

Certification schemes in France - Paying farmers for their carbon footprint reduction

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Summary

- The Carbon Agri method, which is based on the French Label Bas Carbone created by the Ministry for Ecological Transition, certifies low-carbon projects on beef, dairy and tillage farms.
- These low-carbon projects last five years. After an initial carbon audit on the farm, a mitigation action plan is generated by the farmer and advisor. The tons of CO₂-eq 'avoided' (i.e. reduced or removed) by the farmer is determined from a final carbon audit.
- France Carbon Agri, a company created by breeders' associations, makes the link between the farmers, advisory organisations, the Ministry and the funders of low-carbon projects.
- By the beginning of 2024, approximately 2500 low-carbon projects on farms will be certified by the Ministry, with an average of 550 tonnes of CO₂-eq avoided per farm.
- Companies that have funded Label Bas Carbone projects have various strategies, including reducing value chain emissions, and offsetting or contributing to the low-carbon transition.

Introduction

In 2015, the French Government published its national low-carbon strategy, a road map to achieve the national objectives in terms of emissions reduction. France aims to reach carbon neutrality by 2050, which means a fourfold reduction in the level of greenhouse gas (GHG) emissions of 1990. Within the context of this national strategy, the French Ministry for Ecological Transition developed a strategic plan to convert these goals into concrete actions. Among them is the "Label Bas Carbone", which was created in 2018. This certification framework is managed by the Ministry and its decentralised administration. Its goal is to certify low-carbon projects in France, across sectors, and to attract funding toward these projects. Through this framework, the French Government wishes to encourage all sectors to reduce GHG emissions, and/or to increase carbon sequestration, as in the case of forestry and agriculture. The first method (scheme) validated by the Ministry for Ecological Transition was the Carbon Agri method, which involves beef, dairy and 'cash-crop' farms.

How does the Label Bas Carbone work?

In the 2018 'decree', a Label Bas Carbone project is defined as a project with a limited lifetime that reduces emissions or stores carbon. The tons of CO₂-eq 'avoided' (i.e.

emission reduction or sequestration) is determined by comparing a situation where a low-carbon project is implemented with one where there is no change. The latter situation corresponds to a baseline scenario i.e. the position before the implementation of the project. The decree also explains the requirements of the Label Bas Carbone to ensure the quality of the projects. They must be additional, i.e. go beyond the regulation and would not have been implemented without the Label. Emissions of GHG and carbon sequestration must be monitored during the lifetime of the project, and at the end, verified by an external auditor. Additionally, other indicators must be followed to assess the impact of the project on socio-economic or other environmental aspects. Furthermore, the method proposals need to account for the risk of non-permanence. Even if it is probable that the low-carbon practices will remain after the end of the project, it is important not to ignore the possibility that they may be discontinued. For example, grassland could subsequently be ploughed for a motorway project.

All sectors can submit a method. Stakeholders and experts will study the submission before validating it. Once it is validated, new projects can be implemented. These projects get the Label Bas Carbone. Finally, the emissions reductions achieved are verified by an independent auditor, and then recognized by the Ministry.

To date, the following 13 sectorial methods have been approved by the Ministry: three in the forestry sector, two in the building sector, one in the transport sector, one in the marine environment and six in the agricultural sector. These six agricultural methods concern livestock farms, tillage farms, orchards, and hedgerows.

The Carbon Agri method

The farms that can use the Carbon Agri method to certify low-carbon projects are the beef, dairy and tillage farms. In this method, the overall farm is considered to assess the tons of CO₂-eq avoided, through Life Cycle Analysis, including the production and the transport of inputs to the farm. The analysis ends at the farm gate (i.e. activities beyond the farm gate, such as product processing, are excluded), and the functional unit used is the kg CO₂-eq per kg of product. This steps in this process are outlined in Figure 1.



