



Environmental Product Declaration of **Coop Veal Meat**



Registration number: S-P-00496

CPC code: 2111 Meat of mammals, fresh

Programme: The International EPD® System (www.environdec.com)

Programme operator: EPD International AB

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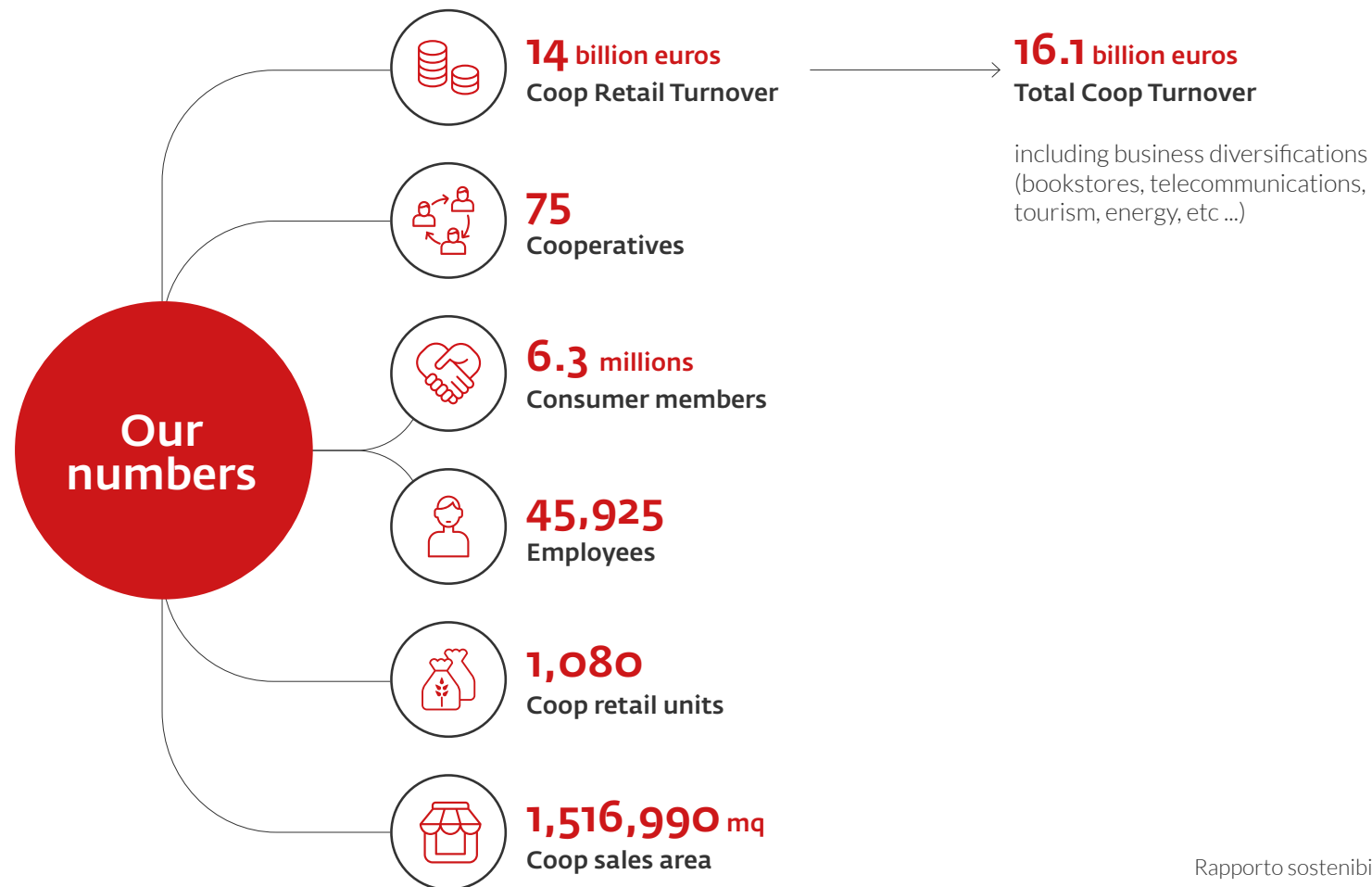
This EPD has been developed in conformity with ISO 14025.

An EPD should provide current information, and may be updated if conditions change.

The stated validity is therefore subject to the continued registration and publication at www.environdec.com.

Coop

Coop is one of the biggest retailer in Italy, with a turnover of almost 14 billion Euros in 2022. The Coop system is based on 6.3 million consumer members and includes 1,180 retail units. Coop Italia is the Marketing and Buying central of the consumer cooperatives: it is responsible for negotiating with industries and producers, “Coop brand” products development, quality and safety policies and marketing strategy.



