Introduction: Objectives of the workshop (INRAE)

Suzanne Reynders - INRAE
Context of the webinar: the EIT Climate-KIC Carbon Farming project

The EIT Climate-KIC “Carbon Farming” project

Supported by:

Partners:
Context of the workshop: the EIT Climate-KIC Carbon Farming project

The **SCARF (Soil CARbon Farming)** network is developed within the EIT Climate-KIC “**Carbon Farming**” project
The challenge of emissions reduction

Global GHG emissions in 2018: 55.3 billion tons of CO2 (Gt CO2 eq)
EU territory (27 Member States) emissions in 2018: 3.5 Gt CO2 eq of GHGs, a 23% decrease compared to 1990

The additional effects of planned measures reported by Member States illustrates the need to do even more!

Carbone storage is part of the solution

Source: European Environment Agency (EEA), European Commission
The voluntary carbon market:

- A new market
- A transition to be supported by the agricultural world
- An opportunity to remunerate farmers fairly

Criteria for domestic and international carbon certification:

- Be additional
- Measure and verify the amount of CO2 avoided/stored
- Guarantee the uniqueness of the carbon credits
- Be transparent and allow verification of sequestered / avoided CO2e emissions.
The value of voluntary carbon in Europe

The price of carbon credits depend on:

1. The types of practices implemented
2. The area
3. Buyers' preferences
4. Type of transaction

13€/tCO₂e in Europe
(price between 6€/tCO₂e and 110€/tCO₂e)

VS

6€/tCO₂e on international markets
(prices range from 0.4 €/tCO₂e to 72€/tCO₂e)

Agenda

1. Business models for the implementation of carbon storage (INRAE – Mathieu Noguès) – 10 minutes
2. The contribution of public funding (French Ministry of Agriculture and Food – Anaïs Valance) – 10 minutes
3. Livelihoods (Jean-Pierre Rennaud) – 10 minutes

First question session – 10 minutes

4. France Carbon Agri Association (Jean-Baptiste Dollé) – 10 minutes
5. Nataïs (Michael Ehmann) – 10 minutes
6. Mac Donald’s (Sandie Boudet) – 10 minutes

Second question session – 10 minutes

Conclusion (INRAE) – 5 minutes
Business models for the deployment of carbon storage approaches

Mathieu Noguès - INRAE
Presentation of the study

ADEME study: Territorial demonstrators of carbon storage in soils

Deliverable 2: Framework of possible business models for the implementation of a carbon demonstrator: https://hal.inrae.fr/hal-03230793

Business models for the deployment of carbon storage approaches
02/06/2021
Aggregation of carbon credits by a third party

1. **Farmers**
2. **Buyers**
3. **Food processing company**
4. **Retailer**
5. **Consumers**

- **Aggregator**

- **Measuring, reporting and verification (MRV) of soil carbon / GHG balance**
- **Aggregation of carbon credits**
- **Remuneration of farmers**
- **Sale of carbon credits (€/t CO2e)**

INRAe
Business models for the deployment of carbon storage approaches
02/06/2021
For example: France Carbon Agri Association

First agricultural methodology certified by the Ministry of Ecological Transition and Solidarity

- Two calls for projects
- Label Bas Carbone
- Support for emissions measurement
- Provides financial rewards to farmers
- Carries out the contractualisation
- Looks for funders
Aggregation of carbon credits by a Plateform

- Farmers
- Buyers
- Food processing company
- Retailer
- Consumers

Remuneration of farmers

Measuring, reporting and verification (MRV) of soil carbon / GHG balance

Aggregation of carbon credits

Sale of carbon credits (€/t CO2e)
For example: Soil Capital

A growing European plateform:

- Launched in 2020
- Method: Standard ISO 14064
- Carbon verification: Cool Farm Tool
- Carbon certificates: 27.5 euros/t of CO$_2$e
- 175 farmers joined the program
The financing of carbon storage by an agri-food company in its value chain

Business models for the deployment of carbon storage approaches
02/06/2021
Citizen financing of carbon storage projects (the Ecotree case)

- Estimating the carbon stored in wood
- Ecotree
- Sustainable forest management
- Timber sales
- Remuneration of tree owners

Business models for the deployment of carbon storage approaches
02/06/2021
Recommandations to support the success of the Carbon Demonstrator in agricultural soils

1. To support investment in equipment and goods
2. To make these projects benefit from the complementarity of voluntary carbon markets with public subsidies
3. To analyze the economic added value of labels
4. To share the risks
5. To use scientifically validated methods
6. To strongly encourage the continuation of stocking practices
Thank you for your attention!

Contact:
Mathieu Nogues - INRAE
mathieu.nogues@inrae.fr
The contribution of public funding

SDPE / DGPE
French Ministry of Agriculture and Food
anais.valance@agriculture.gouv.fr
Private investors (in agricultural supply chains and outside) show a great interest in the « Label bas carbone » and the label is primarily designed for their use.

