DUE DILIGENCE

ASSESSMENT OF THE CLIMATE IMPACT, WITH REFERENCE TO **METHANE**, DERIVING FROM INALCA'S BEEF SUPPLY CHAIN

METHODOLOGICAL NOTE

This document is produced by INALCA S.p.A. ("INALCA") as part of the conciliation procedure conducted by its parent company Cremonini S.p.A. with the PCN – instance 54453 initiated on 1st March, 2022. It is drawn up on the basis of the principles contained in the following acts:

- OECD Guidelines for Multinational Enterprises, 2023 edition.
- OECD Due Diligence Guidance for Responsible Business Conduct, 2018 edition.
- Directive (EU) 2024/1760 of 13th June, 2024, on corporate due diligence for sustainability and amending Directive (EU) 2019/1937 and Regulation (EU) 2023/2859.
- Delegated Regulation (EU) 2023/2772 of 31st July, 2023, integrating Directive 2013/34/EU of the European Parliament and the Council regarding sustainability reporting principles.
- Legislative Decree No. 125 of 6th September, 2024, "Implementing Directive 24/64 of the European Parliament and Council of 14th December, 2022, concerning amendments to Regulation 537/2014/EU, Directive 2004/109/EC, Directive 2006/43/EC, and Directive 2013/34/EU regarding corporate sustainability reporting".
- FAO Report 2023: "Pathways towards lower emissions – A global assessment of greenhouse gas emissions and mitigation options from livestock agrifood systems."
- ANA - National Academy of Agriculture, Annals CXXXXII, "Analytical Summary on the Sustainability of Italian Beef Supply Chains," 2023.

This document serves as a instrument for dialogue and dissemination of information with stakeholders regarding the impact taken into consideration.

The principles of Corporate Social Responsibility are embedded in the company's policies and codes of conduct. They form part of a broader management system for responsible business conduct, structured within the organisational model under Legislative Decree 2001/231, GRI standards adopted in INALCA's Sustainability Report, and certified management systems compliant with ISO 14001:2015, ISO 45001:2023, ISO 9001:2015, and IFS Version 8 standards.

The company management system also includes activities for identifying, preventing, and mitigating the environmental impacts generated by INALCA.

Concerning the specific risk under examination and the subject of this Due Diligence, it will gradually be integrated into the broader context of corporate sustainability reporting (CSRD). For this purpose, this document has adopted, amongst other references, the reporting principles outlined in Article 4 of the Delegated Regulation (EU) 2023/2772 mentioned above.

This document was finalised in December 2024. Data relevant to INALCA are derived from INALCA's Sustainability Report for the 2023 financial year.

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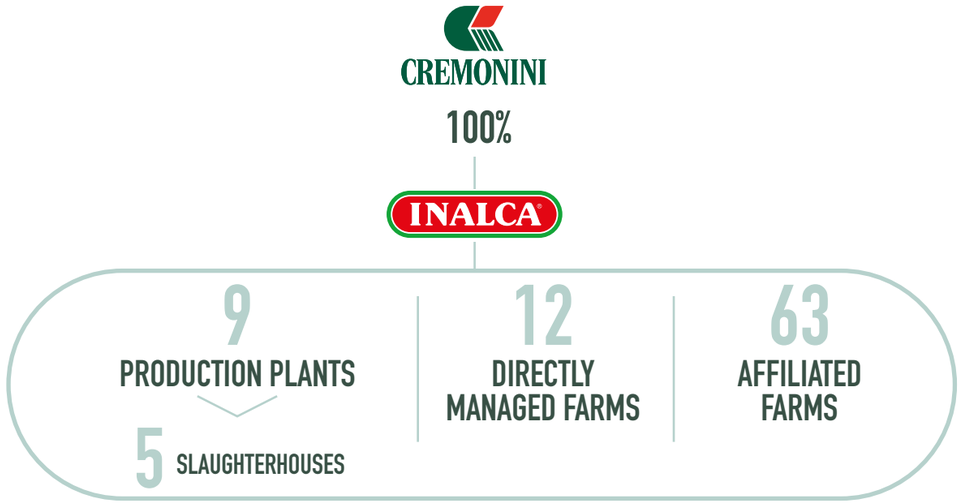
INTRODUCTION: INALCA'S STRUCTURE, ORGANISATIONAL MODEL, AND ITALIAN MARKET SCENARIOS

This section provides a detailed description of INALCA's organisation regarding its cattle farming and production activities conducted within the Italian context.

INALCA, wholly owned by Cremonini S.p.A., is leader in the Italian beef sector. It operates through a structure comprising **9 production plants (including 5 slaughterhouses) and 12 directly managed farms**, alongside **63 affiliated farms.**

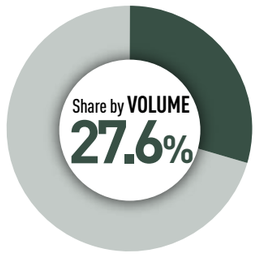
The structure **oversees the whole production cycle**, from farming to the finished product (slaughtering, deboning, processing, packaging of anatomical cuts, portioned products, ready-to-eat products, canned meat, and meat extracts) as well as distribution.



1.1 THE ITALIAN BEEF MARKET AND INALCA'S MARKET SHARE

In Italy, the beef sector is characterised by a high fragmentation of slaughtering facilities, with a total of **1,199 slaughterhouses** *(Source: BDN of the Livestock Registry of the Ministry of Health – cattle and buffalo slaughterhouses as of 31st December, 2023)*. The total number of companies operating in the beef sector is **2,489**. The sector features a medium-to-low degree of concentration. INALCA's market share in 2022 was **27.6% out of the total national** *(Source: Cerved Beef Sector, Competition – Sectoral and Competitive Analysis: Performance, Economics, and Forecasts – December 2023)*.

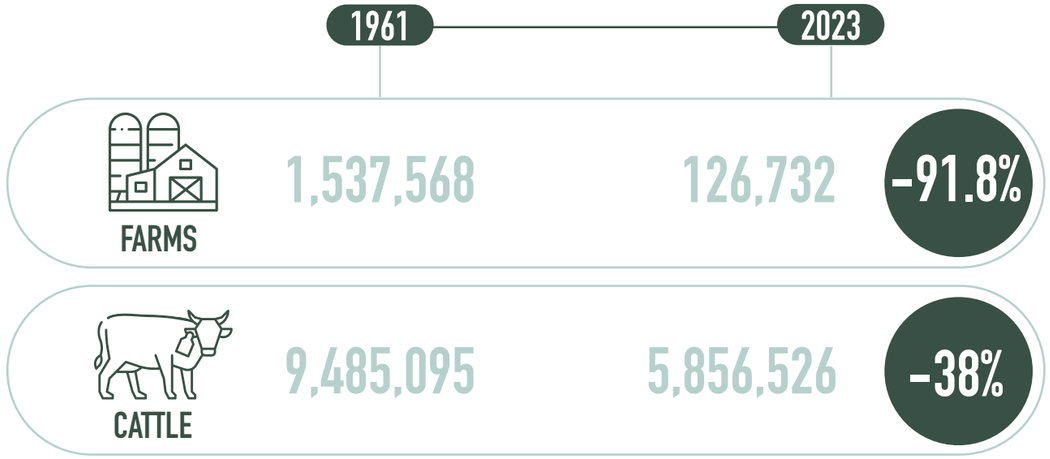
INALCA's market share



1.2 THE SCENARIO OF CATTLE FARMING IN ITALY

According to ISTAT surveys, **in 1961**, cattle farming activities in Italy were conducted by **1,537,568 farms**, with a **total cattle population of 9,485,095 head** and an average of 6 head per farm *(ISTAT. Italy in 150 years. Summary of Historical Statistics 1861-2010)*. **In 2023**, according to BDN (National Livestock Registry), **the number of farms drastically reduced to 126,732** (-91.8% from 1961), with a total cattle and buffalo population of **5,856,526** head (average 46 head per farm).

A clear trend of significant reduction in the number of farms has occurred over the last 60 years (-38% from 1961), primarily due to the progressive abandonment of rural areas, especially in mountainous zones, with a concentration of dedicated structures.



1.3 INALCA'S VALUES

The agricultural tradition has inspired and continues to form the basis of INALCA's development model. The company was founded in 1963, in the Province of Modena, at the heart of the Po Valley, an area historically dedicated to cereal cultivation and cattle farming, primarily aimed at producing high-quality milk and related products (primarily Parmigiano Reggiano/Grana Padano).

INALCA's history is characterised by continuous development based on a long-term vision and **strong territorial integration**. Its production model has alllowed the realisation of an increasingly **integrated and circular beef supply chain**, particularly focused on social context, environmental protection, production efficiency, and the demands of the agricultural sector and its stakeholders to address the global challenge of **ensuring accessible food to all**.

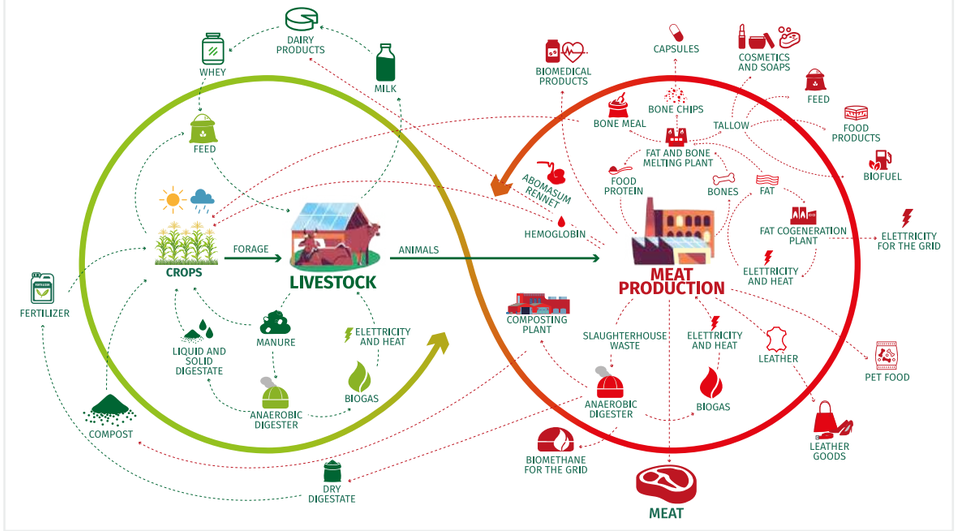
INALCA's sustainable development derives from the constant application of four fundamental principles *(INALCA Sustainability Report 2023, #2.1)*:

In general, **cattle farming and its production chain represent one of the most complex, regenerative, and circular systems** due to the wide range of products obtained from this supply chain. Over the past 25 years, INALCA has further enhanced the circularity of its production system, through the investments in technology and developing large-scale *best practice*s aimed at **reusing by-products and waste** from both its industrial and agricultural production cycles.

From its industrial activity, INALCA obtains **primary products such as meat and derivatives**, **as well as many co-products** destined for various uses. In fact, **there are multiple interactions between beef processing and other supply chains**: from **biomedical** (biological heart valves), **pharmaceuticals** (capsules for medications, heparin, etc.), **leather goods** (leather accessories), **cosmetics** (creams, soaps, detergents), to **feed, pet food** and **pet toys** (chewable items).

Furthermore, in relation to agricultural activities, INALCA is expressly committed to the continuous pursuit of efficiency in livestock farming to **reduce impacts and consumption**. The company is also engaged in **waste recovery** activities and the **development of circular economy processes**, with a particular focus on the **use of manure** and other **biomass** for the production of **green energy and fertilisers** (dry digestate).