Source:
Rapporto sostenibilità e valori 2022 - Coop

Eurocoop

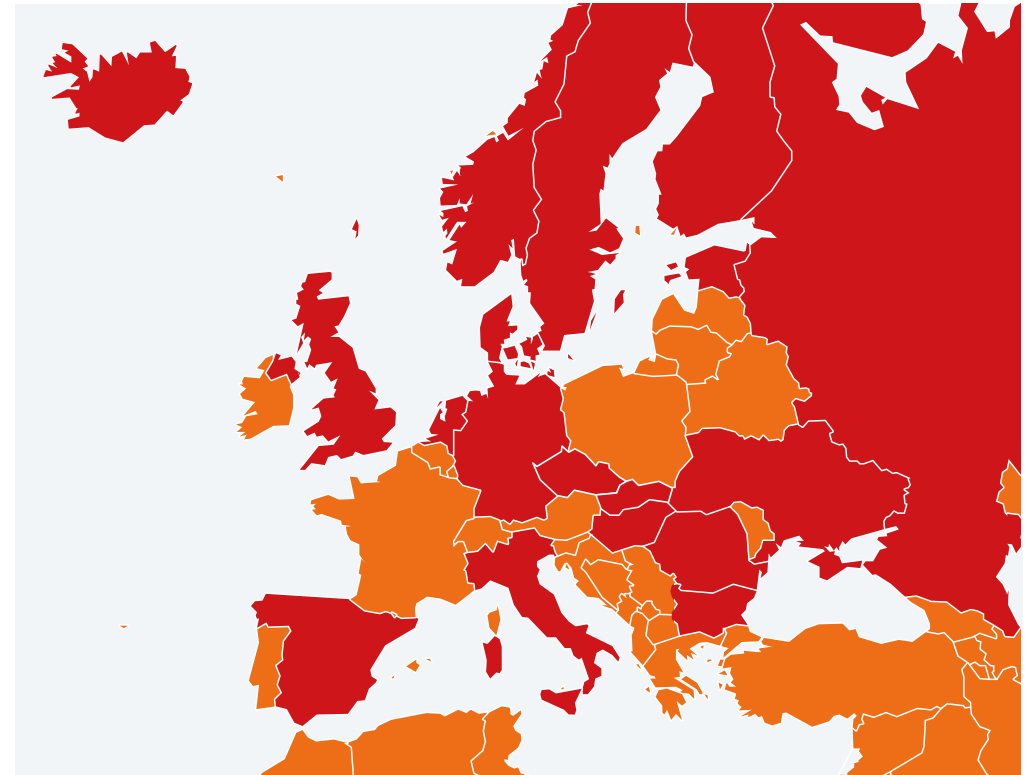


Euro Coop is the European Community of Consumer Co-operatives, whose members are the

national organisations of consumer co-operatives in 20 European countries. Founded in 1957, Euro Coop represents more than 7,000 local and regional co-operatives, whose members count more than 34 million consumers all over Europe.

Consumer co-operatives are companies belonging to the Consumers, which mainly operate in food distribution and trade. The total annual turnover has amounted to more than 79 billion Euro, with 76,000 retail stores and 700,000 employees.

The Secretariat is based in Brussels. Coop Italy participates in all of Euro Coop's working groups, which address priorities like food and retail policy, sustainability policy and co-operative distinctiveness.

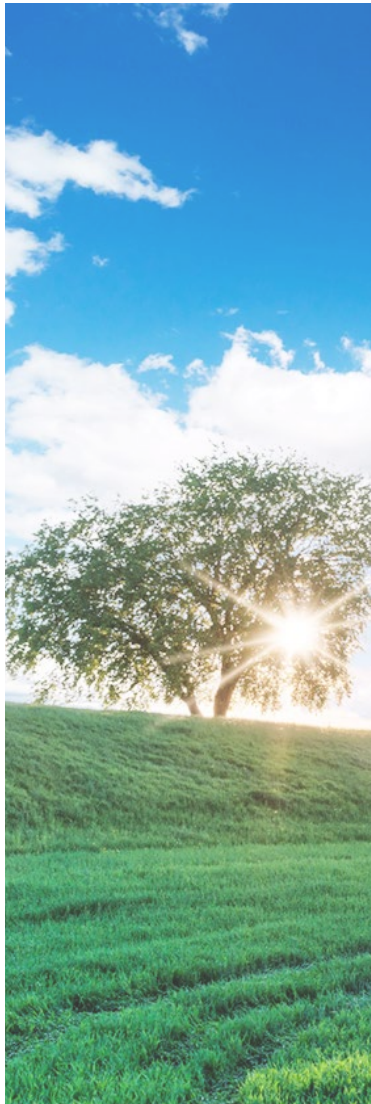


Euro Coop member countries

Bulgaria / Cyprus / Denmark / Estonia / Finland / Germany / Iceland / Israel / Italy / Norway / Netherlands / UK / Czech Republic / Romania / Russia / Slovak Republic / Spain / Sweden / Ukraine / Hungary

More info on www.eurocoop.coop

Coop branded product is:



Safe

Guarantee is based on a careful selection of suppliers, the definition of rigorous technical specifications, often more restrictive than law, as well as the implementation of audits and checks along the entire supply chain. This is also due to scientific collaborations with authoritative institutional and non-institutional third parties.