Public funding is used, in particular at the launching phase, to:

i. Encourage the development of new « Label Bas Carbone » methodologies (to cover all the agricultural products), in addition to private funding

ii. Support the first steps of farmers who wants to join in the « Label Bas Carbone »
   - By financing the initial farm assessment through the French recovery Plan, as a first step to join in a project based on the Label

iii. Formulate a strategy for the development of such tools in the agricultural sector

But overall, the role of the public sector is mostly to create the regulatory framework:

- For the label bas carbone itself : as already explained
- To ensure the coherence with the Common agricultural policy
- To increase climate ambition : cf new obligation for compensation (climate law under discussion)
1. Encouraging the development of new methodologies (to cover all the agricultural products), in addition to private funding

List of methodologies (available and under development):

<table>
<thead>
<tr>
<th>Validated</th>
<th>In the process of validation</th>
<th>Under development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Agri – Livestock farming (CAP’2ER)</td>
<td>Agroforestry (hedges)</td>
<td>Sheep – Goat breeding</td>
</tr>
<tr>
<td></td>
<td>Crop</td>
<td>Agroforestry (alley cropping)</td>
</tr>
<tr>
<td>Orchard plantation</td>
<td>SOBAC’ECO-TMM – input’s reduction</td>
<td>Methanisation</td>
</tr>
<tr>
<td></td>
<td>Ecomethan</td>
<td>Pig breeding</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Viticulture</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pulses plants</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Perfume plants</td>
</tr>
</tbody>
</table>

→ Development of methodologies mainly driven by the private sector but public funding can be useful
2. The « **Carbon Assessment Scheme** », part of the French recovery Plan

The **recovery plan** annonced by the French government on the 3 September 2020 **include an important part dedicated to agricultural, food and forestry transition**, as **1.2 billion of € are dedicated to this support**. In addition, cross-sectorial actions of the recovery plan will also provide incentives for forest, food and agricultural actors.

**1.2 billion €**

*Dedicated to farming, farmers and consumers*
Budget repartition (1.2 billion €) dedicated to the agricultural sector in the recovery Plan

- Accelerate the agroecological transition to provide healthy, safety, sustainable, local and quality food for everyone
- National Strategy on vegetable protein
- Stock farming: updating, health security, animal welfare
- Renewal of agricultural equipment to engage farmers in agroecology and adapt their farms to climate change
- Adapt forests to climate change to better mitigate
Presentation of Carbon Assessment Scheme

- A budget of 10M€
- Objective: to encourage young farmers to reduce their GHG emissions and develop carbon storage, taking into account climate adaptation and the farm business plan
- Financing rate of 90% ~ cost for the farmer of around 200-250 €

Target: ~ 4 500 « Carbon Assessment Scheme » in 2 years (2021-2022)
Representing 7% of national young farmer’s population

→ Recovery plan funding: public support to make a first step toward Agrecology and to increase the development of private carbon compensation funding, based on the « Label Bas Carbone ». 
Content of Carbon Assessment Scheme

- A diagnosis to assess GHG reduction and carbon storage potential
- An optional detailed assessment on « soils »: include soil analyses & agro-pedological advice

- An action plan describing levers for improvement over a 15 years period, funding available for the implementation and monitoring indicators.
  - Possible use of the validated methods of the Label bas-carbone
  - Analysis of vulnerability and adaptation to climate change
  - Technical and economic analyses of suggested options/levers, in connexion with the farm business plan

- A tailor-made support over time to facilitate farmer’s implementation of their action plans (+ 6 months)
Implementation of the *Carbon Assessment Scheme* measure

- **Call for Projects** launched to identify service providers, who will carry out farm assessment.
- Ended on the **29th January 2021**
- **Selection of 38 service providers** in charge of delivering ~ **4 500 « Carbon Assessment Scheme » over 2021-2022**

**Covered sectors**: arable crops, mixed production systems (crop/livestock), livestock breeding (mainly ruminants, pigs).

**Other supply chains**: viticulture, fruits and vegetables, *etc*.

→ **A real diversity of service providers**: advisory structures, cooperatives and others operators
→ **They are beginning now and until the end of 2022**
To go further on the French Recovery Plan …


https://agriculture.gouv.fr/france-relance-diagnostic-carbone-vers-la-decarbonation-des-exploitations-agricoles-
3. Formulation of a strategy for the development of such schemes in the agricultural sector

The Ministry of agriculture has just launched of a study to carry out an inventory of the existing schemes to promote climate change mitigation efforts in agriculture and to draw up the development prospects of these schemes by paying attention to the possible diversification of agricultural income.

The study will in particular:

- offer an in-depth analysis of existing schemes/experiences, analysis of strengths, weaknesses, opportunities and threats, in France, but also from international practices.
- propose concrete recommendations for a quick development of these schemes in France by identifying the levers to be used.

➢ The results of this study will be used for the development of a strategy for the large-scale development of schemes and mechanisms to promote climate change mitigation efforts in the agricultural sector in France

➢ First results expected before the summer and full report in late October 2021
4. How to ensure the coherence with the new CAP?