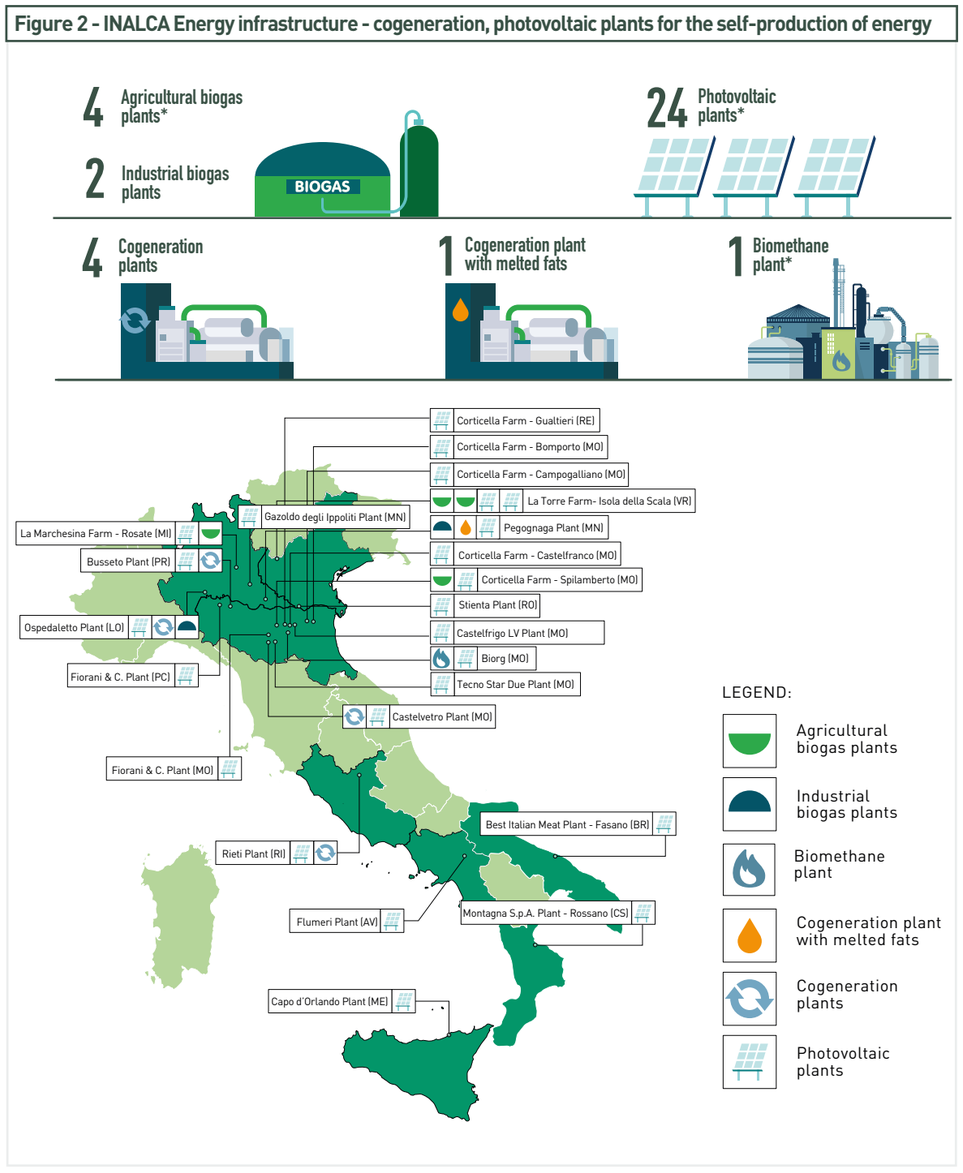
Figure 1 - The circularity of the INALCA system



1.4 BIOMASS VALORISATION – ENERGY INFRASTRUCTURE

INALCA, conscious of the need to reduce emissions into the atmosphere resulting from its activities and the need to contribute to climate transition, has developed over the years facilities for producing energy from renewable sources: biogas, biomethane, cogeneration, and photovoltaic plants for self-production and self-consumption of electric and thermal energy. **Today, INALCA self-produces 76% of the energy it consumes**, **29% of which comes from renewable sources**. The energy infrastructure consists of **4** agricultural biogas plants, **2** industrial biogas plants, **4** methane cogeneration plants, **24** photovoltaic plants, **1** cogeneration plant using melted fats, and **1** biomethane plant.

Figure 2 - INALCA Energy infrastructure - cogeneration, photovoltaic plants for the self-production of energy



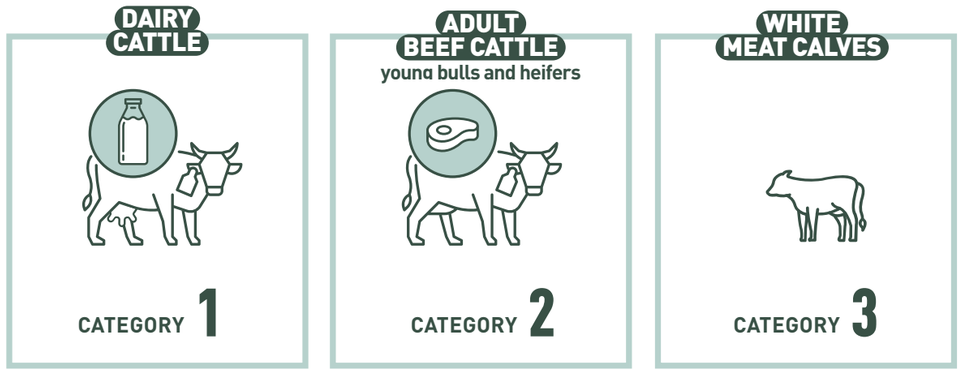
** The numbers related to the plants do not match the 2023 INALCA Sustainability Report, as some plants are outside the financial consolidation perimeter.*

2 CATTLE SUPPLY CHAIN ANALYSIS (SCOPING)

In this chapter INALCA's cattle supply chain is described. It is based on the information available at present and may be further expanded in the following years as data collection progresses, including the adoption of more advanced digital interfaces and within the context of non-financial reporting according to the CSRD and CSDDD regulations.

In this regard, INALCA operates with a working group composed of industry professionals, supported by research organisations and specialised consulting firms. Greenhouse Gas (GHG) analysis, monitoring, and mitigation techniques require interdisciplinary expertise in animal nutrition, waste management technologies, impact measurement, and the development of specific performance indicators.

Since it is an articulated and complex supply chain, for methodological reasons, cattle supply chain is divided into two distinct scopes of activity, Scope 1-2 and Scope 3 respectively, and further subdivided into three categories of cattle according to different structures, geographic extensions, and power of influence:



These categories are further broken down into three distinct stages (birth, collection, and fattening).

Each category and production stage differs in INALCA's role and level of influence, summarised in the table below (on the green chromatic scale the phases in which INALCA is present and its level of influence are outlined).

Table 1 - INALCA's participation and level of influence in cattle procurement*

PERIMETER	PRODUCTION PHASE	CATEGORY 1 DAIRY CATTLE	CATEGORY 2 YOUNG BULLS AND HEIFERS	CATEGORY 3 WHITE MEAT CALVES
DIRECTLY MANAGED FARMS (SCOPE 1-2)	BIRTH/WEANING	ABSENT	ABSENT	ABSENT
	COLLECTION	ABSENT	PARTLY PRESENT	ABSENT
	FATTENING	ABSENT	**PRESENT**	**PRESENT**
THIRD PARTY SUPPLIER FARMS (SCOPE 3)	BIRTH/WEANING	ABSENT	ABSENT	ABSENT
	COLLECTION	ABSENT	ABSENT	ABSENT
	FATTENING	ABSENT	**ABSENT**	**ABSENT**

Level of influence : low medium high

* The table shows for each production phase the level of participation (absent, partially present and present) and the level of influence (the darker shade of green corresponds to a higher level of influence).

2.1 DIRECTLY MANAGED FARMS (SCOPE 1–2 PERIMETER)

As detailed further below, directly managed farms exclusively involve Categories 2 and 3. **For Category 2** (young bulls and heifers), **INALCA's supply chain includes both collection and fattening activities. For Category 3 (white meat calves), it only includes the fattening phase.**

FARMS IN ITALY

INALCA operates 12 directly managed fattening farms in Italy and currently has no collection centres. The following Table 2 summarises Scope 1-2 farms for both Categories 2 and 3:

Table 2 -Cattle production from owned farms (Scope 1-2)

ITALY – CATEGORY 2 ADULT BEEF FARMS (YOUNG BULLS AND HEIFERS)	ITALY - DIRECTLY MANAGED FARMS
AZ. AGR. CORTICELLA (MO)	3
SOC. AGR. LA TORRE (VR)	1
SOC. AGR. LA MARCHESINA (MI)	1
Total number of adult beef farms in Italy	**5**
ITALY – CATEGORY 3 WHITE MEAT CALF FARMS	**ITALY - DIRECTLY MANAGED FARMS**
CREMOVIT S.R.L. (MO)	1
CREMOVIT S.R.L. (LO)	1
CREMOVIT S.R.L. (LO)	1
CREMOVIT S.R.L. (BS)	1
CREMOVIT S.R.L. (BS)	1
CREMOVIT S.R.L. (BS)	1
CREMOVIT S.R.L. (BS)	1
Total number of white meat calf farms in Italy	**7**
Total Italian farms	**12**

These above activities are managed as an integrated farming "Hub", equipped with specific expertise in animal nutrition, health, and animal welfare, providing technical support and field control.

In 2023, INALCA's Italian farms produced 27,122 young bulls and heifers and 21,040 white meat calves, representing 0.8% of the national cattle and buffalo population, estimated at 5,856,526 head (source: BDN – National Database).

Compared to slaughtering activities in Italy, the coverage provided by company-owned farms was 7.01%.

The following Table 3 summarises the cattle supply chain in Italy, Scope 1-2, and 3, in the context of INALCA's overall Italian production:

Table 3 - ITALY: Supply chain summary and production comparison

TYPE OF FARMING	TYPE OF SUPPLIER	NUMBER OF FARMS	SLAUGHTERED ANIMALS
DAIRY CATTLE FARMS (CAT.1)	DIRECTLY MANAGED FARMS (SCOPE 1-2)	-	-
	AFFILIATED FARMS (SCOPE 3)	-	-
	NON-AFFILIATED FARMS (SCOPE 3)	15,118	276,598
YOUNG BULL AND HEIFER FARMS (CAT.2) **BIRTH FARMS**	DIRECTLY MANAGED FARMS (SCOPE 1-2)	-	-
	AFFILIATED FARMS (SCOPE 3)	-	-
	NON-AFFILIATED FARMS (SCOPE 3) - FRANCE*	6,000	-
	NON-AFFILIATED FARMS (SCOPE 3) - ITALY**	4,568	-
YOUNG BULL AND HEIFER FARMS (CAT.2) **FATTENING FARMS**	DIRECTLY MANAGED FARMS (SCOPE 1-2)	5	27,122
	AFFILIATED FARMS (SCOPE 3)	29	50,280
	NON-AFFILIATED FARMS (SCOPE 3)	289	167,513
WHITE MEAT CALF FARMS (CAT.3) **BIRTH FARMS**	DIRECTLY MANAGED FARMS (SCOPE 1-2)	-	-
	AFFILIATED FARMS (SCOPE 3)	-	-
	NON-AFFILIATED FARMS (SCOPE 3)***	9,815	-
WHITE MEAT CALF FARMS (CAT.3) **FATTENING**	DIRECTLY MANAGED FARMS (SCOPE 1-2)	7	21,040
	AFFILIATED FARMS (SCOPE 3)	34	50,330
	NON-AFFILIATED FARMS (SCOPE 3)	121	93,684
COLLECTION CENTERS	DIRECTLY MANAGED COLLECTION CENTERS (SCOPE 1-2) FRANCE	6	-
	AFFILIATED/NON-AFFILIATED COLLECTION CENTERS (SCOPE 3)****	-	-
Total		**44,992**	**686,567**

**Estimate*

*** Source BDN - National Database*

**** The data refers only to Italian birth farms. The number of birth farms located abroad is not available at the moment.*

***** The number of collection centers in Scope 3 is not available at the moment.*

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FARMS IN THE EUROPEAN UNION

In the EU, in 2023, INALCA began operations in Poland with its own production facility for slaughtering, cutting, and meat processing. The plant is located in Sochocin, about 80 km north of Warsaw.

In Poland, farming activities started in 2023. In 2023, the Scope 1 perimeter farms produced 5,223 head, corresponding to 0.081% of the Polish bovine population, estimated at 6,448,290 head (source: Faostat). The detailed supply chain analysis and related power of influence in Poland are still under definition.

Compared to slaughter activities in Poland, the coverage provided by directly managed farms was 9.1%.

Table 4 - POLAND: Supply chain summary and production comparison

TYPE OF FARMING	TYPE OF SUPPLIER	NUMBER OF FARMS	SLAUGHTERED ANIMALS
DAIRY CATTLE FARMS (CAT.1)	DIRECTLY MANAGED FARMS (SCOPE 1-2)	0	0
	AFFILIATED FARMS (SCOPE 3)	0	0
	NON-AFFILIATED FARMS (SCOPE 3)	216	16,074
ADULT BEEF FARMS (CAT.2)	DIRECTLY MANAGED FARMS (SCOPE 1-2)	4	5,223
	AFFILIATED FARMS (SCOPE 3)	0	0
	NON-AFFILIATED FARMS (SCOPE 3)	404	35,534
Total		**624**	**56,831**

NON-EU FARMS

In non-EU countries, INALCA exclusively carries out slaughtering activities in the Russian Federation, with a cattle supply chain related to the plant in Orenburg, in the homonymous region located in the southeast of the country near the Kazakhstan border. The supply chain in Russia does not include directly managed farms (Scope 1-2). The following table summarizes the supply chain.

As per the slaughtering activities in Russia, the coverage provided by directly managed farms was 0%.

Table 5 - RUSSIAN FEDERATION: Supply chain summary and production comparison

TYPE OF FARMING	TYPE OF SUPPLIER	NUMBER OF FARMS	SLAUGHTERED ANIMALS
DAIRY FARMS / BEEF FARMS	DIRECTLY MANAGED FARMS (SCOPE 1-2)	0	0
	AFFILIATED FARMS (CAT.2 - SCOPE 3)	13	31,809
	NON-AFFILIATED FARMS (SCOPE 3)	151	14,269
Total		**164**	**46,078**

White meat calf production (Category 3) is typical of Italian farming system and is not carried out in either Poland or the Russian Federation.

2.2 CATTLE SUPPLY CHAIN (SCOPE 3 PERIMETER)

This chapter describes the structure of INALCA's cattle supply chain.

FARMS IN ITALY

Regarding cattle procurement, directly managed farm production represents a minor portion compared to a broader supply chain associated with INALCA. This section describes the Italian cattle supply chain and its main segments.

As mentioned previously in the introduction, INALCA's supply chain is divided into three distinct categories of cattle:

- **Category 1** - Dairy cattle;
- **Category 2** - Adult beef cattle (young bulls and heifers);
- **Category 3** - White meat calves.