Ethical

All Coop branded products are made in compliance with people and workers fundamental rights. The suppliers of the branded products shall contractually respect Coop Italia ethical code based on the contents of the SA 8000, ILO and WEP, involving and making their upstream supply chain responsible in compliance with the same rules, accepting also inspections at all stages of the supply chain.

Ecological

Coop branded products contribute to respect the environment, thanks to more sustainable raw materials and production methods, packaging with the lowest environmental impact as well as important awareness actions towards its stakeholders and suppliers.

Transparent

Consumers have access to information regarding raw materials origin, production processes, finished products and supply chains, both through labels as well as web pages or other means.

Good

Coop branded products are the result of an effective partnerships with industrial or artisan producers, they are designed and tested to guarantee product quality and performance aspects: lastly, also assessed with the involvement of the Members Consumers through the tool *Member Approved*.

Cheap

The large purchasing volumes guarantee the best possible quality/price ratio in order to protect the purchasing power of consumers. In the most consumed categories, Coop branded products allow you to save up to 25% compared to similar branded products, reaching up to 40% as an average saving for Coop branded medicines.

Veal meat

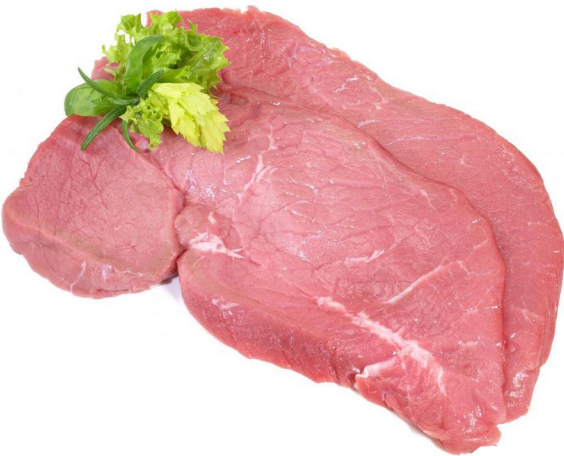
The product object of this declaration is meat from veal calves grown and slaughtered in Italy and sold by Coop at its stores. Veal meat, sold by Coop, but raised and / or slaughtered abroad is excluded from the scope of this EPD. The environmental impacts were calculated taking into account the entire production chain, starting from the animal’s birth until meat consumption as specified on reference PCR 2012:11 Meat of mammals.

Time coverage

Data are related to veal meat purchased by Coop during 2022.

Declared unit

The information is related to 1 kg of fresh edible bone-free veal meat, ready to be bought by customers in plastic packs or served at the store butcher’s counter.



Energy value	448 kJ (107 kcal)
Proteins	20.7 g
Carbohydrates	0.0 g
Fats	2.7 g
Dietary fibres	0.0 g
Sodium	89 mg
Potassium	360 mg
Cholesterol	71 mg
Iron	2.3 mg
Phosphorus	214 mg

*Nutrition facts per 100 g of veal meat (edible portion).
Average data considering raw fillet – CREA.*

Introduction to the Coop veal production chain

The Coop Italian veal meat supply chain, founded in 1989, consists of meat from veal calves born and raised in Italy. The production chain is based on the complete knowledge acquired during the production, from the animal's

birth to the raising phase in Italy and continues with the slaughtering phase and any subsequent processing steps, until the retail phase. In 2022 Coop purchased about 62.000 veal calves.

In 2022 Coop veal production chain is based on:



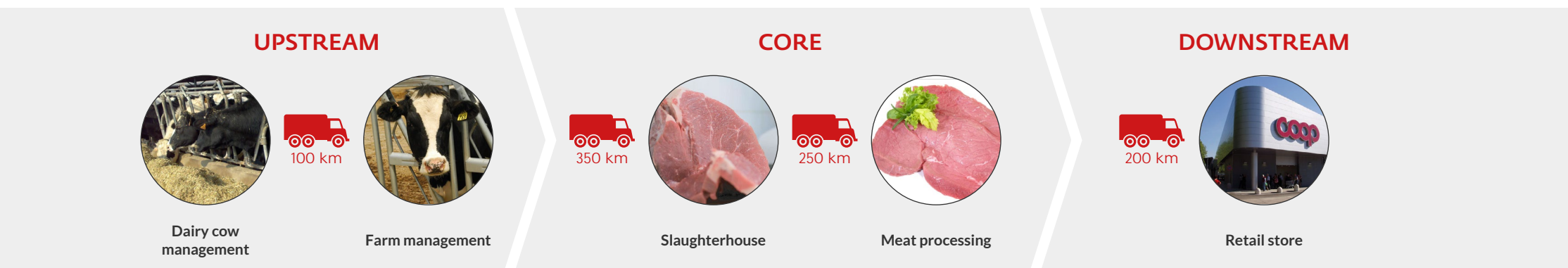
more than **150** FARMS



5 SLAUGHTERHOUSES



3 DISTRIBUTION CENTERS
2 TRANSIT POINT



General System Boundaries

Veal calves belonging to Coop supply chain come mainly from Italian milk factories, where dairy cows are raised for milk production. Usually female calves remain in the farm, entering milk production chain, while males are sent to fattening farms and slaughtered before 8 months.