Figure 1. The different steps of a Carbon Agri project

The baseline scenario is determined from an initial carbon audit of the farm, which is carried out by an advisor using methodology validated by the Ministry. Once the baseline

is determined, the farmer and the advisor build a mitigation action plan by choosing the most appropriate practices from a list of available options, based on the results of the initial carbon audit. These practices cover all aspects relating to the ‘technical’ working of the farm, including inputs, fuel and electricity consumption, crop management, fertiliser application, herd management, feed and manure management, in order to reduce GHG emissions, and land management to increase carbon sequestration. The project lifetime is five years. During this time, implementation of the mitigation practices on-farm is supervised by the advisor, with a mid-term visit to assess if the farmer is on-target and if he continues with the low-carbon project or not.

At the end of the project, a final carbon audit is carried out by the advisor to determine the amount of carbon avoided (i.e. reduction and removal of emissions). This calculation is expressed per production unit. A simplified version of the formula is as follows:

- GHG gains of the dairy production unit: Initial milk carbon footprint \times Initial milk production – Final milk carbon footprint \times Final milk production.
- GHG gains of the beef production unit: Initial beef carbon footprint \times Initial beef production – Final beef carbon footprint \times Final beef production.
- GHG gains of the cash crops production unit: Initial crops carbon footprint \times Initial crops area – Final crops carbon footprint \times Final crops area.
- Carbon sequestration gains: Initial carbon sequestration \times Initial area – Final carbon sequestration \times Final area

The complete formula also takes into account the year of implementation of the low-carbon practices. Indeed, the earlier a practice is put in place, the greater an impact it has to reduce GHG emissions. Furthermore, to meet the requirements of the Label Bas Carbone framework, other indicators are monitored in the Carbon Agri projects: biodiversity, ammonia emissions, water quality, renewable energy production, soya consumption, irrigation, surfaces with plant cover, and quantity of products sold through direct distribution.

Involving farmers in low-carbon strategies

Through several European, national and regional programs, French beef farmers have been involved in low-carbon projects. Most of the time, the recruitment and the follow-up of these farmers is carried out by local organisations such as regional Chambers of Agriculture, breeders’ associations, cooperatives and advisory companies.

The European LIFE Beef Carbon project and its adaptations into regional programs permitted the quantification of the meat carbon footprint in France, and the assessment of the best practices to reduce GHG emissions and increase carbon storage. To achieve this, the advisors use the CAP’2ER tool developed by the French livestock Institute in accordance with IPCC main guidelines. The assessment is on a farm-scale and takes into account GHG emissions coming from inputs, barn and feeding management, manure storage management, and crop management. It also evaluates carbon sequestration.

Case study of a French beef farm

The first steps of a low-carbon project on farm consist in assessing the initial situation of the farmer and building a carbon action plan. For instance, one of the farms certified with the Label Bas Carbone in 2021 had the following baseline:

- 95 suckler cows.
- 185 hectares (ha) including 20 ha of cash crops and 32 ha of permanent grasslands.
- Age at first-calving: 36 months.

- Stocking rate: 1.2 livestock unit/ha.
- 291 kg of 'live meat'/livestock unit.
- Initial carbon footprint: 14.1 kg CO₂-eq/kg 'live meat'.

The farmers and the advisor built a mitigation action plan aiming at increasing the area of catch crops from 12 to 27 ha, reducing the use of chemical fertilisers, improving animal nutrition and management to reduce the calving interval from 395 to 380 days, and producing renewable electricity with photovoltaic panels.

To evaluate the impact of this action plan, the advisor carried out a simulation in CAP'2ER. In this case, the farmer should achieve an emissions reduction from 14.1 to 12.1 kg CO₂-eq/kg 'live meat', and from 1242 to 564 kg CO₂-eq/ha of cash crops. Furthermore, the nitrogen (N) surplus should be reduced from 87 to 55 kg N/ha of utilised agricultural area (UAA). In terms of tonnes of CO₂-eq avoided, this project should avoid 608 tonnes of CO₂eq, including 30 tonnes due to carbon storage and 578 tonnes due to emissions reduction.

How to pay farmers? FCAA, an example of a national aggregator.

One of the main objectives of the Label Bas Carbone is to attract funding towards French low-carbon projects. To this end, the French breeders' associations decided to create France Carbon Agri (FCAA), a company whose role is to make the link between the farmers, the advisory organisations, the Ministry for Ecological Transition and the companies buying carbon credits (Figure 2). In this way, the decisions regarding the funding of low-carbon projects (e.g. setting the carbon credits price) remain in the farmers' hands, and are not managed by downstream companies.