Dairy cattle

CAT1

This category involves adult dairy cattle, primarily located in the **Po Valley**.

The supply chain is linked to major national milk producers and processors and the related consortia for the production of typical Italian cheeses, primarily Parmigiano Reggiano and Grana Padano, which significantly influence the main aspects of this farming sector. Dairy farm management is mainly regulated by the production standards of processing companies, often linked to PDO or PGI product certifications.

INALCA's role is marginal in this supply chain, limited to purchasing dairy cattle no longer suitable for milk production and young males destined for white meat production. These types of cattle represent a secondary value in the economy of these farms, where milk is the primary livestock production.

As a result, INALCA does not have direct supply relationships with this category of farms, nor does it manage or contract farms in any way. Procurement occurs **indirectly**, primarily through trader organisations that collect cattle from individual farms and deliver them to INALCA's facilities.

In 2023, INALCA supply chain involved 15,118 farms, corresponding to 276,598 slaughtered animals. The dairy cattle supply chain is also characterised by high fragmentation (approximately 18 head supplied per farm), an element that further hinders INALCA's direct involvement of these farms.

Adult beef cattle – (young bulls and heifers)

CAT2

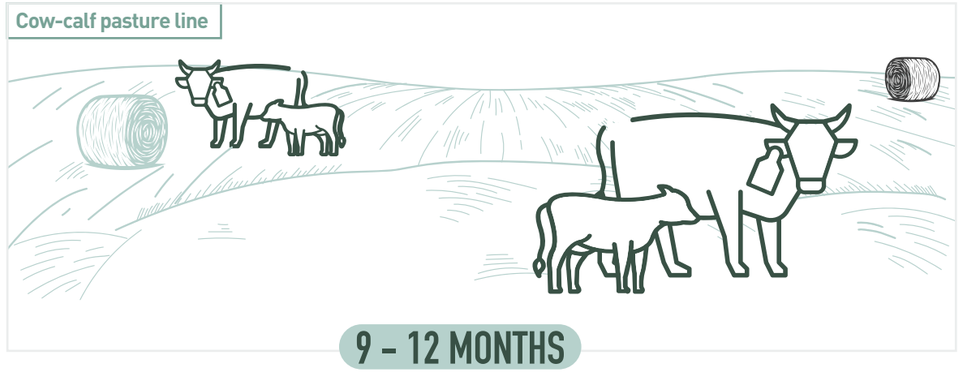
BIRTH AND COLLECTION PHASE

This system consists of an initial **extensive pasture-based breeding** phase lasting approximately **9 to 12 months. During this phase, calves are born and weaned "beneath the mother**." It is followed by a short intermediate phase involving collection, adaptation to a new feeding system planned for the next breeding stage, and health prophylaxis.

The birth and weaning phase are known as the so-called "**cow-calf pasture line",** mainly practiced in pasture environments located predominantly **in France**, particularly in the regions of Charolles and Limoges, and **in Italy**, primarily in the central-southern and island areas. The subsequent collection and conditioning of young cattle from France and Italy are carried out by two specialised companies of the INALCA Group, Parmafrance and Parmaserv, which operate directly in these regions. In France, Parmafrance manages six collection centers, while in Italy, a collection center is planned for development in Sicily.

Below is a summary of the specific characteristics of the birth and weaning phase:

- These are small, highly fragmented farms;
- Typically, breeding activities are secondary or marginal compared to the main source of income;
- Breeding is carried out freely in pasture areas with low low anthropic density;
- Feed supplementation from cereals or other forage is absent or limited;
- Manure is unmanaged and left in pasture areas;
- In most cases, simple shelters are provided for animals against weather conditions, or closed shelters are used during winter months based on climatic characteristics;
- Calves are either born directly in the pasture herds or are purchased at a very young age from other farms.



As detailed in Chapter 3, livestock farming in these regions, generally defined as extensive grazing, is characterised by low efficiency in terms of methane emissions, primarily due to the following reasons:

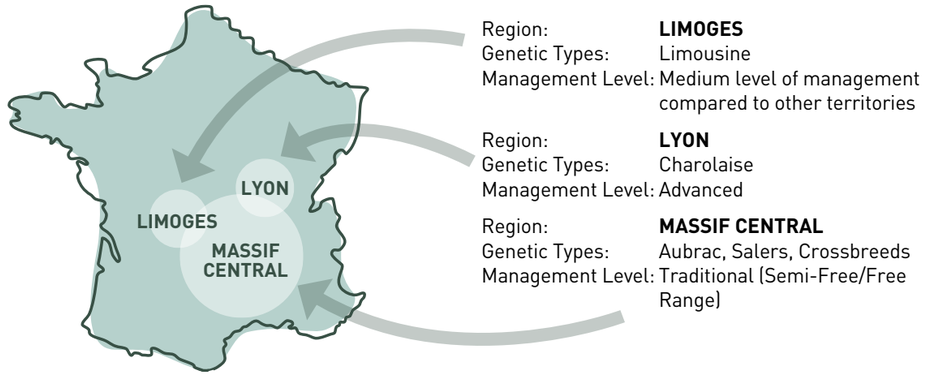
- **Diet characteristics**: grazing-based feeding leads to higher levels of enteric fermentation (CH_4) compared to a grain-based diet with higher nutritional and caloric value, typical of the subsequent fattening phase. For this reason, grazing results in a lower growth rate, which directly leads to higher emissions per kilogram of live weight.

- **Unmanaged manure**: solid manure decomposes spontaneously in pastures in an uncontrolled manner, generally under aerobic conditions. This results in higher emission levels, particularly of nitrous oxide (N_2O), which has a significantly higher climate-altering potential compared to methane.

The birth phase is conducted in a similar manner across all countries involved in the INALCA supply chain, with Italy generally showing less standardisation in terms of genetics and environmental characteristics—such as type of pasture, shelter structures, animal protection, and control—compared to the more advanced French scenario.

Below are some infographics about cattle sourcing areas in the INALCA supply chain in France and Italy:

Figure 3 - French cattle sourcing areas (birth and collection phase)



Region: **LIMOGES**
Genetic Types: Limousine
Management Level: Medium level of management compared to other territories

Region: **LYON**
Genetic Types: Charolaise
Management Level: Advanced

Region: **MASSIF CENTRAL**
Genetic Types: Aubrac, Salers, Crossbreeds
Management Level: Traditional (Semi-Free/Free Range)

Figure 4 - Italian cattle sourcing areas (birth and collection phase)

Region: **NORTHERN ITALY**
Genetic Types: Crossbreeds (Belgian Blue and Italian Friesian)
Management Level: Highly advanced

Region: **SARDINIA**
Genetic Types: Crossbreeds, Limousine, and Charolaise
Management Level: Traditional (Free Range)

Region: **SICILY**
Genetic Types: Crossbreeds, Limousine, and Charolaise
Management Level: Traditional (Semi-Free/Free Range)

An important peculiarity of the Italian system is the addition of the so-called "**weaned**" system to the "**cow-calf pasture line**", present in the southern and island regions of the country. This "weaned" system is mainly practiced on dairy farms in the Po Valley and involves **crossbreeding female dairy cows with semen from beef-specialised breeds**. The resulting **animals are raised directly on forage in confined environments without an extensive** free-range pasture phase.

FATTENING PHASE

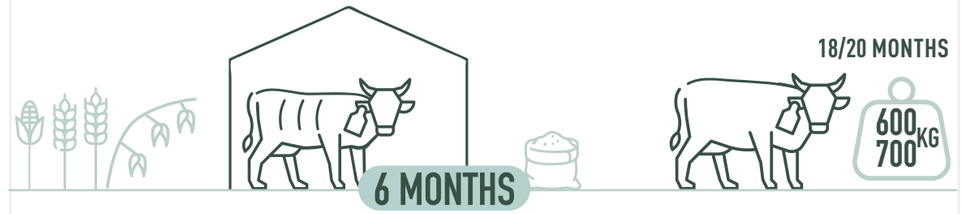
Farms in Italy

This production phase involves permanent **confined housing**, primarily in the Po Valley. Cattle feeding is mainly based on the farm self-produced high-nutritional-value **forages**, such as **corn**, **forage wheat**, and **oats**, **supplemented to a small extent by vegetable meals**, **straw**, and by self-produced or market-purchased **vitamin-mineral nuclei**.

At the end of the fattening cycle, which lasts approximately six months, animals are slaughtered at around 18-20 months of age and at a live weight of about 600 to 700 kg.

The genetic types bred belong mainly to French breeds specialised for beef production, especially Charolaise, Limousine, and their crossbreeds, ensuring high production efficiency and optimal growth performance. Additionally, Podolica breeds or crossbreeds are raised when animals are of national origin.

FEED RATION: Corn, forage wheat, oats, vegetable meals, straw, and vitamin-mineral nuclei



Farms in the European Union

Within the EU, INALCA operates in Poland, with farms mainly located in the Poznan area. **Animals are raised in permanent confinement** without access to pasture. Here the cattle follow a highly **uniform feeding regime based on high-quality silage** provided throughout the fattening period. This diet is supplemented with **concentrated feeds and vitamin-mineral supplements** to support growth and improve meat quality. The diet mainly consists of corn, alfalfa, molasses, rye, and a vitamin and mineral premix.

Breeds such as **Black Angus**, **Limousine**, **crossbreeds with beef cattle, and Charolais are raised**. Animals are then slaughtered at around 18 months of age, upon reaching a live weight of approximately 500 - 600 kg.

FEED RATION: corn, alfalfa, molasses, rye, vitamin and mineral mix

Farms in non-EU countries

Outside the European Union, INALCA does not directly engage in livestock farming. In the Russian Federation, INALCA operates a slaughterhouse in the city of Orenburg, linked to a local supply chain. The cattle farming system in Russia is semi-confined, allowing the animals to move freely between the indoor feeding area and the adjacent outdoor space. The feeding system generally includes a combination of **silage**, **hay**, **straw**, **wheat concentrate**, and **barley**. At the end of the fattening cycle, the animals reach a weight of over 550 kg. The main genetic types raised in these facilities include **Hereford, Angus**, and **Simmental**, selected for their ability to produce high-quality meat.

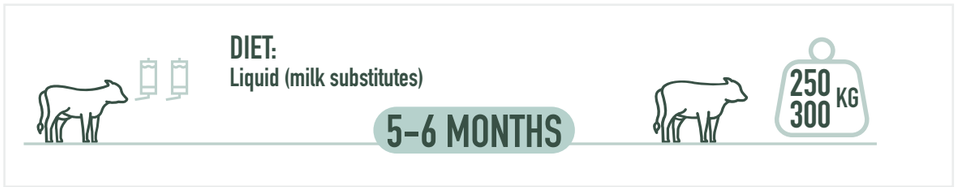
CAT3

White meat calves

This category includes young calves from dairy farms described in Category 1 and is **exclusively conducted in Italy**, particularly in the Po Valley. These cattle undergo a single fattening cycle lasting about 5-6 months, mainly based on a liquid diet consisting of milk substitutes.

Calves farms are highly standardised and exhibit characteristics similar to directly managed farms. Methane emissions from enteric fermentation are minimal in this category due to the **absence of ruminal fermentation**. The feed bypasses the rumen and is directly digested in the lower intestinal tract. As a result, the diet is largely absorbed by the calf without producing significant methane emissions from enteric fermentation. Consequently, manure is extremely low in biodegradable carbon (Volatile Solids - VS), making it unsuitable for effective energy recovery through biogas production.

As described in Chapter 4, key mitigation practices mainly involve covering manure containment basins and immediate burial during spreading and agricultural use. The contribution of this category to overall methane emissions is therefore **limited**.



2.3 LEVEL OF CONTROL AND MANAGEMENT OF THE POWER OF INFLUENCE ON THE SUPPLY CHAIN

DIRECTLY MANAGED FARMS (SCOPE 1-2)

The farms within the Scope 1-2 perimeter are managed and controlled by Agricola Corticella S.r.l., which acts as the "livestock hub" for INALCA and coordinates the activities involving restocking cattle from France and Italy through its subsidiaries Parmafrance and Parmaserv.

With reference to the restocking phase, INALCA has 6 collection centers in Scope 1-2 in France, therefore its power of influence is **medium**.

As will be described later, the best production techniques are applied in the fattening farms included in the Scope 1-2 perimeter, particularly for reducing methane emissions from the two primary sources: **manure and enteric fermentation**. INALCA intends to transfer the expertise and knowledge developed in Italy to its operations in Poland.

In these farms, INALCA has a **high** power of influence.

SUPPLY CHAIN (SCOPE 3)

CAT1

Dairy cattle

As previously mentioned, **INALCA does not directly control farms belonging to this category**. **Therefore, its power of influence is low and** can only be exercised indirectly through institutions, agricultural associations, and producer consortia in the dairy sector. INALCA currently engages primarily with industry associations like AIA (Italian Breeders' Association) and scientific institutions actively involved in improving the environmental impacts of this livestock sector.

From an emissions standpoint, it should be noted that, according to FIL-IDF (*International Dairy Federation*) parameters, **only 15% of the total emissions from dairy cattle farming can be attributed to beef production**. On the one hand, this significantly reduces the carbon footprint of these animals, but on the other hand, it limits INALCA's influence to further mitigate emissions within these supply chains.