Information relating to the farms where calves come from derive from a sample of farms owned by Granlatte, whose data are collected and kept annually updated by Granarolo within its EPD Process.

Calves stay with dairy cows for three weeks after birth; then they are transferred and raised for about 6.5 months in Coop supplier farms.

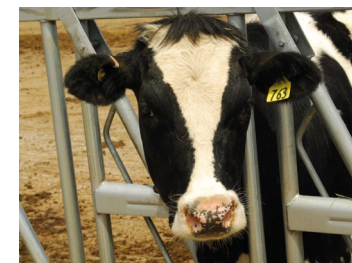
Once calves reach the weight of about 275 kg, they are slaughtered. In order to assess the environmental impacts related to this phase, data were collected from two slaughterhouse plants: **Inalca** in Castelvetro di Modena and **Colomberotto** in Moriago della Battaglia (Treviso).

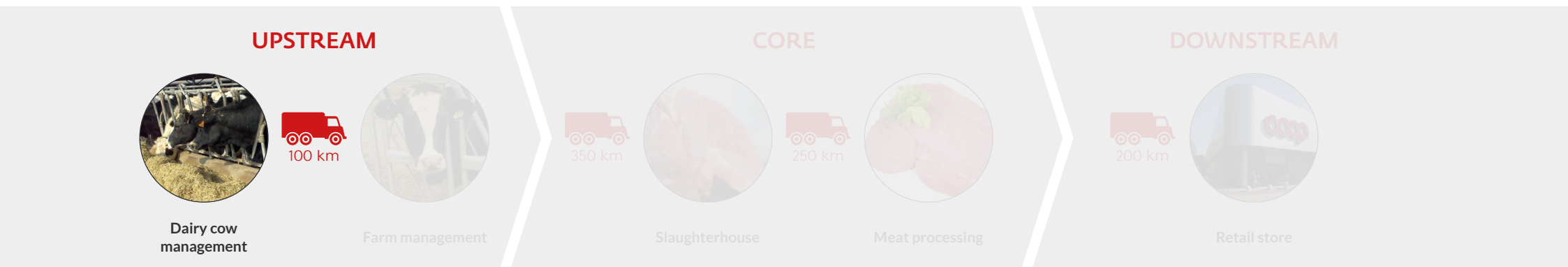
After slaughtering, calves half-carasses are transported to the processing

platforms where they are deboned, the meat is divided into pieces of different sizes and weights (depending on the anatomical cut) and finally sent to the retail stores, vacuum-packed (for those retails stores equipped of butcher's section) or in skin/MAP trays (ready for purchase).

For evaluating the environmental burden connected to the meat processing phase, primary data were collected at the **Coop Centrale Adriatica** processing platform in Reggio Emilia and at the **IperCoop Bologna Centro Lama** store, equipped with butcher's section.

Detailed information about the animals' origin, places in which they were raised and slaughtered are also available, on packaging labels, for customers' benefit.





Dairy cow management and calves birth

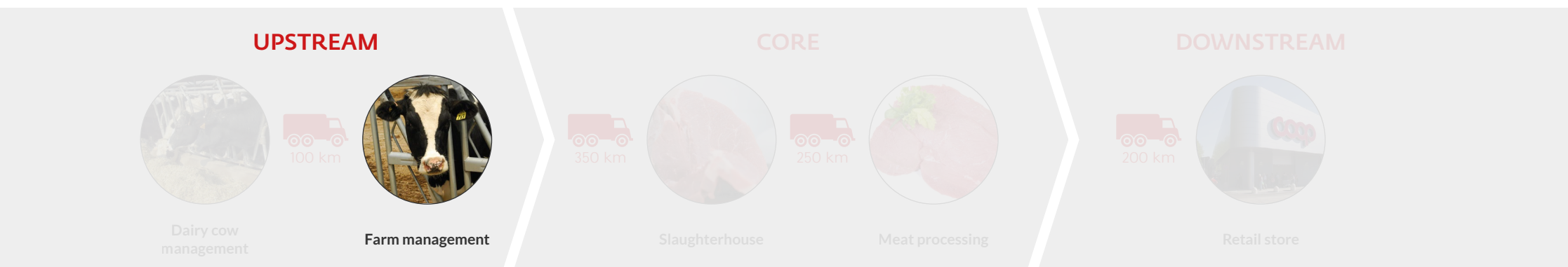
Coop veal calves come mainly from Northern Italy dairy farms, dedicated to milk production. Usually female calves remain in farms (progressively replacing old dairy cows at the end of their career), while males are led to other farms for further weaning and fattening stages.

