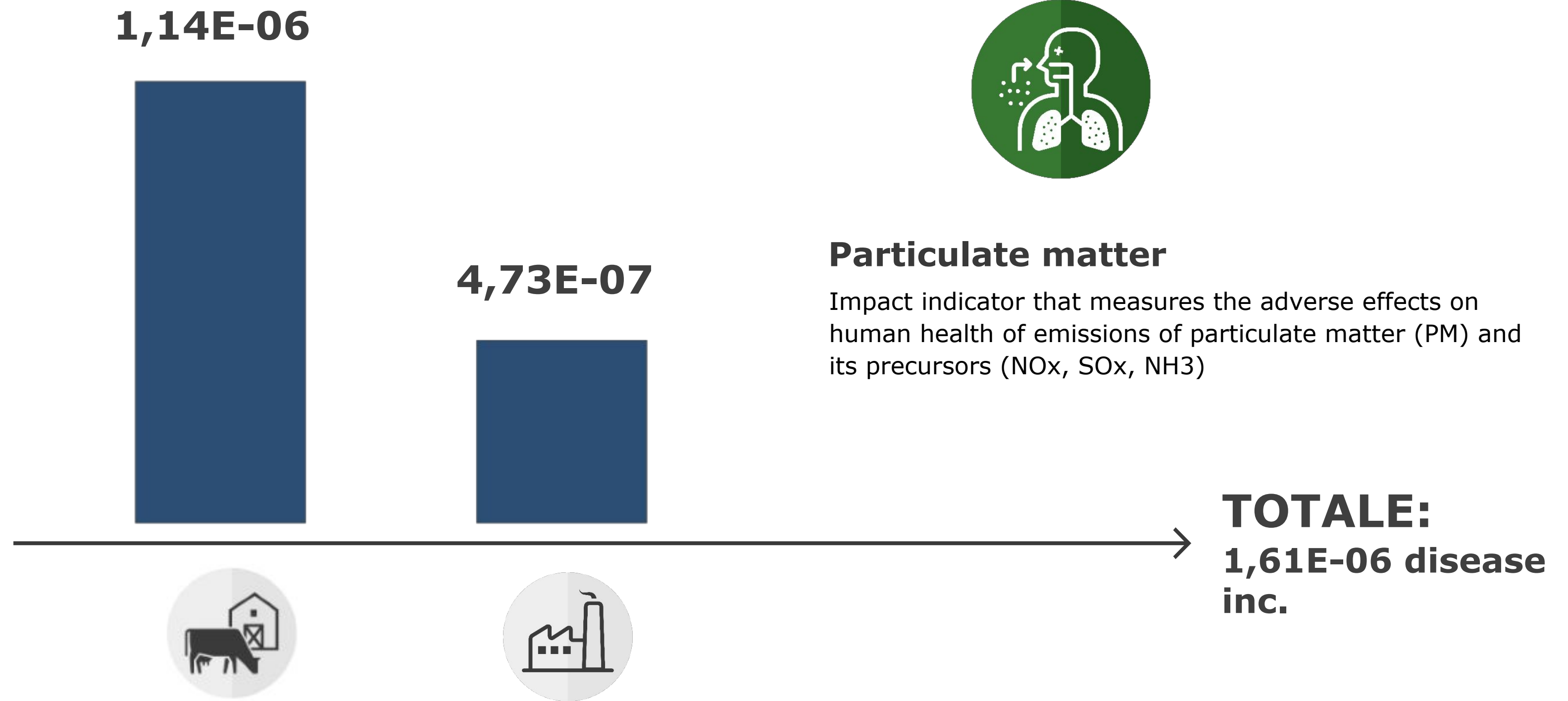
06.1 THE THREE MOST RELEVANT ENVIRONMENTAL FOOTPRINT INDICATORS