However, while fully aware of the objective limits of its power of influence, at national level, **INALCA has long taken an active role in promoting recognised sustainability schemes specific to this category of cattle**, aligned with best practices in sustainability and agricultural regulations. The latest of these is the SQNZ (National Livestock Quality System) sustainability standard, regulated by the Ministerial Decree of 16th December, 2022, within the broader framework of EU regulations (Regulation (EU) 2021/2115 and Delegated Regulation (EU) 2022/126).

INALCA's efforts at this level of the supply chain, together with dairy producers, are therefore concentrated on obtaining recognition of a regulation specifically focused on environmental sustainability issues, including agricultural best practices relating to **the optimal management of manure, the adoption of production models inspired by the principles of circular economy, the production of energy from renewable sources, as well as precision agriculture and livestock farming (PLF) techniques.**

The project seeks to share INALCA's sustainability experience with the dairy supply chain through an innovative integrated approach. It complements an equivalent scheme already adopted by INALCA in the beef sector, recognised by MASAF with Decrees No. 341750 of 2nd August, 2022, and No. 0563467 of 24th October, 2024.

If approved nationally, this tool would enable dairy cattle farmers to access sustainability-related incentives connected to the Common Agricultural Policy (CAP) and provide transparent communication to consumers about these efforts. Additionally, it would increase the value of secondary products of particular interest to INALCA, such as dairy cows and calves for white meat production.

INALCA's diligence efforts for this category are carried out in strict adherence to EU and national regulations. These are essential for engaging and supporting dairy producers in adopting impact and consumption reduction practices, including the use of subsidised financing instruments.

In Poland, INALCA's activities in this field are in the initial stages. Currently, the company is evaluating the promotion of local eco-schemes derived from EU frameworks, similar to those in Italy. The primary scheme under consideration is the QMP (Quality Meat Program) system qmpsystem.eu)

In the Russian Federation, no similar tools are currently available.

Based on the previous considerations, INALCA's level of influence in this livestock category is evaluated as **low**.

CAT2

Adult beef cattle (young bulls and Heifers)

BIRTH AND COLLECTION PHASE

INALCA does not directly control the birth and weaning farms, only intervening during the collection phase through dedicated companies that purchase young cattle from breeding and birth farms.

At this stage of the supply chain, INALCA's power of influence is limited due to various local and general socio-economic factors that go beyond a mere commercial relationship. These farms are located in rural areas with low population density and are often affected by structural depopulation phenomena. The survival and continuity of these farms heavily depend on the adoption of effective social policies and support measures aimed at preserving these communities located in often disadvantaged regions. In this context, INALCA's power of influence is **low** and primarily based on the adoption of specific tools provided by policymakers, such as Supply Chain Contracts. One example is the "*Valorisation of the 100% Italian Beef Supply Chain in Southern Regions*" contract, established by the Ministerial Decree of 8th January, 2016, promoted by the Ministry of Agriculture, Food Sovereignty, and Forests. This contract specifically supports the "**cow-calf pasture line**".

Another relevant initiative is the recent 5th Supply Chain Announcement, as per Decree Law of 6th May, 2021, No. 59, converted with amendments by Law of 1st July, 2021, No. 101, concerning "*Urgent measures related to the Complementary Fund for the Recovery and Resilience Plan and other urgent investment measures*". This initiative approved the national plan for complementary investments under the PNRR in the agricultural sector.

Supply Chain Contracts enable the development of stable supply agreements and allow pricing mechanisms to be linked to quality and environmental sustainability criteria, ensuring stable and fair remuneration for farmers.

FATTENING PHASE

At this stage of the supply chain, INALCA's power of influence level is high, as fattening represents the "core business" of farmers. This influence is more easily exercisable because these farms are larger, better organised, and less affected by the external factors described in the previous paragraph.

At this stage the power of influence is exercised through specific forms of procurement, particularly in the case of 29 affiliated farms under agistment agreements, which require farmers to adopt INALCA's environmental best practice manuals. On these farms, the power of influence is also exercised through the provision of technical services, such as veterinary checks for animal health and welfare, veterinary drug management, and access to advanced digitalisation tools to implement precision agriculture and livestock techniques. These include specific tools for estimating GHG emissions based on cowshed input data.

To support these initiatives, INALCA has promoted the creation of a Producer Organisation (PO) named Assobovini S.C.A.R.L., whose mission is to provide advanced services to participating farmers on the topics described above. The establishment of a PO facilitates farmers' access to agricultural production support tools and the widespread adoption of solutions for emission reduction and farm management improvement.

A limiting factor for INALCA's power of influence over non-affiliated farmers is that INALCA's supply chain does not cover the livestock feed segment, which is managed by individual farmers and depends on the specific size and productivity characteristics of the farmland serving the farms. These factors significantly affect the proportion of self-produced and/or third-party-sourced fodder, which is essential in the context of GHG emission control and methane management.

European Union

In Poland, the evaluation of the power of influence will begin in 2025.

Russian Federation

Due to the geopolitical complexity of the region, INALCA is currently unable to plan CSR policies and activities for this segment of the supply chain.

CAT3

White meat calves

Also in this case, the fattening phase is managed through 7 company-owned farms and 34 affiliated farms under agistment agreements, a tool that facilitates the transfer of good agricultural practices. At this level of the supply chain, which only concerns Italy, **INALCA's power of influence is estimated as high**.

FINAL OVERVIEW

The following Table 6 summarises the extent of INALCA's supply chain and provides a comprehensive evaluation of INALCA's power of influence in Italy.

Table 6 - Estimation of INALCA's power of influence in the bovine supply chain in Italy

FARMING CATEGORY	LOCATION	TYPE OF SUPPLIER	NUMBER OF FARMS	INCIDENCE %	LEVEL OF INFLUENCE
DAIRY FARMS (CAT.1)	-	DIRECTLY MANAGED FARMS (SCOPE 1-2)	-	0%	LOW
	-	AFFILIATED FARMS (SCOPE 3)	-	0%	LOW
	ITALY	NON-AFFILIATED FARMS (SCOPE 3)	15,118	100%	LOW
YOUNG BULLS AND HEIFER FARMS (CAT.2) - BIRTH FARMS	-	DIRECTLY MANAGED FARMS (SCOPE 1-2)	-	-	-
	-	AFFILIATED FARMS (SCOPE 3)	-	-	-
	FRANCE	NON-AFFILIATED FARMS (SCOPE 3) - FRANCE*	6,000	57%	LOW
	ITALY	NON-AFFILIATED FARMS (SCOPE 3) - ITALY**	4,568	43%	LOW
YOUNG BULLS AND HEIFER FARMS (CAT.2) - FATTENING FARMS	ITALY	DIRECTLY MANAGED FARMS (SCOPE 1-2)	5	2%	HIGH
	ITALY	AFFILIATED FARMS (SCOPE 3)	29	9%	HIGH
	ITALY	NON-AFFILIATED FARMS (SCOPE 3)	289	88%	HIGH
WHITE MEAT CALVES FARMS (CAT.3) - BIRTH FARMS	-	DIRECTLY MANAGED FARMS (SCOPE 1-2)	-	0%	-
	-	AFFILIATED FARMS (SCOPE 3)	-	0%	-
	ITALY/UE	NON-AFFILIATED FARMS (SCOPE 3)***	9,815	100%	LOW
WHITE MEAT CALVES (CAT.3) - FATTENING FARMS	ITALY	DIRECTLY MANAGED FARMS (SCOPE 1-2)	7	13.10%	HIGH
	ITALY	AFFILIATED FARMS (SCOPE 3)	34	31.32%	HIGH
	ITALY	NON-AFFILIATED FARMS (SCOPE 3)	121	55.68%	HIGH
COLLECTION CENTERS (CAT.2)	FRANCE	DIRECTLY MANAGED COLLECTION CENTERS (SCOPE 1-2)	6	-	MEDIUM
	FRANCE/ ITALY	AFFILIATED/NON-AFFILIATED COLLECTION CENTERS (SCOPE 3)****	-	-	LOW

*Estimate **Source BDN - National Database ***The data refers only to Italian birth farms. The number of birth farms located abroad is not available at the moment ****The number of collection centers in Scope 3 is not available at the moment.

3 ASSESSMENT OF METHANE-RELATED CLIMATE IMPACT DERIVING FROM INALCA'S SUPPLY CHAIN

3.1 SCENARIO ANALYSIS

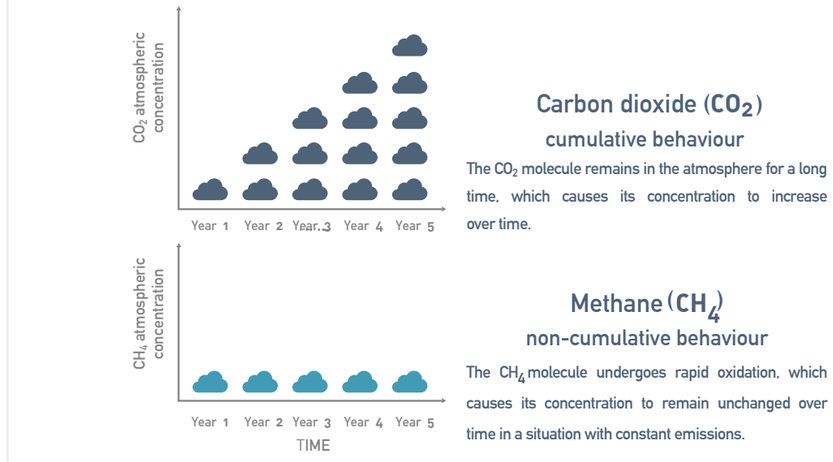
Among greenhouse gases, commonly referred to as GHGs, methane is considered the second most impactful after carbon dioxide. Its contribution to global warming from the pre-industrial era to the present day is estimated at 17%, compared to the 60% attributed to carbon dioxide. Although less abundant in quantitative terms, methane has a greater climate-altering potential, and for that reason, it is assessed with a coefficient 28 times higher than carbon dioxide ones, in current mathematical measurement models (GWP_{100}).

However, the climate-altering role of methane must also be considered in relation to its **shorter persistence** in the atmosphere compared to carbon dioxide. Methane is considered a Short-Living Climate Pollutant (SLCP). It has a half-life in the atmosphere of approximately 9-12 years and degrades completely after about **50 years**. This is a substantial difference from Long-Living Climate Pollutant (LLCP), whose presence in the atmosphere lasts for centuries (Saunois et al., 2020). Among these, the main gas is carbon dioxide, which persists in the atmosphere potentially for over **1,000 years**. For these reasons, the current measurement model adopted by the IPCC (Intergovernmental Panel on Climate Change) – GWP_{100} – is subject to debate within the scientific community and is considered inadequate by some researchers (Allen et al., 2016). A prominent group of atmospheric physicists (Allen, Cain, and Shine) within the Oxford Martin Programme on Climate Pollutants has developed a new metric based on the different behaviours of gases in the atmosphere, called GWP* (GWP Star). Based on these criteria, if this measurement system were adopted as the standard method, the weight of methane among various GHGs would be significantly reduced.

Despite the ongoing and unresolved scientific debate about measurement methods, INALCA remains aware of this impact and prioritises taking actions to address it.

The following figure underlines the different behaviour of methane in the atmosphere compared to carbon dioxide.

Figure 5 - Behaviour of methane in the atmosphere compared to carbon dioxide



Bernardi E., Capri E., Pulina G. "Meats and cured meats: the new frontiers of sustainability", FrancoAngeli editore, 2023.

In the global context, methane comes **from natural sources for about 51%**, with the remaining **49%** due to various **anthropogenic activities**, mainly agriculture, fossil fuel extraction and use, and waste management. Agriculture accounts for **40%** (of which the **livestock sector** contributes for **31%**), fossil fuel production for **33%**, waste management for **18%**, and biomass combustion and biofuel production for **9%**.

The **31% of methane emissions from the livestock sector** consists of **26% from enteric fermentation and 5% from manure management** (Figure 6).

Figure 6 - Breakdown of methane emissions

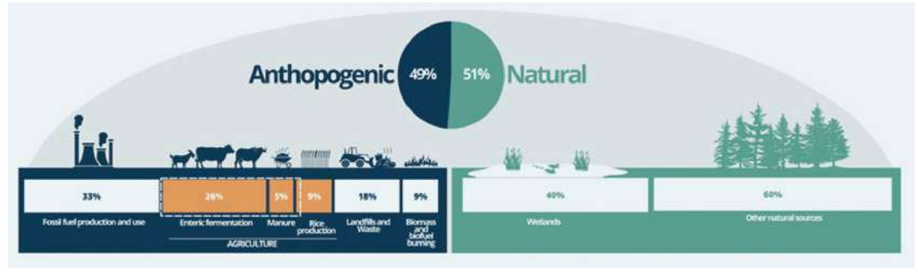


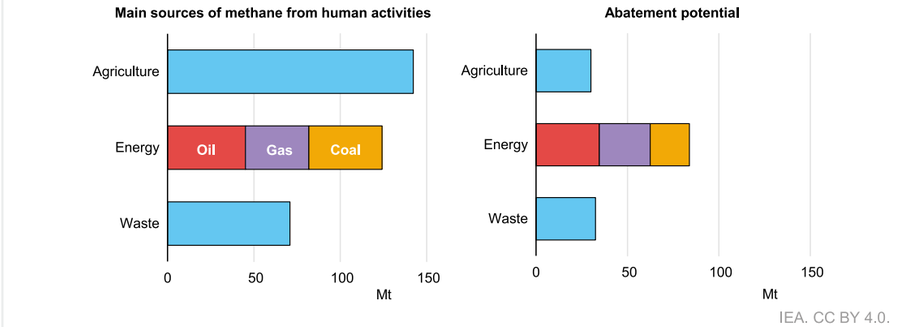
Image from the text "Pathways towards lower emissions" FAO, 2023.