To evaluate the environmental impact of this phase, data coming from a sample of farms owned by Granlatte, involved and kept annually updated by Granarolo within its EPD Process, were used.

Dairy cows live inside stables; data on farms include: farm water and energy consumption, waste production, feed given to dairy cows at different stages of its life (heifer, lactating and dry periods) and the quantity of manure produced.

About three weeks after birth, calves are moved. Impacts associated with transportation has been estimated assuming a distance of 100 km.





Veal calves breeding

Veal calves are raised according to the contract agreement between Coop and the farmers. Coop regularly checks its application with strict verification procedures. For EPD purpose, three sample different sized farms, belonging to Coop supply chain, were analysed.

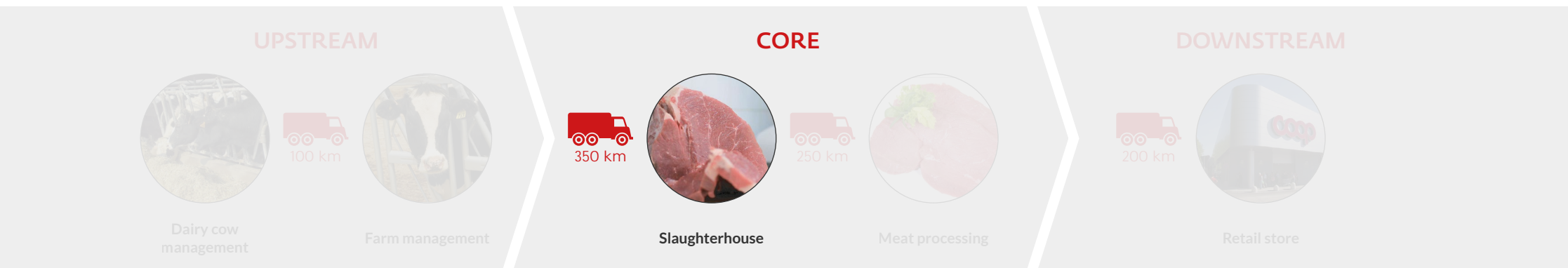
Calves are raised in stables for the entire fattening period; feed given to calves is mainly based on complementary breastfeeding feed, consisting of approximately 50% of whey powder. Complementary breastfeeding feed is completed by other different types of food including corn in various forms, which is considered to be the most important, along with various other cereals.

Farmers could independently manage feed as long as they respected the specifications laid down by Coop.

In order to evaluate the environmental impacts related to this phase, the whole farm management process was considered, including feed cultivation and complementary breastfeeding feed production. Energy and water consumption, manure management and enteric fermentation.

The impact of calves transportation to the slaughterhouse plants has been calculated on a 350 km-distance basis.





Slaughterhouse

The impacts of this phase were calculated using information derived from three slaughterhouses chosen between the main plants that slaughter calves for Coop (these plants covered about 80% of veal meat sold in 2022).

The main impacts are related to energy and water consumption, in addition to slaughtering residues management.

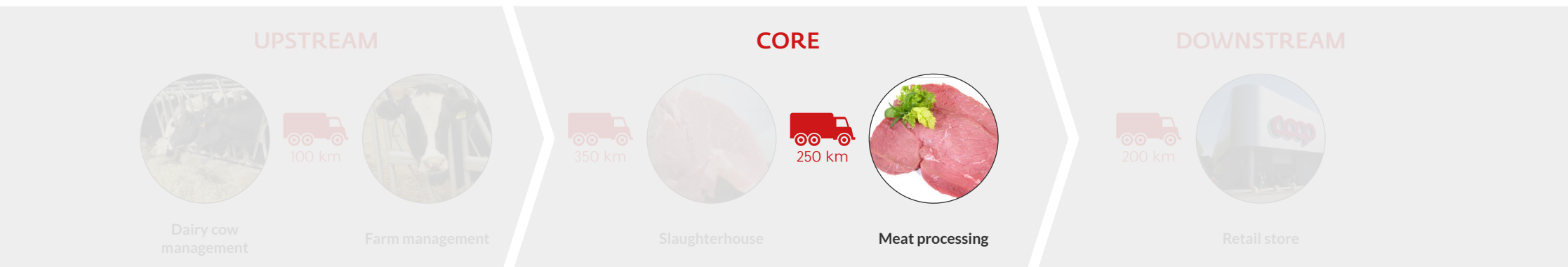
An important hypothesis is meat production efficiency (yield).

In particular, in 2022 the average slaughtering weight and yields were updated and the following data were considered:

- **Veal calf weight:** 277 kg;
- **Dressed yield:** 52%;
- **Boneless meat yield:** 79%.

The economic values used to calculate the allocation factors related to the co-products come from confidential information of the involved companies and refer to the years 2020-2022.