Therefore, FCAA endorses several roles:

- Acting as a representative for the farmers. This means that it carries out the administrative process to propose farmers' files to the Ministry to get the labelling. Thus, FCAA plays a role of 'aggregator' on a national scale by working with the local stakeholders following the farmers. This role of aggregator is time-saving for farmers as they do not need to manage the submission of their projects to the Ministry. Moreover, it is cost-saving as the independent audit is collectively managed: instead of auditing each project (as it would be the case if farmers submitted independently their dossiers), the external auditor verifies a sample of farms.
- Managing the submission to the Ministry to get the Label Bas Carbone certification and the recognition of carbon credits. It also involves exchanges with members of the Ministry to tailor the method and the legal requirements to be more practical.
- Making the link with the external auditor to ensure the implementation of the emissions reductions verification.
- Proposing low-carbon projects to companies wishing to contribute to the low-carbon transition by funding the farmers. On FCAA's side, it involves providing a map to locate the farmers' projects, outlining the tons of CO₂-eq avoided and a description of the actions implemented and the co-benefits of the projects.

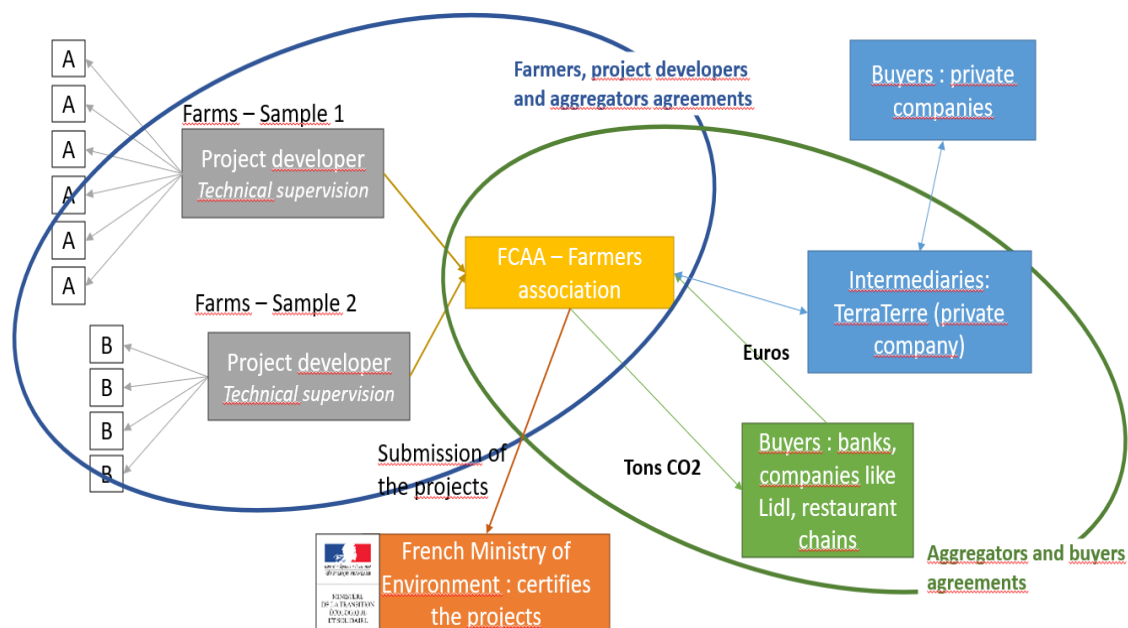


Figure 2. FCAA, an aggregator for collective low-carbon projects, making the link between farmers, buyers and the Ministry

To formalize these partnerships, FCAA draws up an initial contract with the farmers and the organisations ensuring the technical follow-up, and a second contract with the companies buying the tons of CO₂-eq avoided. These contracts specify the obligations of all parties, including the price of the carbon credit sold by FCAA. Today it is at €40/tonne of CO₂-eq including €32 for the farmer, €5 for the advisory company and €3 for the FCAA.