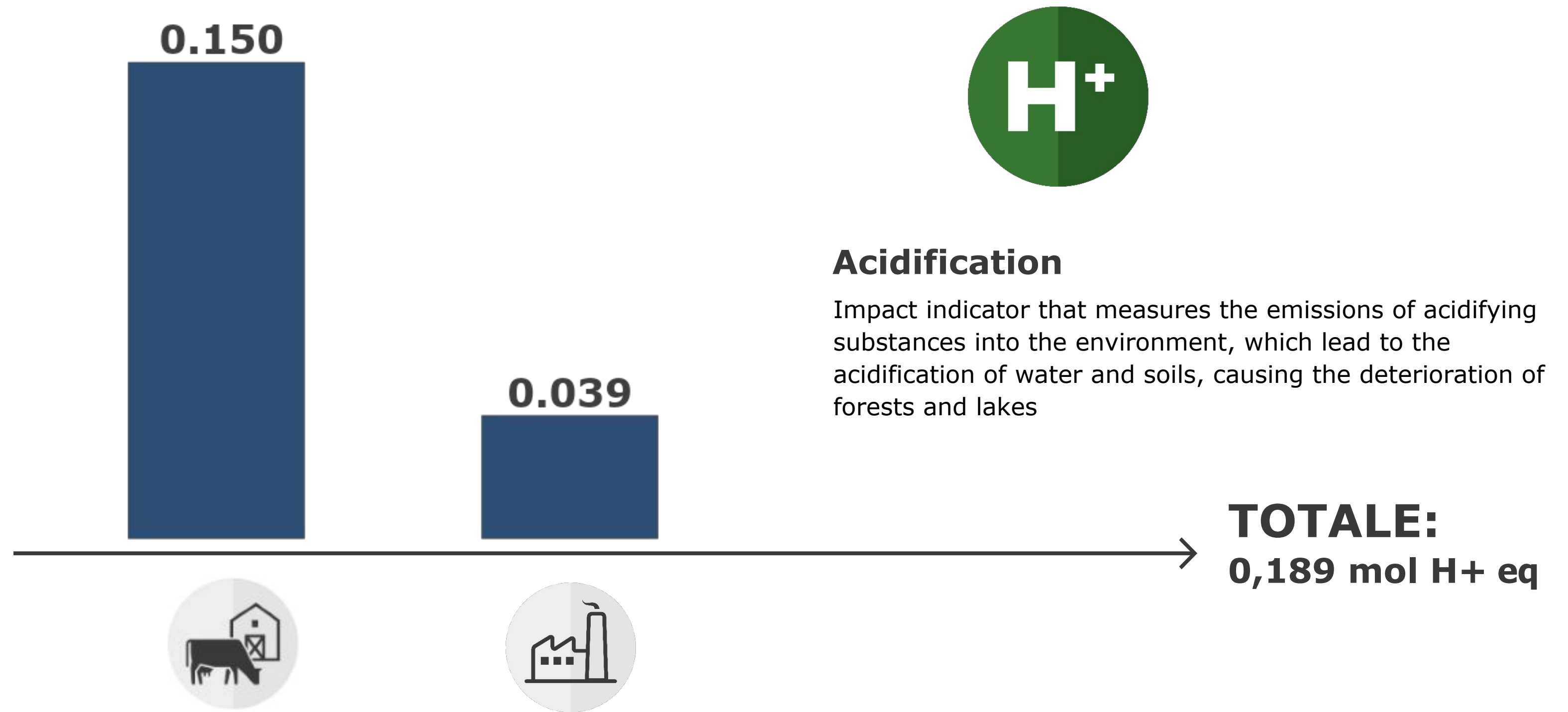
Climate Change

Impact indicator that measures greenhouse gas emissions that modify the global average temperature and climate, also indirectly affecting ecosystems, human health, and availability of natural resources