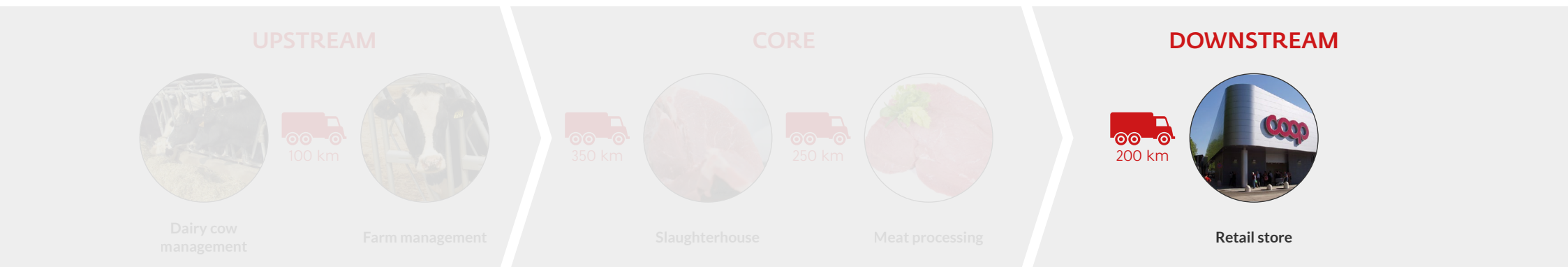
Transformation and preparation

After the slaughtering phase, calves half-carasses were moved to processing platforms where the meat was packaged in two different ways:

- **Vacuum packaged** (in PE bags) and then dispatched to the retail stores equipped with butcher's counters, where the veal cuts are further portioned, packaged and sold over the counter;
- **In SKIN/MAP trays:** in this case the packaged product is distributed to retail stores ready to be sold to the final customer.

For EPD purposes, Reggio Emilia's logistical-processing platform was chosen because it is one of the main platforms that works and sorts products for Coop. Data about Reggio Emilia's platform are primary refer to the year 2022.





Retail store



* Photo of Antonella Di Girolamo for Coop.

After veal meat processing at platforms, the product is sent to retail stores, ready for being sold (packaged in trays made in PET / PE) or, if necessary, it is subsequently processed.

In retail stores equipped with butcher's counters, as the one analysed for this EPD (**IperCoop Bologna Centro Lama**), about 60% of bovine product comes in trays from logistical platforms and the remaining 40% is vacuum-packaged so it is further portioned and sold over the butcher's counter, on customer requirements' basis.

In order to assess the environmental aspects related to this phase, energy, water and packaging material consumption were collected. Cold chain electricity consumption - i.e. for cold storage and department's temperature maintaining - were also included.

Transports' impacts have been calculated on 200 km distance basis that is an average value between platforms and retail stores.

Use phase: packaging and domestic food losses end-of-life, home cold storage and cooking

Phases subsequent to slaughter and meat processing require an increase in the number of hypotheses to obtain precise results. This consideration is even more important for phases such as home cold storage and cooking. The environmental impacts estimation associated with these two phases follows what is suggested in the PCR reference document.

Packaging and domestic food losses end-of-life

Secondary packaging (*distribution packaging*) is represented by the vacuum bag, disposed of at the points of sale; the primary one (*consumer packaging*) is made up of a PET/PE tray or the paper wrapping used at the butcher's counter at the retail store (paper bag, polythene paper and PE sheet). To develop an end-of-life scenario, public data relating to the most recent Italian average scenario (2022) were used. To estimate the impact of domestic food losses,

reference scenario for meat-based products reported on PCR was used (5%).

Home cold storage

It was estimated that beef meat, after being purchased by the customer, may be stored in the refrigerator for 3 days; energy consumption has been evaluated following the PCR instructions.

Cooking

Regarding cooking phase, the choice depends on the taste and habits of the consumer so the impact of this phase represents an estimate. For EPD purposes, the complete environmental impacts results relating to cook a beef cutlet in a pan are presented, assuming that it is the one most used and widespread way to prepare meat.



Results, part I

1 kg of veal boneless meat

PRIMARY ENERGY RESOURCES		UPSTREAM					CORE		DOWNSTREAM		TOTAL	TOTAL WITH COOKING
DATA REFERRED TO 1 KG OF VEAL BONELESS MEAT		DAIRY COW MANAGEMENT	FEED	MANURE AND ENTERIC FERMENTATION	FARM MANAGEMENT	PACKAGING PRODUCTION	SLAUGHTERING ACTIVITIES	MEAT PROCESSING	HOME CONSERVATION	PACKAGING AND FOOD LOSSES END-OF-LIFE		
RENEWABLE (MJ)	Used as energy carrier	2.0E+01	7.2E-01	0.0E+00	0.0E+00	6.6E-01	2.0E+01	6.2E-01	2.1E-01	8.7E-04	4.2E+01	4.3E+01
	Used as raw materials	0.0E+00	0.0E+00	0.0E+00	5.8E-01	3.6E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	9.3E-01	9.3E-01
	TOTAL	2.0E+01	7.2E-01	0.0E+00	5.8E-01	1.0E+00	2.0E+01	6.2E-01	2.1E-01	8.7E-04	4.3E+01	4.4E+01
NON-RENEWABLE (MJ)	Used as energy carrier	3.0E+01	8.1E+01	0.0E+00	1.4E+01	6.1E-01	3.4E+01	1.2E+01	3.6E+00	3.9E-02	1.7E+02	1.9E+02
	Used as raw materials	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.7E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.7E+00	1.7E+00
	TOTAL	3.0E+01	8.1E+01	0.0E+00	1.4E+01	2.3E+00	3.4E+01	1.2E+01	3.6E+00	3.9E-02	1.8E+02	2.0E+02