The overall emissions from livestock systems vary significantly depending on the country and production systems. Globally, animal protein production emits a total of 6.2 Gigatons (Gt) of CO_2e, representing **12%** of all anthropogenic GHG emissions (50-52 Gt CO_2e). Of this, the share linked to cattle (milk and meat) protein accounts for **7.4%** (3.8 Gt of CO_2e).

Methane emissions from enteric fermentation and manure management are globally estimated at 122 Mt/year. Among the various animal protein-producing species, ruminants represent 89% of total emissions, with **cattle accounting for 69%**.

While fully aware of the significance of this impact within cattle farming, it is considered appropriate to note that **some sectors outside agriculture** offer **more extensive and effective mitigation pathways** in the short term, particularly those related to **fossil fuels and waste**. In other words, these production sectors are the ones where **highest expectations in terms of mitigation** actions are set. See the Figure below.

Figure 7 - Estimate of methane emissions and abatement potential

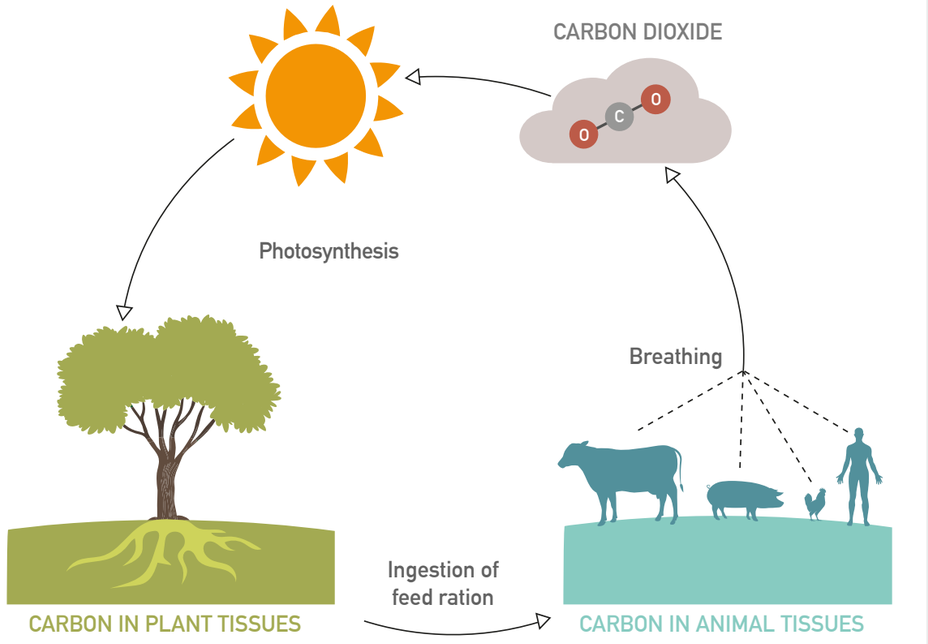


Notes: Methane emissions and abatement potential for oil, gas and coal is based on the IEA's Global Methane Tracker. Abatement potential for agriculture and waste it is based on the Global Methane Assessment. Emissions from bioenergy and from biomass burning, each totalling around 10 Mt per year, are not shown.

Source: "The imperative of cutting methane from fossil fuels". International Energy Agency, Sept. 2023 (www.iea.org).

Another consideration regarding the role of agriculture in the context of GHG impacts concerns **the biogenic nature of carbon from agricultural sources**. While in **fossil fuels, the carbon cycle is "open"** (i.e., from the combustion of coal, oil, and natural gas, carbon dioxide molecules are released and they will only return to the cycle after millions of years), in **the case of agricultural production, the cycle is "closed"** i.e., carbon recycles in the biosphere in biological rather than fossil times (Figure 8). This means that the growth of photosynthetic biomass, such as plants, algae, and cyanobacteria, absorbs some of the carbon dioxide emitted, including theoretically all biogenic carbon dioxide and part of the fossil carbon dioxide related to the production cycle. In contrast to biogenic carbon dioxide, whose cycle is completely closed and therefore climatically neutral, carbon from biogenic methane is also absorbed in the cycle, but in the time necessary for its degradation, considering its climate-altering power is 28 times greater than that of carbon dioxide.

Figure 8 - Biogenic carbon cycle



Bernardi E., Capri E., Pulina G. "Meats and cured meats: the new frontiers of sustainability", FrancoAngeli editore, 2023.

Finally, another specificity of the agricultural sector concerns **carbon sequestration** activity, to which agroforestry systems contribute significantly. Livestock farming is, in fact, an integral part of a broader cycle that, in addition to emitting carbon dioxide, is capable of absorbing it thanks to the sequestration activity carried out by plants and agricultural, forest and pasture soils.

In evaluating the significance of the impact of GHG gases in general and methane in particular, it is not correct to assimilate "tout court" the climate effect of these fossil gases to those of biogenic origin from agricultural and livestock activities.

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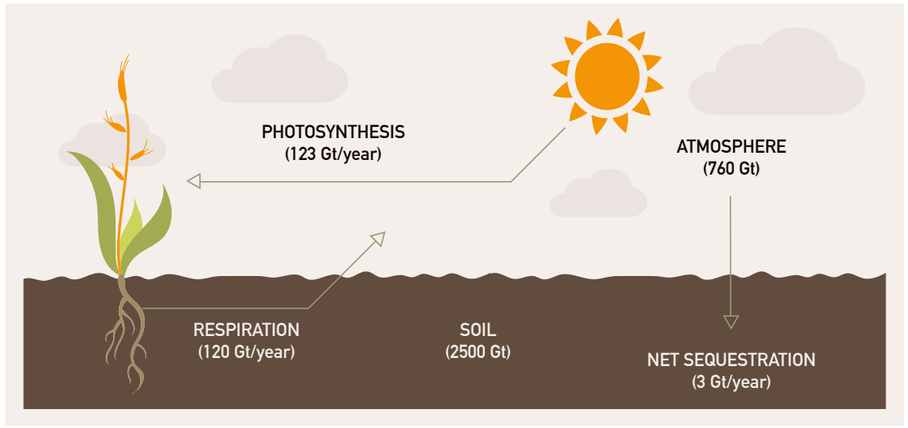
Figure 9 - Carbon sequestration in soil

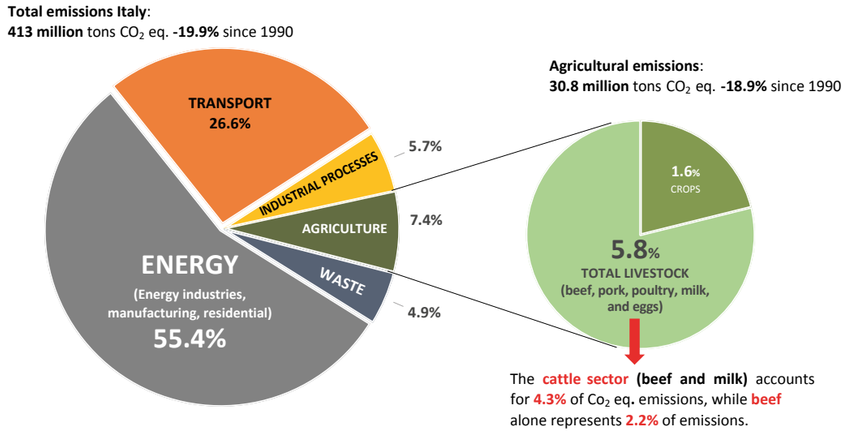


Bernardi E., Capri E., Pulina G. "Meats and cured meats: the new frontiers of sustainability", FrancoAngeli editore, 2023.

3.2 IMPACT ANALYSIS OF EMISSIONS WITHIN THE ITALIAN CONTEXT AND THE INCIDENCE OF INALCA'S SUPPLY CHAIN

As highlighted in Chapter 2, the impact deriving from farming within the INALCA supply chain is currently concentrated mainly in Italy. In the coming years, it is also planned to assess the emissions from farms located in Poland for comparison.
To better understand the Italian scenario of GHG emissions, the following figure outlines the contribution of various sectors to the total impact.
In Italy, over 80% of emissions come from energy production for industry, the residential sector, and transport. Agriculture accounts for **7.4%**, with 5.8% due to the entire livestock sector, within which **cattle farming** represents **4.3%** (2.2% from meat and 2.1% from milk).

Figure 10 - Breakdown of GHG emissions in Italy by sector of activity



Source: re-elaboration from Ispra Greenhouse Gas Inventory 1990-2022 National Inventory Report 2024.

GHG emissions data – Scope 3 level – are available in the INALCA Sustainability Report, the latest edition which refers to 2023 and published on the company's website.

The overall level of emissions from INALCA is summarised in Table 7.

Table 7 - Estimate of overall emissions from INALCA's supply chain and the fraction attributable to cattle farming

GHG EMISSIONS BY MEASUREMENT PERIMETER	SCOPE 1	SCOPE 2	SCOPE 3	TOTAL
TOTAL EMISSIONS VALUE (TON CO_2E)	170,877	74,199	3,407,767	3,652,843
PERCENTAGE VALUE	4.7%	2.0%	93.3%	100.0%
VALUE ATTRIBUTABLE TO CATTLE FARMS (TON CO_2E)	88,826	425	3,094,614	3,183,865
PERCENTAGE INCIDENCE OF DIRECTLY MANAGED FARMS (SCOPE 1 + SCOPE 2) RELATIVE TO THE TOTAL EMISSIONS VALUE				2.4%

From Table 7, it is clear that **the majority of emissions** (93.3%) **are due to the whole supply chain** (Scope 3), which includes **INALCA's external suppliers whose activities are not under the direct control of the company**. **Emissions from farms within the Scope 1 and 2 perimeter account for 2.4%** of the total GHG emissions.

At the same time, since INALCA's slaughtering activities do not exclusively involve animals under its direct control, the impact of the overall slaughtering activities is also put in the context of cattle farming sector. To this end, Table 8 is provided below, showing the total number of head slaughtered by INALCA in 2023, relative to the cattle population, quantified at national, EU, and global levels.

Table 8 - Estimate of the relative impact of GHG emissions generated in INALCA's supply chain

		WORLD	EUROPEAN UNION (EU-27)	ITALY
CATTLE AND BUFFALO POPULATION [1,1a]		1,785,205,144	74,224,310	5,856,526
% TOTAL EMISSIONS (CO_2E)	Livestock sector	12%[2]	7.2%[3]	5.8%[4]
	Cattle and buffalo sector	7.4%[2]		4.3%[4]
NUMBER OF SLAUGHTERED ANIMALS BY INALCA GROUP (2023)	Cattle and buffaloes	789,476 (Russian Federation + Poland + Italy)	743,398 (Poland + Italy)	686,567 (Italy)
IMPACT OF SLAUGHTERED ANIMALS BY INALCA ON THE CATTLE POPULATION	Cattle and buffaloes	0.04%	1.00%	11.7%
IMPACT OF EMISSIONS FROM SLAUGHTERED ANIMALS BY INALCA ON CATTLE POPULATION EMISSIONS	Cattle and buffaloes	Not significant	Not significant	0.5%

Sources:

1. *For the global and EU-27 cattle population: FAOSTAT – Cattle and Buffaloes (2023)*

1a. *For the cattle and buffalo population in Italy: BDN National Livestock Registry (2023)*

2. *FAO, 2023 "Pathways towards lower emissions – a global assessment of the greenhouse gas emissions and mitigation options from livestock agrifood systems".*

3. *European Commission, A farm to fork strategy for a fair, healthy and environmentally-friendly food system. COM (2020)381 final.*

4. *Ispra, Italian Greenhouse Gas Inventory 1990-2022, National Inventory Report 2024.*

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Based on these data, INALCA's percentage impact on the Italian cattle population is estimated at approximately **11.7%**. Considering that the cattle and buffalo sector accounts for about 4.3% of total emissions in Italy (in CO_2e), it can be concluded that INALCA's overall impact is approximately **0.5% of total national emissions**. When evaluating this impact in the context of the European Union and globally, its relative weight is **not significant**.

3.3 ESTIMATE OF METHANE EMISSIONS

Specifically, regarding methane, the following table provides an overview and comments on the methane emissions associated with INALCA's supply chain. In farms under direct management (Scope 1-2) of young bulls and heifers (Category 2), **INALCA recovers methane** from manure through biogas plants that generate renewable electricity, while simultaneously reducing the use of fossil fuels. Table 9 below estimates the amount of methane recovered by these processes.

