



LIFE Carbon Dairy - Plan carbone de la production laitière française

LIFE12 ENV/FR/000799

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#### Project description:

##### Background

Dairy production has opposing effects on climate change. It generates greenhouse gas (GHG) emissions, but can regulate climate through carbon storage in soils. Hence, cattle rearing management techniques can strongly impact on the sustainability of this activity. Nevertheless, studies reveal that knowledge gaps exist amongst French dairy farmers about the use of different agricultural practices on GHG emissions, and the availability of new innovative practices that reduces carbon footprints. Work is thus needed to increase awareness amongst French dairy sector stakeholders about their role in contributing to the EU's climate action agenda.

##### Objectives

The main objective of the LIFE Carbon Dairy project was to promote a milk production approach that is capable of reducing GHG emissions by 20% over 10 years. To achieve this goal, the partners aimed to: provide livestock farmers with tools to understand the issue so they can modify their technical choices to reduce GHG emissions and preserve carbon stored in soils; promote innovative livestock farming systems and associated practices; launch a national campaign to demonstrate to livestock farmers and agricultural advisers the feasibility of a 'climate roadmap' for milk production; and develop this 'roadmap' for milk production with carbon action plans adapted to each production system and a relevant partnership strategy implemented at the national level. The project aimed to conduct these actions in six representative dairy regions of France, with the involvement of 3 900 farms to enable a large-scale assessment of carbon impact.

## Results

LIFE Carbon Dairy successfully achieved its objectives. The project team developed a tool called CAP2ER for calculating carbon emissions on dairy farms (per litre of milk). This is both an awareness-raising tool and a decision-making tool that provides action levers to reduce greenhouse gas (GHG) emissions from dairy production at the farm level.

At the start of the project, beneficiaries carried out an assessment of the carbon emissions on more than 3 900 dairy farms across six targeted regions in France. Individual results were presented by farm advisors to the farmers and levers of action were discussed. The beneficiaries also conducted a comprehensive analysis of all the data collected, by farming system and by region. A second assessment was conducted at the end of the project on 3 720 farms, and the results were compared with the first assessment for 2 314 farms. The analysis showed that between the two assessments a significant reduction in GHG emissions was achieved, amounting to about 127 000 t of CO<sub>2</sub> eq. saved (close to the objective of 139 671 t of CO<sub>2</sub> eq.). A more in-depth analysis was done for 58 selected "innovative" farms where ad hoc action plans had been defined.

The project team established a climate roadmap for the dairy sector, to which all relevant stakeholders signed up (interbranch organisation, national representatives of agricultural chambers, national federation of farm advisory companies, and the technical institute for livestock farming IDELE). The objective set in the roadmap was the same as the overarching project objective, i.e. reducing the carbon footprint of the dairy sector by 20% by 2025. The climate roadmap includes a set of 12 carbon plans, for different types of farming systems, and useful guidelines for farm advisors and farmers to develop farm-level carbon plans.

It was the first time that the carbon footprint of dairy production was assessed at such a large scale, using a single methodology. As a result of its scope, the project has a high demonstration value. For this reason, and thanks to intense communication and dissemination activities, the project approach/methodology started to be replicated at the national level only two years after the project started. The project experience/results have been transferred to the beef sector, within the LIFE Beef carbon project, and the coordinating beneficiary also plans to transfer the approach to the sheep sector.

The CAP2ER calculation methodology was certified by the organic certification organisation Ecocert in 2017, and a business plan was established to ensure future maintenance and updating of the tool. The project experience was also used in the definition of standards for a credit carbon scheme in cattle farming, an initiative developed by the Ministry of ecology. Carbon credit mechanisms offer incentives to move towards in-depth changes in livestock farming systems. The reduced carbon emission of 2 314 farms within the short time span of the project may be partly attributed to the recommendations made by farm advisors when they presented the first assessment results. It may also be due to circumstantial or contextual factors (e.g. good climate conditions favouring grass yields and milk productivity). However, the real success of the project was that it significantly contributed to the development of low-carbon livestock farming, making it a topical issue both for economic operators (in particular, interbranch organisations) and policymakers. The project is relevant to achieving the targets

of the European Commissions Roadmap for moving to a competitive low-carbon economy in 2050 (COM(2011)112), particularly a 20% reduction in GHG emissions from the agricultural sector by 2025.

The socio-economic situation of dairy farmers is difficult, due to low profitability. Project results showed a positive correlation between environmental and economic performance. The impact of the project was assessed by comparing the results of the top ten farms having the lowest carbon emissions, with the results of all the other farms on a range of criteria. The results suggest that by seeking to reduce carbon emissions, the project contributed to the sustainability of dairy farms by improving their efficiency and productivity, and reducing their global environmental impacts. Carbon plans established for each farming system are expected to have similar impacts.