NOTE – The numbers reported in the table above and those in the next pages, are the outcome of rounding. For this reason total results could slightly differ from the sum of contributions of the different phases.

Results, part II

1 kg of veal boneless meat

ENVIRONMENTAL IMPACT INDICATORS		UPSTREAM					CORE		DOWNSTREAM		TOTAL	TOTAL WITH COOKING
DATA REFERRED TO 1 KG OF VEAL BONELESS MEAT		DAIRY COW MANAGEMENT	FEED	MANURE AND ENTERIC FERMENTATION	FARM MANAGEMENT	PACKAGING PRODUCTION	SLAUGHTERING ACTIVITIES	MEAT PROCESSING	HOME CONSERVATION	PACKAGING AND FOOD LOSSES END-OF-LIFE		
Global Warming Potential - GWP (kg CO ₂ eq.)	Fossil	3.4E+00	4.3E+00	1.8E+00	8.0E-01	1.0E-01	2.2E+00	7.6E-01	2.0E-01	6.5E-02	1.4E+01	1.5E+01
	Biogenic	1.4E+00	2.0E+00	4.6E+00	8.9E-03	3.9E-03	5.0E-03	1.1E-02	5.0E-04	1.3E-02	8.0E+00	8.0E+00
	Land use and LU change	2.8E+00	1.0E+00	0.0E+00	1.6E-04	3.5E-04	4.9E-01	8.7E-03	9.3E-06	8.1E-07	4.3E+00	4.3E+00
	TOTAL	7.6E+00	7.3E+00	6.3E+00	8.1E-01	1.1E-01	2.7E+00	7.8E-01	2.0E-01	7.9E-02	2.6E+01	2.7E+01
Ozone depletion potential, ODP (kg CFC 11 eq.)		1.7E-07	1.3E-07	0.0E+00	2.4E-08	2.6E-07	1.1E-07	3.0E-08	4.6E-09	1.2E-10	7.2E-07	7.5E-07
Acidification potential , AP (kg mol H ⁺ eq.)		9.1E-02	3.5E-02	8.3E-01	1.7E-03	4.4E-04	7.7E-03	2.3E-03	5.6E-04	2.9E-05	9.7E-01	9.8E-01
Eutrophication potential, EP	Aquatic freshwater (kg P eq.)	1.0E-03	2.2E-03	3.3E-03	9.3E-06	6.8E-06	1.5E-04	2.0E-05	3.4E-06	1.2E-07	6.8E-03	6.8E-03
	Aquatic marine (kg N eq.)	5.6E-02	3.9E-02	1.0E-01	3.6E-04	1.1E-04	5.4E-03	8.9E-04	1.0E-04	4.0E-05	2.0E-01	2.1E-01
	Terrestrial (mol N eq.)	3.9E-01	1.3E-01	3.9E+00	3.9E-03	1.1E-03	2.5E-02	6.7E-03	1.2E-03	1.4E-04	4.5E+00	4.5E+00
Photochemical ozone creation potential, POCP (kg NMVOC eq.)		1.3E-02	1.6E-02	2.1E-01	1.9E-03	3.5E-04	6.5E-03	2.5E-03	5.3E-04	4.2E-05	2.6E-01	2.6E-01
Abiotic depletion potential*, ADP	Minerals and metals (kg Sb eq)	2.0E-06	1.2E-05	0.0E+00	8.6E-09	1.1E-08	1.2E-06	4.3E-08	2.4E-09	9.4E-10	1.5E-05	1.5E-05
	Fossil (MJ)	2.9E+01	8.0E+01	0.0E+00	1.2E+01	2.0E+00	2.9E+01	1.1E+01	3.1E+00	3.6E-02	1.7E+02	1.8E+02
Water deprivation potential*, WDP (m ³ eq.)		5.6E+01	8.4E+00	0.0E+00	1.2E+00	9.9E-02	1.4E+00	1.2E+00	5.4E-02	3.5E-03	6.8E+01	6.8E+01

* The results of these environmental impact indicators shall be used with care as the uncertainties of the results are high and as there is limited experience with these indicators.