Table 9 - Energy production from renewable sources in livestock farms directly managed by INALCA 2023

Agricultural anaerobic digestion plants

PLANT LOCATION	COMPANY NAME	PRODUCTION TECHNOLOGY	POWER MW	BIOGAS INTENDED FOR COGENERATION (Smc)[1]	PRODUCTION 2023 (MWh)	ENERGY SOURCE
SPILAMBERTO (MO)	SOC. AGR. CORTICELLA S.R.L.	ANAEROBIC DIGESTION	0.30	1,513,816	2,358	LIVESTOCK SEWAGE
ISOLA DELLA SCALA (VR)	AGRICOLA LA TORRE	ANAEROBIC DIGESTION	1.00	5,005,973	8,658	LIVESTOCK SEWAGE
ISOLA DELLA SCALA (VR)	CA' BIANCA 30%	ANAEROBIC DIGESTION	1.00		2,566	LIVESTOCK SEWAGE
ROSATE (MI)*	AGRICOLA MARCHESINA S.R.L.	ANAEROBIC DIGESTION	1.00	3,895,883	7,924	LIVESTOCK SEWAGE
Total biogas intended for cogeneration (Smc)				**10,415,672**		
% CH_4 on average contained in biogas				**50%**		
Total methane of renewable origin used for energy production (Smc)				**5,207,836**		

[1] *Standard cubic metre.*

**The data referring to the plant located at the AGRICOLA MARCHESINA S.r.l. are not reported in the 2023 Sustainability Report, as it is not included in the financial consolidation perimeter.*

In the cattle sector, biogas production is currently the leading **mature technology applicable on a large scale**, with proven effectiveness in reducing methane emissions on farms, in addition to the adoption of systems to contain and cover manure storage tanks.

In farms within the Scope 3 perimeter, INALCA promotes the adoption of this technology, taking into account factors such as:

- farm size;
- territorial context;
- level of management expertise;
- financial stability;
- the adoption of best agricultural practices that include manure management as outlined in INALCA's farm management manual, available on its website.

In the context of INALCA's overall emissions measured at Scope 3 level and reported below in Table 10, the share of methane linked to Italian cattle farms accounts for **3,200** tonnes CH_4 /year for directly managed farms (Scope 1-2) and **35,900** tonnes CH_4/year for the part concerning the supply chain (Scope 3), for an estimated total of **39,100** tonnes CH_4/year.

Table 10 - Methane emissions in the INALCA supply chain (SCOPE 1-2 and 3)

INALCA METHANE EMISSIONS	ENTERIC FERMENTATIONS	MANURE	TOTAL	TOTAL
AFFILIATED AND NON-AFFILIATED FARMS (S3)	21,600	14,300	35,900	ton CH4 biogenic/year
DIRECTLY MANAGED FARMS (S1, S2)	2,700	500	3,200	ton CH4 biogenic/year
TOTAL INALCA supply chain	**24,300**	**14,800**	**39,100**	**ton CH4 biogenic/year**

The Table 10, compared with the previous Table 9 which quantifies the methane obtained through the production of agricultural biogas used for the production of electricity, **allows for an estimate that the methane saved with these biogas plants is about 3,494 tons per year**, assuming an average methane yield of 50% in the biogas and a conversion factor from Sm^3 to kg of 0.671. This production offsets **8.9%** of the CO_2e derived from methane emissions in Scope 1-2 and 3 farms.

Furthermore, **INALCA's enteric methane emissions** have been compared with the average Italian emissions (excluding INALCA for a proper comparison), and this, including INALCA, was then compared with methane emissions from global, EU27, and U.S.A. beef cattle farming. For Italy, emission data was taken from INALCA's 2023 Sustainability Report, and meat production data from ISTAT, while global, EU, and U.S. methane emissions and production data were sourced from FAOSTAT. For methane allocation in dairy bovine supply chains, the 15% factor suggested by the FIL-IDF (International Dairy Federation) was used. The Enteric Methane Footprint (MFPe) was calculated as kilograms of methane emitted per kilogram of carcass weight.

From the comparison of the data, it is evident that Italy (with INALCA) and the USA have MFPe values of a similar order of magnitude. However, if INALCA is excluded from the calculation, the Italian value worsens significantly, aligning with the EU27 average. **INALCA's data, 112g of CH_4 per kg of carcass weight, is less than a quarter of the average Italian (without INALCA) and European value, and one-seventh of the global value**. This shows that INALCA not only has a contained impact on enteric methane but also significantly helps keeping Italy's methane emissions below the average. The following Table 11 summarizes the methane emission values.

These data illustrate **the efficiency of INALCA's supply chain in the national context**, which is the result of a targeted investment policy that began in the mid-1990s. Recent and future investments will be detailed in Chapter 5.

Table 11 - Comparison of Methane Emissions in Bovine Supply Chains

SUPPLY CHAIN	ENTERIC CH_4 (kt)	ALLOCATION*	ENTERIC CH4 MEAT (kt)	CARCASS WEIGHT (kt)	METHANE FOOTPRINT ($kgCH_4$/kgCV)
ITALY MILK	218	0.15	32.7		
ITALY MEAT	239	1	239		
Total Italy	457	(0.15+1)	271.7	747.2	0.364
INALCA (milk and meat)	**24.3**	**(0.15+1)**	**24.3**	**217.7**	**0.112**
Total Italy (without INALCA)	**432.7**	**(0.15+1)**	**247.4**	**529.5**	**0.467**
WORLD (milk and meat)	74,489	(0.15+1)	58,747	75,423	0.779
EU27	5,398	(0.15+1)	3,467	6,744	0.514
USA	5,583	(0.15+1)	4,563	12,889	0.354

**FIL-IDF 15% meat, 85% milk*

Source: elaboration on 2022 ISTAT and FAOSTAT data

On the enteric fermentation side, **the reduction of methane emissions is carried out through the pursuit of optimal production efficiency**, applied across INALCA's supply chain in its various segments—dairy cattle, beef cattle and white meat calf—based on available knowledge, experience, and technologies. Improving production efficiency is, in fact, the main lever for controlling emissions in the livestock sector, as stated in the FAO document *"Pathways towards lower emissions – a global assessment of the greenhouse gas emissions and mitigation options from livestock agrifood systems"*, as well as in the EU's related commentary document, where improving productivity and efficiency throughout the entire supply chain is considered "**the most promising way to reduce emissions, promote sustainability, and mitigate the environmental impacts of the livestock sector**" [(Pathways towards lower emissions - A global assessment of the greenhouse gas emissions and mitigation options from livestock agrifood systems | Knowledge for policy (europa.eu)] .

3.4 CONTROL AND MITIGATION ACTIVITIES FOR METHANE IMPACT

The analysis of the impact in the supply chain shows the level of efficiency achieved by INALCA. Based on this, further containment activities must necessarily be multifactorial, including the **adoption of mature, proven technologies**, the analysis and constant evaluation of emerging ones not yet fully tested, as well as organisational solutions aimed at the organic involvement of the agricultural sector. This involvement must, in turn, be based on influence factors that INALCA can, depending on the case, exercise either directly or indirectly, through collaboration with agricultural associations, research institutions, and operators from other cattle supply chains, particularly in the dairy sector, in a necessarily systemic approach to the issue.

The guidelines for controlling and mitigating this impact focus on three main points:

MANURE MANAGEMENT

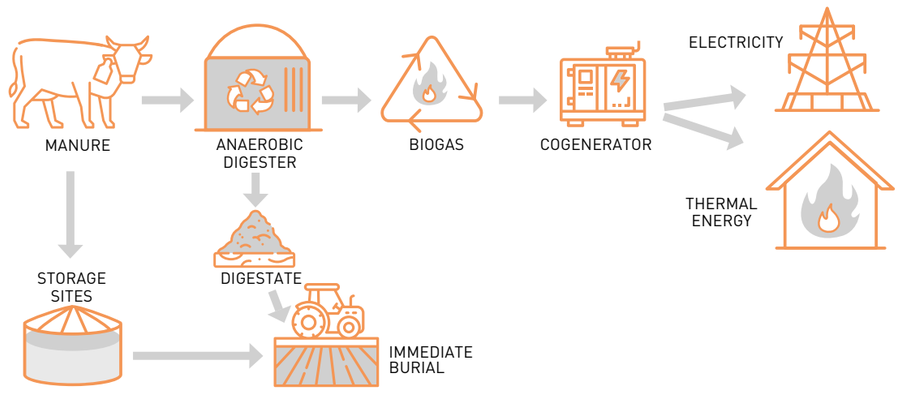
PRODUCTION EFFICIENCY

CONTROL OF ENTERIC FERMENTATIONS

MANURE MANAGEMENT

On the first point, INALCA has long adopted **anaerobic digestion technologies**, **manure storage site covering systems**, **and immediate burial of manure** during its agricultural use **to avoid the release of greenhouse gases (GHGs)** into the atmosphere in all major farms within the **Scope 1-2 perimeter**.

The anaerobic digestion of manure currently allows the recovery of carbon contained in the manure through biogas production and the related methane portion, which is used for energy production (**both electricity and thermal**). This process simultaneously reduces the use of fossil fuels.



MANURE MANAGEMENT: TECHNOLOGICAL UPGRADING

Within the activities planned over the next three years, **INALCA is evaluating the enhancement and upgrading of these plants to produce biomethane for self-consumption in its cogenerators**. This technological evolution is not limited to merely changing the energy vector **from biogas to biomethane**, which allows for greater efficiency, but also paves the way for further and more extensive forms of recovery, such as **carbon dioxide (to be reused as packaging gas instead of fossil-derived gas)** and ammonium phosphate (to be used as an advanced **fertiliser** in addition to the final product of anaerobic digestion, digestate). Other linked recovery processes enabled by this technology include **digestate pyrolysis** for the production of **Biochar**, **a soil amendment with important carbon-sequestering properties in agricultural soils**; an integrated and systemic approach to this technology that transforms it from a simple renewable energy production facility to a **bio-refinery**, able to provide a range of products and services essential for the application of **regenerative agriculture techniques**.

INALCA is evaluating the construction of a bio-factory between 2024 and 2026 at a Scope 1-2 farm, to be used as a model for its application in cattle fattening farms (Category 2 of INALCA's supply chain).

PRODUCTION EFFICIENCY

Relative to this aspect, INALCA is developing a **digital platform** for applying precision agriculture and livestock techniques that can improve production efficiency, resource use, and impact levels to be shared across all stages of the supply chain.

Another area of intervention is **the adoption of techniques to ensure animal welfare**, evaluated according to the Italian SQNBA (National Quality System for Animal Welfare) standard, developed by the MINSAL in collaboration with MASAF. This is a voluntary scheme that exceeds the current regulatory requirements, which INALCA intends to systematically adopt in its cattle farms. It enables optimal **monitoring of animal health, reduces mortality and morbidity rates on farms**, and systematically promotes best practices regarding veterinary drugs and vaccination prophylaxis. For the 2024–2026 period, INALCA also plans to acquire information regarding SQNBA recognition in the dairy cattle sector within its supply chain.

CONTROL OF ENTERIC FERMENTATIONS

About this point, INALCA's due diligence efforts for the 2024–2026 period focus on the technical-scientific evaluation of certain zootechnical **feed additives potentially capable of reducing enteric methane emissions**. Research will be conducted in an Italian fattening farm within the Scope 1-2 perimeter, using the following experimental products:

- Silvafeed© BX, a blend of tannins and saponins
- Anavrin©, a blend of essential oils, tannins, and bioflavonoids

INTRODUCTION SUPPLY CHAIN METHANE-RELATED CLIMATE IMPACT MITIGATION INVESTMENTS & RESEARCH

The table below summarises the activities implemented by INALCA to contain methane emissions, both already implemented and under development.

Table 12 - List of methane emission mitigation interventions adopted and evaluated by INALCA

INTERVENTION AREA	INTERVENTION OBJECTIVE	PURPOSE	EXPECTED IMPACT	APPLICATION LEVEL	
				SCOPE 1-2	SCOPE 3
		1 - Manure Management			
1.1	Anaerobic digestion plants and biogas-biomethane production	Producing CH_4 from the carbon content in the input substrate and prevent fugitive emissions both during aerobic storage (N_2O) and anaerobic (N_2O and CH_4) conditions of manure	+++	+++	+
1.2	Manure burial during spreading	Contain fugitive emissions during manure spreading	++	+++	++
1.3	Covering of manure storage sites	Contain fugitive emissions during manure storage	++	+++	++
1.4	Scheduled replacement of bedding	Contain fugitive emissions	++	+++	++
		2 - Livestock Feeding			
2.1	Use of ingredients from food waste recovery	Reduce the carbon footprint in the feed	+	+++	+
2.2	Use of enteric fermentation regulators	Improve digestive efficiency and reduce/inhibit enteric and ruminal methane production	+++	Under research	Not applied
		3 - Animal Welfare			
3.1	Adoption of extractor fans in the farm	Improve the microclimate and prevent respiratory diseases	++	+++	++
3.2	Adoption of vaccination plans	Reduce morbidity and mortality rates	++	+++	++
3.3	Application of sensors and AI techniques for early detection of cattle pathological states	Reduce morbidity and mortality rates	+++	Under study	Not applied
3.4	Application of the voluntary standard SQNBA		++	Under study	Not applied

Application Level: + = Low, ++ = Medium, +++ = High

4 DESCRIPTION OF INALCA'S ACTIVITIES ALONG THE IMPACT MITIGATION PATH

4.1 INTRODUCTION

The development of a correct corporate strategy for mitigating impacts cannot disregard the application of reliable and standardised emission measurement systems. To measure its impact, **INALCA has embarked on a path aimed at annually collecting the necessary data to estimate greenhouse gas (GHG) emissions and the related methane share**. These are calculated using the IPCC (Intergovernmental Panel on Climate Change) methodology and are all expressed in terms of tons of CO_2 equivalent, applying the Global Warming Potential (GWP) coefficients for each component considered over a 100-year horizon.