Further information on the project can be found in the project's layman report and After-LIFE Communication Plan (see "Read more" section).

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Environmental issues addressed:

Themes

Industry-Production - Food and Beverages  
Climate change Mitigation - GHG reduction in non EU ETS sectors

Keywords

emission reduction, food production, greenhouse gas

Target EU Legislation

- Climate Change & Energy efficiency
- COM(2011)112 - "A Roadmap for moving to a competitive low carbon economy in 2050" (08.03.2011)

Natura 2000 sites

Not applicable

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Beneficiaries:

Coordinator	Institut de l'Elevage
Type of organisation	Research institution
Description	L'Institut de l'Elevage (French Livestock Institute) is an institute for applied research and development, recognised by the French Ministry of Agriculture, dedicated to livestock rearing of herbivores.
Partners	BCEL Ouest, France Chambre d'agriculture de Région du Nord-Pas de Calais, France CLASEL, France CNIEL, France Chambre d'Agriculture de Loire Atlantique, France Chambre Régionale d'Agriculture de Bretagne, France Chambre Régionale d'Agriculture de Normandie, France France Conseil Elevage, France Littoral Normand Conseil Elevage, France OPTIVAL, France Chambre d'Agriculture de la Sarthe France Chambre d'Agriculture de la Meuse France Coopérative éleveurs des Savoies France Chambre d'agriculture de la Mayenne France Ardèche Conseil élevage France Comité Isérois élevage France Chambre d'Agriculture du Maine et Loire France Chambre d'Agriculture de Vendée France Chambre d'Agriculture des Vosges France Chambre Régionale d'agriculture des Pays de la Loire France Chambre d'Agriculture de Meurthe et Moselle France Loire Conseil élevage France

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#### Administrative data:

Project reference	LIFE12 ENV/FR/000799
Duration	01-JUL-2013 to 30-JUN -2018
Total budget	2,383,037.00 €
EU contribution	1,191,515.00 €
Project location	Île,de,France(France) Champagne-Ardenne(France) Picardie(France) Haute-Normandie(France) Centre(France) Basse-Normandie(France) Bourgogne(France) Nord-Pas-De-Calais(France) Lorraine(France) Alsace(France) Franche-Comté(France) Pays de la Loire(France) Bretagne(France) Poitou-Charentes(France) Aquitaine(France) Midi-Pyrénées(France) Limousin(France) Rhône-Alpes(France) Auvergne(France) Languedoc-Roussillon(France) Provence-Alpes-Côte d'Azur(France) Corse(France) Guadeloupe(France)

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Read more:

- Leaflet Title: "Plan carbone de la production laitière française" (272 KB) Author: Jean-Baptiste DOLLE, Catherine BROCAS Editor: Institut de l'élevage No of pages: 2
- Leaflet Title: "LIFE Carbon Dairy : Plan Carbon de la production laitière : Une feuille de route climatique pour réduire l'empreinte carbone de la production laitière de 20 % d'ici 10 ans" (2.30 MB) Author: Jean-Baptiste DOLLE, Catherine BROCAS Year: 2015 Editor: Institut de l'élevage No of pages: 2
- Leaflet Title: "LIFE Carbon dairy : a french strategy to reduce milk carbon footprint : A road map to reduce GHG emissions from dairy herd and milk carbon footprint by 20% over ten years" (2.28 MB) Author: Jean-Baptiste DOLLE, Catherine BROCAS Year: 2015 Editor: Institut de l'élevage No of pages: 2
- Project web site [Project's website](#)
- Publication: After-LIFE Communication Plan Title: After-LIFE Communication Plan Year: 2019 Editor: LIFE Carbon Dairy No of pages: 0
- Publication: Layman report Title: Layman report (French version) Editor: LIFE Carbon Dairy No of pages: 12
- Publication: Layman report Title: Layman report Editor: LIFE Carbon Dairy No of pages: 12
- Publication: Technical report Title: Project's Final technical report (French version, with abstract in English) Year: 2019 Editor: Institut de l'Elevage No of pages: 78
- Slides Presentation Title: "The French environmental action plan on 4.000 dairy farms" (1.21 MB) Author: Jean-Baptiste DOLLE, Catherine BROCAS, Sophie BERT Year: 2015 Editor: IDF World Dairy Summit (Vilnius, 23th September 20 No of pages: 16

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