06.1 THE THREE MOST RELEVANT ENVIRONMENTAL FOOTPRINT INDICATORS

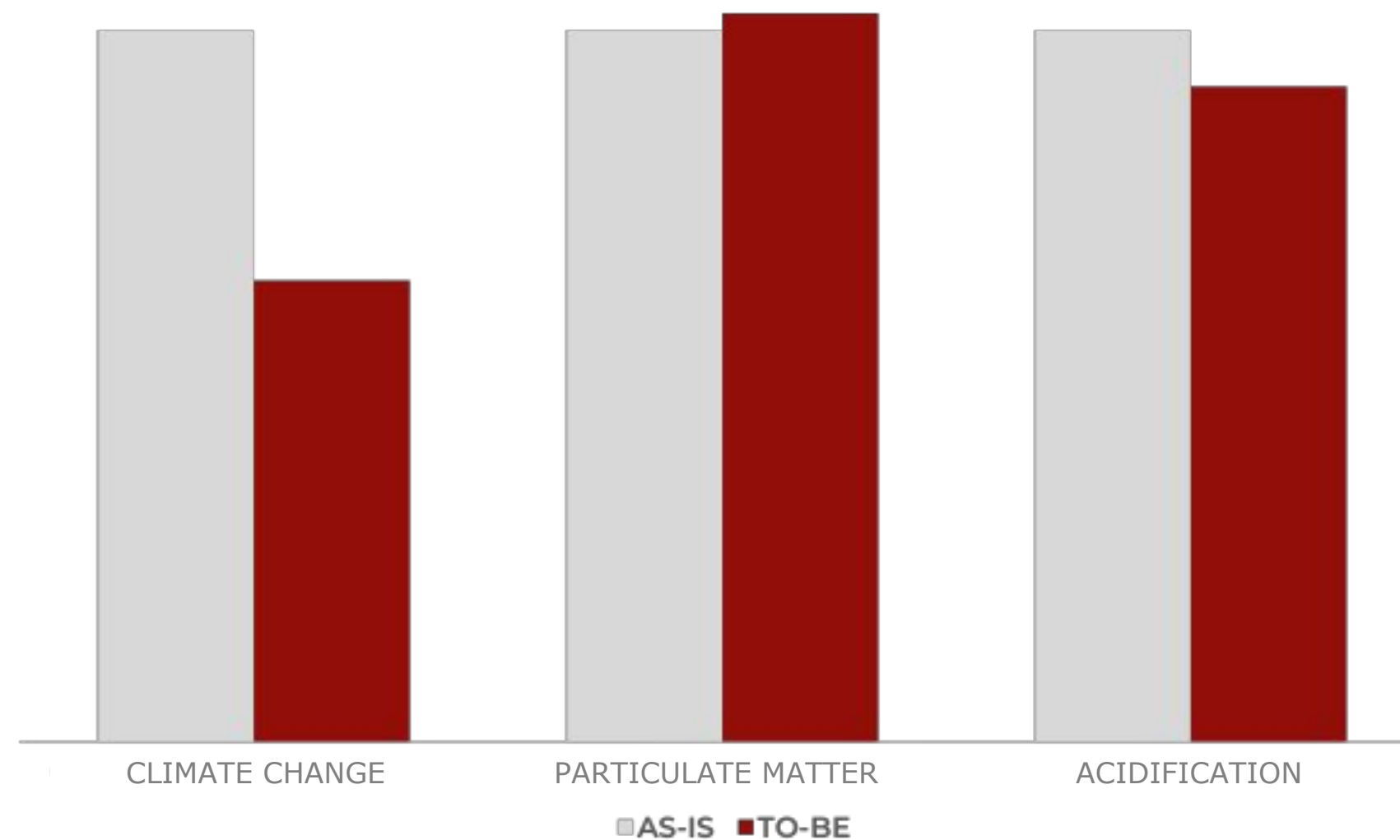


06.1 THE THREE MOST RELEVANT ENVIRONMENTAL FOOTPRINT INDICATORS



07 AZIONI DI MIGLIORAMENTO

LIFE CYCLE PHASE	RELEVANT PROCESS	PARAMETER	CURRENT SITUATION	EXPECTED RESULT	CLIMATE CHANGE	PARTICULATE MATTER	ACIDIFICATION
Production	Electric energy consumption	Energy source	Residual mix italiano	100% Photovoltaic	-3,51%	0,24%	-0,79%



OUR COMMITMENT TO IMPROVE

In order to achieve the expected environmental benefits, DANI declares that it undertakes to use electricity from a photovoltaic system, thus covering 100% of its electrical energy needs.

08 ADDITIONAL INFORMATION

Additional information

Please note that environmental product declarations relating to different schemes are not comparable.

As required by the PEFCR, the carbon content stored in the rawhide (stored biogenic carbon or BSC) and the carbon stored by chemical substances (SCC) were calculated.