The result is expressed in three categories: **Scope 1**, which includes all direct emissions of the Group, such as those arising from fuel use for energy production, company vehicles, production processes, and emissions from cattle in company-owned farms. **Scope 2** refers to indirect emissions from the use of purchased electricity, which are not directly produced within the company's boundaries. Since 2021, INALCA has also introduced **Scope 3**, which includes emissions that, while linked to the company's core activity and business, are not directly controlled by the company but occur within INALCA's supply chain, both upstream and downstream.

SCOPE 1	SCOPE 2	SCOPE 3
DIRECT EMISSIONS FROM INALCA	INDIRECT EMISSIONS FROM INALCA	INDIRECT EMISSIONS NOT CONTROLLED BY INALCA

To calculate greenhouse gas emissions, INALCA uses:

- Data on activities collected annually through dedicated questionnaires from all companies within the Scope 1-2 perimeter, validated by a third-party organisation.
- Emission factors primarily referencing DEFRA[1] (*Conversion factors: full set, for advanced users*).
- Indirect data and sample measurements within the Scope 3 perimeter, validated by a third-party organisation.

The study on agricultural companies required further refinement of the calculation based on a dedicated guideline[2] released by the IPCC. The quantification of related GHG emissions was carried out with the support of the international **Ecoinvent** database and the **SimaPro software**.

At livestock level, the creation of an adequate Scope 3 indicator cannot disregard direct and specific measurement activities on the farms belonging to INALCA's supply chain carried out at each level of the chain. **INALCA is particularly focused on this activity in order to extend the perimeter for direct measurements, identify segments of the supply chain where impacts are concentrated, and consequently define targeted mitigation activities.**

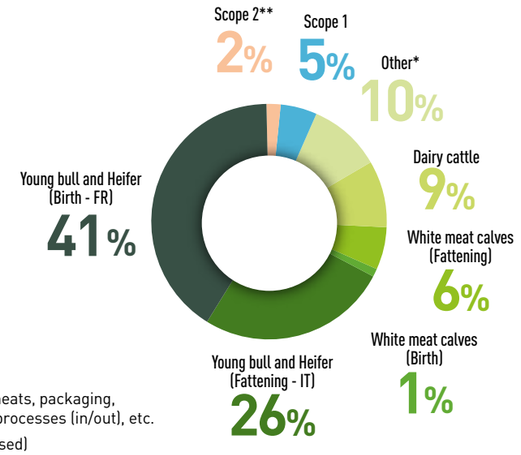
1 The UK Department for Environment, Food and Rural Affairs. As stated in the DEFRA document, "The GWPs used in the calculation of CO_2e are based on the IPCC's Fifth Assessment Report (AR5) over a 100-year period, ensuring that the conversion factors are consistent with current national and international reporting requirements."

2 Gavrilova et al., 2019. Emissions from livestock and manure management. Vol.4, Chapter 10 of the book *"2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories"*

INTRODUCTION SUPPLY CHAIN METHANE-RELATED CLIMATE IMPACT MITIGATION INVESTMENTS & RESEARCH

Figure 11 below shows the current breakdown of INALCA's impacts.

Figure 11 - Total GHG Emissions of INALCA (Scope 1-2-3)



*Other = Purchased meats, packaging, chemicals, transport processes (in/out), etc.

**Scope 2 (market-based)

It should be noted that emissions in the Scope 3 category are represented on the colour scale in green.

As mentioned, the calculation of greenhouse gas emissions from livestock required a dedicated study due to the complexity and size of the sample.

To this end, in 2023, an in-depth data collection and subsequent LCA analysis was carried out on a sample of 200 fattening farms of young bulls and heifers, followed by a twin study in 2024 concerning 71 farms of white meat calves, according to the following assumptions and guidelines.

Table 12 - LCA Analysis (2023-2024)

OBJECTIVES

1°

ACQUIRE PERFORMANCE VARIABILITY

2°

OBTAIN AVERAGE DATA FOR THE TWO CATEGORIES OF CATTLE, TO UPDATE THE BASELINE

DATA USED	SOURCE
FEED RATION (kg/head per day)	COMPANY DATA COLLECTION MANAGEMENT SYSTEM
MANURE MANAGEMENT	TECHNICAL SUPPORT FROM INALCA'S DEDICATED SUPPLY CHAIN OFFICE
ENERGY CONSUMPTION	

4.2 DAIRY CATTLE

CAT1

Using the same methodology described in the next paragraph for beef cattle, a dedicated emission factor for dairy cattle farms was calculated within the INALCA EPD® certification scheme. Currently, the emission factor is represented by the average of 11 farms sampled for the EPD® project of another company. The data were subsequently provided to INALCA for the renewal of their EPD®.

Although the system based on dairy products is homogeneous and the information collected so far is suitable for a high-level calculation, new field measurement activities and especially technical analyses of databases from industries and dairy consortia involved in similar projects are under study. Additionally, emerging national networks like INFRAGRI, LEO (Home - LEO Italy | Livestock Environment Opendata) and RURALL, are being examined to make them interoperable with INALCA's data.

4.3 ADULT BEEF CATTLE (YOUNG BULLS AND HEIFERS)

BIRTH AND WEANING PHASE (France)

CAT2

The birth and weaning phase of the cattle in question mainly takes place in France and is not under the direct control of INALCA. Therefore, it was not possible to carry out data collection and direct measurement activities. For the purpose of INALCA's GHG inventory, a dedicated emission factor was applied to calculate the impact of transportation from France to the Italian fattening farms. The current emission factor is based on the average of 5 farms sampled for the EPD® project of another company. The data were subsequently provided to INALCA during the EPD® renewal phase. Since the French farming approach is highly heterogeneous, the emission factor used may not be reliable. To address this, INALCA has planned a sampling and direct measurement activity for 2025 on French birth farms to obtain a clearer picture of the variability in farm management and related impacts, considering the significant incidence attributable to this segment of the supply chain.

An additional activity planned for the coming years involves measuring the equivalent Italian segment, both for the cow-calf pasture line and for weaned bovine.

FATTENING PHASE (Italy)

The impacts related to farms in the fattening phase were calculated using two different approaches:

1st APPROACH

Primary data collection was carried out for the farms consolidated in the Sustainability Report (4 farms in the 2021 Sustainability Report, 5 in the 2022 Sustainability Report, and 6 in the 2023 Sustainability Report).

2nd APPROACH

For cattle supplied by farms not consolidated in the Sustainability Report, a single emission factor was used to convert the mass (kg of live weight) into greenhouse gas emissions.

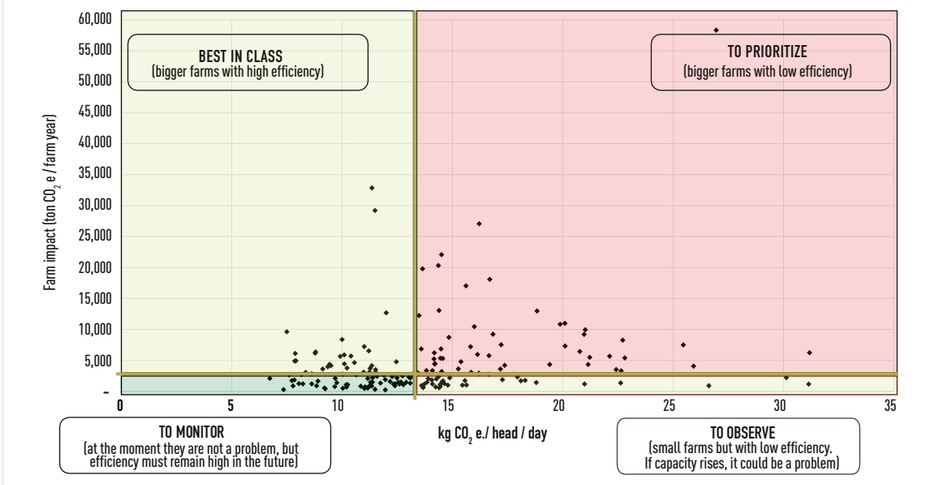
Regarding the second approach, the initial emission factors came from INALCA's EPD studies. During 2023, in addition to the usual GHG impact calculation process for the Sustainability Report, INALCA conducted an in-depth mapping of fattening farms aimed at direct measurement of the emission levels in order to identify possible trajectories for further reduction of GHG emissions at the Scope 3 level. The primary data used for this study were derived from annual on-site inspections conducted by INALCA technicians during farm visits.

A total of 200 beef cattle farms were sampled, belonging to all three levels - direct management (Scope 1-2), affiliated under agistment agreements, and non-affiliated (Scope 3) - as well as all size categories (small, medium, and large). The study allowed for the mapping of farm efficiency and the level of adoption of GHG mitigation practices.

INTRODUCTION SUPPLY CHAIN METHANE-RELATED CLIMATE IMPACT MITIGATION INVESTMENTS & RESEARCH

The scatter graph below provides an overview of the results from this mapping, where the total annual impact of each sampled farm (y-axis), expressed in tons of CO_2e, is correlated with the average kg of CO_2e emitted per cattle per day (x-axis). This data allows for the positioning of individual farms' efficiency levels and their relative weight within the INALCA supply chain.

Figure 12 - Young bulls and heifers – Farm analysis: daily efficiency vs. total annual impact of the farm



Source: DSS+ study (2023) on a sample of farms in the INALCA supply chain

The placement on the axes represents the **different levels of efficiency** and technical progress of farms in terms of **manure management**, **feed rations**, and **enteric fermentation produced**. This analysis serves as the starting point for identifying potential areas for improvement in terms of emissions/head/day.

In the top-left quadrant, we find the so-called "Best in Class" farms, which are particularly efficient in terms of emissions (average 10 kg/head/day), **usually large in size**. An example of such facilities is the farm of the LA TORRE S.r.l. Group in Scope 1-2.

Moving to the bottom-left quadrant, we find **farms labelled "To Monitor," which are small in size and highly efficient**. For this category, it is advisable to maintain constant monitoring in case the number of head increases, thus impacting the INALCA supply chain. The same approach **applies to farms in the bottom-right** quadrant, referred to as "To Observe," which also includes **small farms** whose efficiency can be improved. These are farms where increasing production capacity could lead to a worsening of performance in terms of overall supply chain impacts.

Finally, **in the top-right quadrant**, we find the "To Prioritize" farms; these are approximately 50 farms, with varying capacities, that show **low efficiency in terms of kgCO_2e/head/day**. This sample will receive particular attention in terms of possible interventions by INALCA to improve emissions impact.

4.4 WHITE MEAT CALVES

CAT3

As with young bulls and heifers, the impacts related to white meat calf farming were calculated using two different approaches:

1st APPROACH

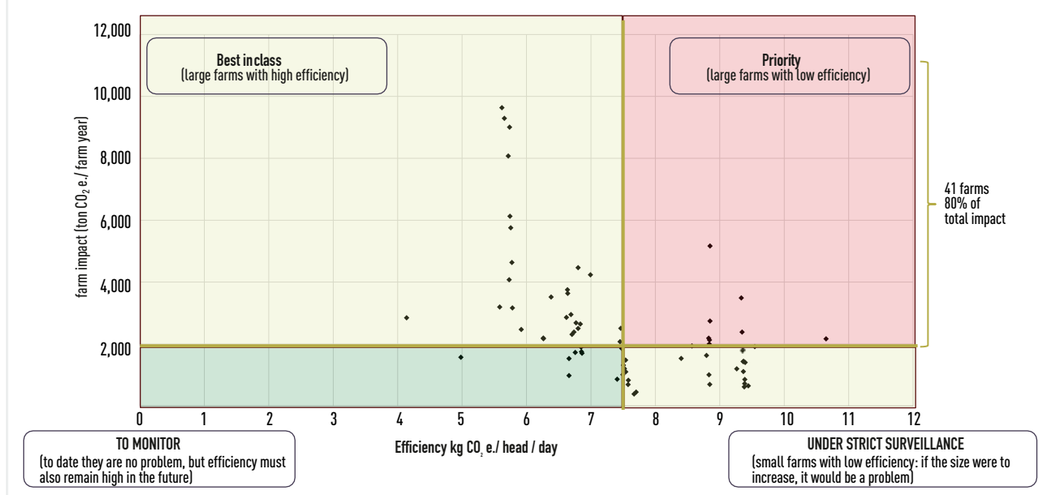
Collection and analysis of primary data for the farms consolidated in the Sustainability Report.

2nd APPROACH

Calculation of a single emission factor to apply to all animals supplied by farms not consolidated in the Sustainability Report.