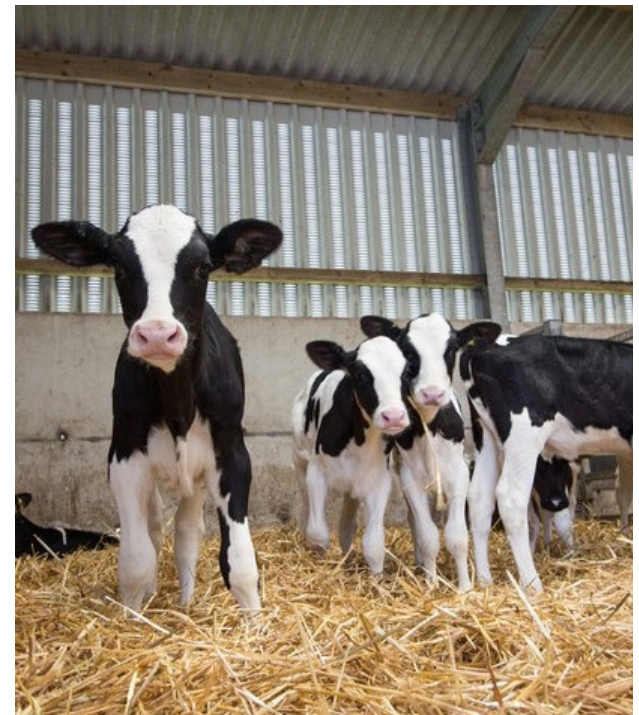
Differences versus previous version of the EPD

Compared to the previous version of the EPD document, beyond the updating of the number of calves purchased by Coop in 2022 and data about the 2 main slaughterhouses involved as suppliers, data relating to breeding farms were revised, too.

Dairy cows management data, coming from a sample of farms owned by Granlatte, involved and kept annually updated by Granarolo within its EPD Process, were updated as well as those coming from a sample of 3 Italian

farms, among Coop suppliers, where data regarding breeding phase were collected such as feed quantity and typology, energy consumption, the average amount of manure per head and the type of management.

Moreover, data relating to the Coop platform in Reggio Emilia, where the carcasses from the slaughtering plants are processed and packaging materials were updated and data relating to a sample retail store (IperCoop Bologna Centro Lame) were collected.



EPD Programme Information

Programme operator: EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden, Email: info@environdec.com

Product category rules (PCR): PCR 2012:11 Meat of mammals, version 4.0.1. CPC 2111, 2113.

PCR review, was conducted by: Technical Committee of the International EPD® System. Review chair: Adriana Del Borghi.
Contact via info@environdec.com.

Coop Italia has the sole ownership, liability and responsibility of the EPD.

This declaration and further information are available at the web-page: www.environdec.com

Independent third-party verification of the declaration and data, according to ISO 14025:2006:

☐ EPD process certification ☒ EPD verification ☐ Pre-verified tool

Third party verifier: Bureau Veritas Italia S.p.A
Viale Monza, 347 - 20126 Milan, Italy

Accredited or approved by: Accredia

Procedure for follow-up of data during EPD validity involves third party verifier:

☒ Yes ☐ No

EPDs within the same product category but from different programmes may not be comparable.

Technical report

Coop Italia Life Cycle Assessment of Beef Meat, detailed hypothesis, rev.4.

Technical support and graphic design

Life Cycle Engineering S.p.a. – Italy
www.lcengineering.eu

Contacts

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Glossary

VEAL CALF

*Young bovine aged under 8 months, raised for veal meat production.
For Coop, the age range is between 6 and 8 months.*

References

- EPD International (2021) General Programme Instructions for the International EPD® System. Version 4.0. www.environdec.com
- EPD International (2022) PCR for Meat of mammals, fresh chilled or frozen; CPC code 2111 and 2113, version 4.0.1 of 2022-10-24. www.environdec.com
- IDF 2015, Bulletin of the IDF N° 479/ 2015: A common carbon footprint approach for the dairy sector – The IDF guide to standard life cycle assessment methodology
- 2019 Refinement to the IPCC Guidelines for National Greenhouse Gas Inventories Volume 4 Agriculture, Forestry and Other Land Use Chapter 10 Emissions from livestock and manure management. www.ipcc-nggip.iges.or.jp
- ISO 14025:2006. Environmental labels and declarations – Type III environmental declarations – Principles and procedures. www.iso.org
- ISO 14040/14044:2006. ISO series on Life Cycle Assessment (Valutazione del ciclo di vita), UNI EN ISO 14040:2006 e 14044:2006. www.iso.org
- Software SimaPro, vers. 9.5.0.0 (2023). www.pre.nl
- Agri-footprint 6.3
- Ecoinvent 3.9.1
- Industry data 2.0



The version and characterization factors for the calculation of mandatory environmental indicators are based on version 3.1 of the reference package for CFs used in the PEF framework (EF 3.1) as reported at the following link (at the date of publication of the EPD): <https://www.environdec.com/resources/indicators>