Three collective projects have been submitted to the Ministry, and a fourth one will be submitted at the beginning of December 2023. These four projects gather 2500 farmers, in all the regions of France, with an average carbon gain of 550 tonnes per farm for the five years of the projects; it represents a profit of €17,600 per farm. Between four and five practices are put in place, especially for land and herd management. FCAA also started working with farms specialised in crops.

Strategies of different companies: offset or contribution?

The Label Bas Carbone certifies emissions reductions. The purchase of these certificates by companies or public organisations is considered as the purchase of a service delivery, namely, the offsetting of the residual emissions of a company or its voluntary contribution to the climate change mitigation. For this reason, the Label Bas Carbone certificates are sold on the voluntary carbon market.

In order to avoid double-counting, once the certificates have been purchased by a company, they are not transferable to another one, and the identity of the funder is published on a register of the Ministry.

The companies buying these certificates are from a wide variety of sectors, including agri-food industries and restaurant chains, but also banks, luxury and energy companies etc., and have diverse low-carbon strategies. On the one hand, companies aim to reduce the GHG emissions on all of their value chain, including scope 1 (emissions directly caused by the activity of the company, and that can controlled by it), scope 2 (to simplify, emissions caused by the energy used by the company) and scope 3 (emissions related to the production and transports of inputs used by the company, and also the use of the

company's products by the customers). For example, Lidl France chose to pay its beef suppliers to implement low-carbon projects on their farms. To do so, Lidl decided to fund Label Bas Carbone projects. On the other hand, other companies buy these Label Bas Carbone certificates to voluntarily offset their residual emissions or to communicate their involvement in a low-carbon transition.

Nevertheless, even if these Label Bas Carbone certificates are used on the voluntary carbon market, the distinction between voluntary and mandatory markets starts to become unclear as evident from two recent laws approved by the French parliament. The first law stipulates that airlines will have to offset all the emissions generated by local flights from 2024; the second law targets emissions from coal-fired power plants. Indeed, with the current energy crisis, the French government authorized some of these plants to extend their functioning for the winter, but on the condition of offsetting all their emissions. The price defined by the government for this offsetting is of €50 per tons of CO₂-eq, and it is mandatory to fund French low-carbon projects.

Certification schemes in Europe - Proposal of the European Commission and LIFE Carbon Farming project

In 2022, the European Commission published its proposal for a Union certification framework for carbon removals. Like the Label Bas Carbone, this framework would work with a panel of experts verifying the methods submitted and verification by an external auditor. Furthermore, it would take into account general indicators of sustainability, not only those related to GHG, and it would deal with the issues of additionality and long-term storage. However, contrary to the Label Bas Carbone, this framework would only certify carbon sequestration and not emissions reductions.

At the same time, several European projects have commenced with the objective of implementing low-carbon projects in farms on a large-scale. Among them, is the LIFE Carbon Farming project coordinated by Idele, which lasts from 2021 to 2027. It involves six countries: France, Belgium, Germany, Spain, Italy and Ireland, with Teagasc. The goals are to reduce the carbon footprint of farms and to reward farmers for the tons of CO₂ avoided. A result-based rewarding mechanism is being built to have a common framework between the six countries of the project.

As low-carbon projects already exist in France, this pilot project will enable the building of a common European methodology to assess carbon gains, and to give field feedback to the European Commission.

Conclusion

Funding the transition towards a low-carbon agriculture is an integral part of the European strategy to become the first neutral continent by 2050. The Label Bas Carbone created by the French Ministry for Ecological Transition is one of the ways to earmark funds towards low-carbon projects in France. It also ensures the quality of these projects by verifying the emissions reductions and monitoring other environmental indicators. Today, 1250 farms have got the Label Bas Carbone through the Carbon Agri method implemented on beef, dairy and crops farms. On a larger scale, the European Commission decided to create a certification framework too. However, this framework will only concern carbon removals and not emissions reductions. This also raises the question of the existing standards: how will they be integrated to this European framework? Furthermore, alongside the increase of low-carbon projects, rules must be clarified regarding funding opportunities, and how they are considered between offsetting, contribution or emissions reduction.

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