- The BSC value of the product Box Land is 476 g/m² of finished leather
- The total value of carbon stored by chemical substances (SCC) of the product Box Land is therefore equal to 57,93 g/m²

Access to further information

This declaration and further information are available at

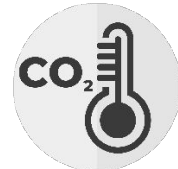
<https://www.lifemagis.eu/>

<https://www.gruppodani.com/>

Contacts

For further information relating to the activities of DANI SpA or regarding this environmental product declaration, please contact Andrea Sapri (sustainability@gruppodani.it)

09 GLOSSARY



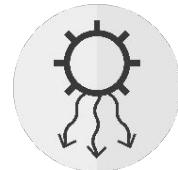
Climate Change: impact indicator that measures greenhouse gas emissions that change the global average temperature and climate, also indirectly affecting ecosystems, human health, and the availability of natural resources



Ozone depletion: impact indicator that measures emissions that damage the ozone layer (for example CFC gas) leading to an increase in ultraviolet radiation with consequent negative effects on human health and vegetation



Ionizing radiation: impact indicator that measures the emission into the environment of ionizing radiation that has adverse effects on human health



Photochemical ozone formation: impact indicator that measures emissions that lead to an increase in ozone in the troposphere with damage to vegetation and human respiratory tracts



Particulate matter: impact indicator that measures the adverse effects on human health of emissions of particulate matter (PM) and its precursors (NO_x, SO_x, NH₃)



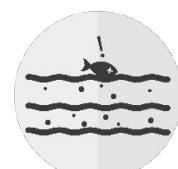
Human Toxicity - cancer: impact indicator that refers to the emissions of toxic substances which, through inhalation of air, ingestion of food/water or skin penetration, lead to an increased risk of cancer



Human Toxicity - non cancer: impact indicator that refers to the emissions of toxic substances which, through inhalation of air, ingestion of food/water or skin penetration, damage human health



Acidification: impact indicator that measures the emissions of acidifying substances into the environment, which lead to the acidification of water and soils, causing the deterioration of forests and lakes



Eutrophication freshwater: impact indicator that measures the emissions of substances favoring the eutrophication of freshwater, namely the excessive presence of nutrients in the aquatic environment, upsetting the balance of nature (e.g., leading to algae blooms and fish deaths)

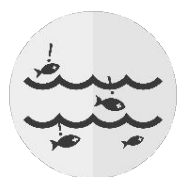
09 GLOSSARY



Eutrophication marine: impact indicator that measures the emissions of substances favoring the eutrophication of marine waters, namely the excessive presence of nutrients in the marine environment, compromising the balance of nature (e.g., leading to algae blooms)



Eutrophication terrestrial: impact indicator that measures the emissions of substances that favor the excessive presence of nutrients in the environment (due to natural mutation or favored by urban, agricultural and industrial discharges), upsetting the balance of nature



Ecotoxicity freshwater: impact indicator referring to toxic substances emissions that represent a danger to organisms such as fish, algae and other organisms living in fresh water, modifying the structure and function of their ecosystem



Land use: impact indicator that refers to the use and transformation of the soil that endangers the health and fertility of the soil and the survival of certain species of animals and plants, as well as creates pressure on soil availability as a resource for the future



Water use: impact indicator that measures the impoverishment of the water resource in relation to the local scarcity of this resource



Resource use - fossil fuels: impact indicator that measures the depletion of fossil resources that affects their availability for future use



Resource use - metals and minerals: impact indicator that measures the depletion of mineral and metal resources that affects their availability for future use

10 PASSPORT

Company

Dani is a full-cycle tanning company founded **in 1950 by Angelo Dani** as a family-run business and which over the years has become a **multinational**

System boundaries

The study includes the following life cycle phases, ranging from cradle to gate (from-cradle-to-gate): Breeding; Slaughter and Conservation; Transport; Production; Packaging production

Product

Box Land is a **finished leather product**, ready to be used as a semi-finished product for the subsequent stages of industrial manufacturing transformation of various products: **furniture, clothing, footwear, etc.**

Methodology e PEFCR

This **Life Cycle Assessment (LCA)** study was conducted according to the **PEF methodology** for assessing the product environmental footprint as defined in the European Commission Recommendation 2013/179/EU, of 9 April 2013 and the **PEFCR of finished leather products**, drawn up as part of the LIFE MAGIS project, in action B1

Functional unit

The study and the results presented refer to **1 m² of Box Land leather** produced by DANI in the year 2020
The reference flow of the product is 5.71 kg/m²

Most relevant environmental impacts

IMPACT CATEGORY	UM	RESULT
Climate change	kg CO2 eq	29,51
Paticulate matter	disease inc.	1,61E-06
Acidification	mol H+ eq	0,189



Additional information and contacts

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