Regarding the second approach, the initial emission factors were derived from INALCA's EPD® studies. In 2024, in addition to the usual GHG impact calculation process for the Sustainability Report, INALCA conducted an in-depth mapping of fattening farms for white meat calves, aimed at direct measurement of the emission level in order to identify possible trajectories for further reduction of GHG emissions at the Scope 3 level. The primary data used for this study were obtained from annual on-site inspections by INALCA technicians during farm visits. The impact of the first days of life was estimated using the Agri Footprint dataset for the production of milk typical of an Italian farm. The dataset was developed in collaboration with the European Dairy Association (EDA) and involved experts from national scientific institutes[3] who reviewed the data and improved the model's representativeness. The impact of slaughter was excluded from the analysis. **A total of 71 calf farms were sampled, belonging to all three levels**: direct management (Scope 1-2), affiliated under agistment agreements, and non-affiliated (Scope 3). Unlike young bulls and heifer farms, no distinction was made regarding size, as the farming methodology is highly standardised, with an average farm size of about 500 head. **The scatter graph below provides an overview of the results from this mapping, where the total annual impact of each sampled farm** (y-axis), expressed in tons of CO_2e, is correlated with the average kg of CO_2e emitted per head per day (x-axis). These data allow for the positioning of individual farms' efficiency levels and their relative weight within the INALCA supply chain.

Figure 13 - White meat calf - Farm analysis: daily efficiency vs. total annual impact of the farm



Source: DSS+ study (2024) on a sample of farms in the INALCA supply chain

In the **top-left quadrant**, we find the so-called "Best in Class" **farms**, which are **particularly efficient in terms of emissions** (average 6 kg/head/day), **usually large in size**. Larger farms are more efficient, mainly due to the feed ration used.

[3] Among the experts cited: Polytechnic of Milan and CREA Lodi (Livestock and Aquaculture Research Centre). The impact was attributed to milk production and live weight using the formula provided by the IDF and in the PEFCR guidelines for dairy products.

Unlike the young bull and heifer farms, the fattening ration for white meat calves consists of only a few ingredients. It is a complementary feed, straw (in rare cases), and one of the following two alternatives:

1st ALTERNATIVE

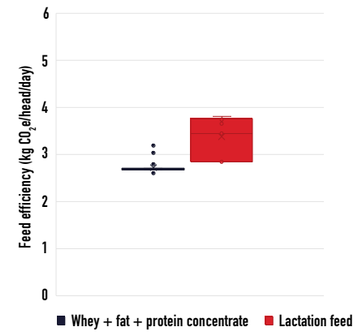
Liquid whey integrated with fat and protein concentrate.

2nd ALTERNATIVE

Lactation feed (powdered milk mixed with hot water).

The first alternative is usually adopted by larger farms (on average 1,500 head/cycle), while the second is used by smaller farms (500 head/cycle). The two alternatives appear quite different in terms of carbon footprint (see Figure 14). The two feed rations also have a different effect on the enteric fermentation process (which is higher when using nursing feed). However, both options have high digestibility and low fibre content, resulting in much lower emissions (see Figure 14) compared to those observed for young bull and heifer fattening (1-9 kg CO_2e/head/day).

Figure 14 - Feed Ratio: It is clear that the performance of the two feeding methods have different impacts



4.5 FINAL CONSIDERATIONS

From the data analysed, obtained through the studies described above, the following considerations can be drawn. The measurement and data collection process are progressive, aimed at increasing the sample size analysed and the level of direct measurement to produce a growing volume of primary data; a process that INALCA intends to continue during the 2025-2026 period.

As shown in Table 14, primary data collection offers the opportunity to engage stakeholders to raise awareness on the topic and identify potential improvement programs.

Table 14 - Current sampling level of primary data by segment of the INALCA supply chain

CATEGORY	COMPANIES SAMPLED	DATA COVERAGE	COMMENTS
DAIRY COW (CAT.1)	11	<5%	Primary data from another company and used for the EPD® project in 2020.
YOUNG BULL/HEIFER BIRTH STAGE(CAT.2)	7	<5%	Primary data from another company and used for the EPD® project in 2020.
YOUNG BULL/HEIFER - FATTENING (CAT.2)	200	100%	Primary data collected in 2023 for the supply chain study project
FATTENING CALVES (CAT.3)	71	45%	Primary data collected in 2024 for the supply chain study project

Starting from the fattening phase of young bulls and heifers, the analysis highlighted that 76 farms represented 80% of the impact. This allows for identifying best practices from the most efficient farms to share throughout the supply chain. In this case, 20 farms are responsible for 25% of the emissions related to manure management. However, managing and implementing efficiency options within farms presents several constraints, one of which is related to implementation costs. Working on feed rations leads to significant reductions only if implemented across a large number of farms. Considering that 96% of farmers produce a significant part of their feed, the most promising opportunities lie in agricultural practices aimed at improving carbon sequestration and nitrogen release.

As for white meat calf farms, unlike young bull and heifer farms, the analysis shows that farm management is highly standardised, including manure management. Therefore, significant improvements in white meat calves would require interventions across a large number of farms, with limited results within the overall INALCA supply chain.

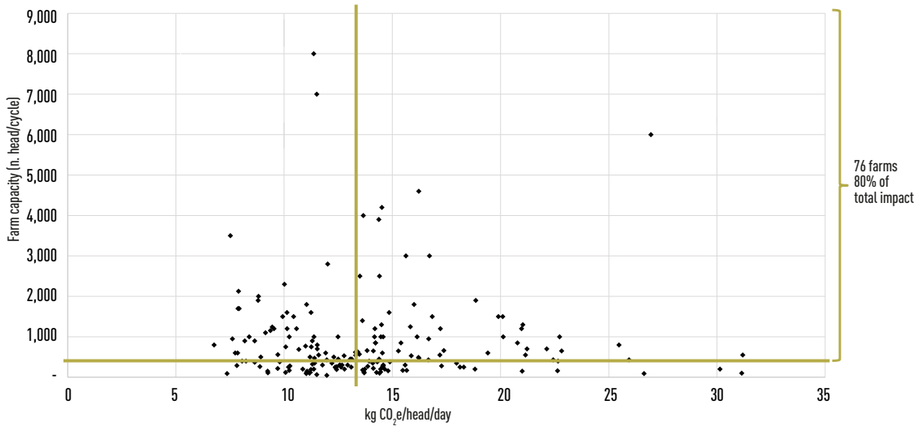
CAT2

FOCUS – YOUNG BULL AND HEIFER

Regarding the young bull and heifer category, the graph "Efficiency vs. Farm Size" below clearly shows that:

- The analysis indicated that **76 farms generate 80% of the emissions**. This allows for building priority scales and identifying best practices from the top-performing farms.
- About **20 farms are responsible for 25% of the emissions**, and manure management is a significant factor that will be further investigated.
- Working on feed rations leads to significant reductions only when done across a large number of farms. Considering that 96% of farmers produce a significant share of the feed, the most promising opportunities lie in agricultural practices aimed at improving carbon sequestration and nitrogen release.

Figure 15 - Efficiency vs farm size – young bull and heifer (fattening phase)



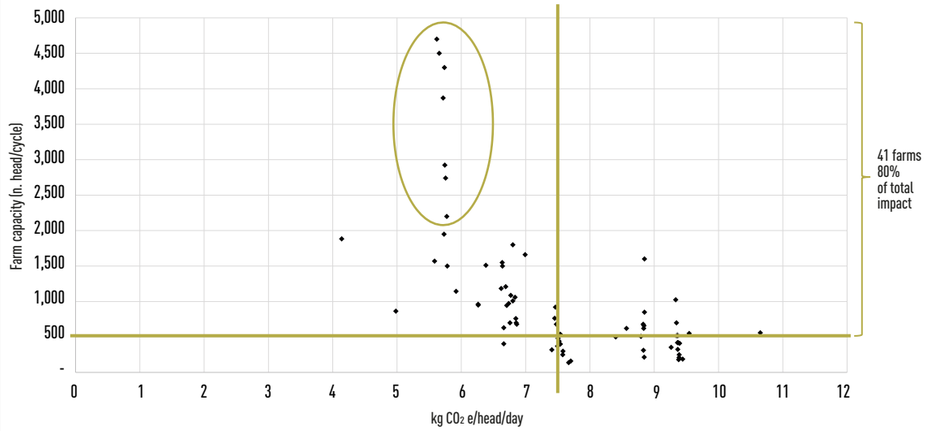
CAT3

FOCUS – WHITE MEAT CALVES

Regarding **white meat calf farms**, the graph "Efficiency vs. Farm Size" clearly shows the following:

- The analysis indicated that **41 farms generate 80% of the emissions**. This allows for constructing priority scales and identifying best practices from the most efficient farms.
- **The 7 largest farms (→2,000 head/cycle) account for nearly one-third of the total impact**, but are already among the most efficient (categorised as "Best in class"), making further improvement difficult.
- Few farms fall into the "priority" category (large farms with low efficiency). All have a capacity well below 2,000 head/cycle, making any improvements ineffective in reducing the overall impact of the white meat calf fattening supply chain.

Figure 16 - Farm efficiency vs. size – white meat calves



For the two remaining cattle categories (i.e., **dairy cattle** and the birth phase of **young bulls** and **heifers** in France and Italy), a thorough study **is needed to gain a clearer picture of farm management variability and its related environmental impacts**. Starting in 2025, INALCA will launch a specific analysis of the birth phase in France and Italy, with the aim of better understanding the impacts and performance of the above-mentioned farms.

Regarding Category 1 dairy cattle, it would be possible to make substantial improvements to the current level of measurement by involving dairy farms in data collection at their farms, with a particular focus on performance and environmental indicators aimed at an LCA analysis, to acquire sufficient knowledge of actual impacts and reduction trajectories. Since the primary goal of dairy cattle farming is diary production, effective guidance for farmers to adopt best practices for reducing greenhouse gases requires organic collaboration with this sector. This approach is considered the only viable one to identify feasible improvement actions and share the mitigation trajectory of impacts.

5 INVESTMENTS IN SUSTAINABILITY AND RESEARCH

The sustainable development activities described, identified, implemented, and planned are supported by a specific investment plan that combines direct financing and subsidised financial instruments.

The following tables 15 and 16 summarise the investments implemented and planned by INALCA.

Table 15 - Investments in sustainability in Italy and abroad (€)*

TYPE OF INTERVENTION	AREA	PERIOD 2019/2023	PERIOD 2024/2026	TOTAL
CONSTRUCTION / DEVELOPMENT OF BIOGAS PRODUCTION PLANTS - BIOMETHANE TRANSITION	ENERGY PRODUCTION FROM RENEWABLE SOURCES	13,074,946	20,000,000	33,074,946
CONSTRUCTION / EXPANSION OF PHOTOVOLTAIC PLANTS	ENERGY PRODUCTION FROM RENEWABLE SOURCES	2,455,070	10,000,000	12,455,070
CONSTRUCTION OF COGENERATION PLANTS	ENERGY EFFICIENCY	1,331,283	-	1,331,283
CONSTRUCTION OF TRIGENERATION PLANTS	ENERGY EFFICIENCY	4,116,516	2,468,896	6,585,412
CREATION OF BY-PRODUCT RECOVERY AND VALORISATION PLANTS	CIRCULAR ECONOMY PROCESSES / BY-PRODUCT RECOVERY	17,552,387	-	17,552,387
STUDY ON THE USE OF ADDITIVES IN LIVESTOCK TO REDUCE ENTERIC METHANE EMISSIONS	REDUCTION OF CARBON FOOTPRINT	-	100,000	100,000
CONSTRUCTION OF HYDROLYSIS PLANT	CIRCULAR ECONOMY PROCESSES / BY-PRODUCT RECOVERY	16,519,073	14,208,751	30,727,824
Total investments for sustainability (€)		**55,049,275**	**46,777,647**	**101,826,922**

Table 16 - INALCA investments for research and innovation (€)

RESEARCH AND INNOVATION CO-FINANCED PROJECTS ADOPTED BY INALCA	OBJECT	PERIOD 2019/2023	PERIOD 2024/2026	TOTAL
PNRR - V° "INALCA NORD" SUPPLY CHAIN NOTICE	INVESTMENTS IN ANIMAL WELFARE IN LIVESTOCK, PRECISION FARMING, DIGITISATION, RENEWABLE ENERGY, CIRCULAR ECONOMY	-	50,000,000	50,000,000
DEVELOPMENT CONTRACT	PRODUCTION EFFICIENCY IN THE CURED MEATS SECTOR	-	49,000,000	49,000,000
IV SUPPLY CHAIN NOTICE	CONSOLIDATION OF THE ITALIAN BEEF SUPPLY CHAIN ON ANIMAL WELFARE, DRUG MANAGEMENT, PRODUCTIVITY	10,800,000	-	10,800,000
PON - ONE HEALTH ON THEME OF FOOD SAFETY	INNOVATION IN FOOD PRODUCTS WITH REDUCED ADDITIVES	600,000	-	600,000
TAX CREDIT	INNOVATION IN INDUSTRIAL PRODUCTION PROCESSES	934,936	-	934,936
Total investments for research and innovation (€)		**12,334,936**	**99,000,000**	**111,334,936**

* The described investments are aggregated by each legal entity of the group, including the affiliated companies.

FINAL REMARKS

Based on this Due Diligence, the impact considered is **significant**, and therefore the company has adopted a comprehensive action plan for its mitigation.

This document serves as a starting point for further studies and measurements to be implemented in the coming years to obtain a complete analysis of GHG impacts from the bovine supply chain.

It also provides a technical reference for guiding the broader overall assessment of the relevance of impacts evaluated by INALCA and the assignment of their related priority levels. This activity will be launched starting in 2025 as part of the planned implementation of EU directives on corporate sustainability reporting (CSRD) and due diligence in the value chain (CSDDD).

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