*The new green architecture*

- Farm advisory services
- Knowledge transfer
- Innovation
- Cooperation
- Sectorial operational programmes
- Investments
- Risk management measures
- Organic farming
- New, enhanced conditionality – CONDITIONALITE RENFORCEE
- Eco-schemes in Pillar I
- Climate/Env. Measures in Pillar II
- New, enhanced conditionality – CONDITIONALITE RENFORCEE
- Current architecture
- New architecture
- Level of requirement
- Area covered
- Mandatory for farmers
- Voluntary for farmers
- Climate/Env. measures in Pillar II – MAEC/bio...
- Greening – PAYEMENT VERT
- Cross-compliance - CONDITIONALITE

**MINISTÈRE DE L’AGRICULTURE ET DE L’ALIMENTATION**

**European Commission**
How to ensure the coherence with the new CAP?

As explained, additionality is assessed in the Label relatively to a baseline scenario, determined in the method:

- Likely situation in the absence of labelling
- Regulatory requirements and common practice
- Incentives provided by other instruments than the label

→ Only emissions reductions that go beyond the baseline scenario are recognized

The new CAP raises the issue of the new baseline scenario as new regulatory requirements and new incentives will be put in place

This subject is still under discussion, as the European and National regulations are not yet finalised

- The label will have to adapt these new regulations
5. Role of the public sector to establish regulatory frameworks increasing climate ambition

The climate law under discussion introduces in its article 38 an obligation for airlines to compensate GHG emissions for all domestic flights in France.

The first objective of several articles of the law is to decrease emissions related to domestic flights. In addition, it introduces obligation for compensation of the residual traffic.

The objective is to have this compensation implemented in France and Europe preferentially.

→ Demand for schemes such as the « Label Bas Carbone », may therefore significantly increase in France in the coming years.
Thank you

SDPE / DGPE
French Ministry of Agriculture and Food
anais.valance@agriculture.gouv.fr
Leverage the carbon economy to finance ecosystem restoration, agroforestry, and rural energy projects with tangible social, environmental, and economic added value for rural communities.

**The Livelihoods Carbon Fund - 1**
(Initiated in 2013)
- 1 million project beneficiaries
- 10 million tons of CO2 to be sequestered over 20 years
- 130 million trees being planted
- 9 active projects (Africa, Asia & Latin America)
- 120,000 households being equipped with efficient cookstoves
- 40 million € invested

---

**The Livelihoods Carbon Fund - 2 - Objectives**
(Initiated in 2013)
- 2 million project beneficiaries
- 12 million tons of CO2 to be sequestered over 20 years
- 100 million € to be invested

**TOWARDS REGENERATIVE AGRICULTURE**
A Livelihoods project with French farmers in Brittany
A PROOF TESTED REGENERATIVE AGRICULTURE MODEL
HEALTHY SOILS GENERATE HEALTHY PEOPLE ON HEALTHY TERRITORIES

Diversified Rotations

Cover crops
No tillage

From a vicious circle ...
Declining productivity
Tillage
Erosion
Unstable soil structure
Lower biological activity

... to restoring soil life and fertility
Improving productivity
No or low tillage
Enhance fertility and nutrients availability
Increase organic matter
Restoration of the soil structure

Cover crops
No exportation to feed the soil
Conservation agriculture year crop timeline

Year 1
Grain maize

Year 2
Wheat
Stubbles

Year 3
Rye

Year 4
Wheat
Stubbles
Leguminous plants

Year 5
Silage maize
Fat grass
Oliver

Year 6
Common wheat
Stubbles
Rye & vetch
A PROJECT BUILDING ON AN UNPRECEDENT STAR ALIGNEMENT

Pioneer farmers gathered in an association seeking to scale up and sharing with other farmers

A committed region willing to foster the change and cofound the project

A decade long proof tested & attractive regenerative agriculture model

Local leaders ready to support project efforts on the long run

Critical impacts on soil, climate, biodiversity, farmers pride and working conditions

New options for implementing voluntary carbon projects in advanced economies
A STRONG FARMERS’ MOTIVATION TO GET COMMITTED

A more rewarding job
- Increase labor efficiency (up to 25%)
- Free time dedicated to more observation, testing, creativity and self decision-making
- Restore farmers’ pride

Enhance farm productivity
- Sustain yields on the long term
- Lower production costs (-20% mech. & inputs)
- Avoid reliance on market premiums
- Diversification increases economic resilience

Typical farm size & rotation 110 ha
- Barley
- Rapeseed or vegetables
- White clover
- Wheat
- Oat
- Grain Corn
- Ray grass

State of recruitment prior to any official communication

Farmers motivated for committing as of 2021
Farmers motivated for joining learning groups as of 2021
STORING CARBON IN THE SOIL & REDUCING FARMING EMISSIONS

Regenerative agriculture mostly stores carbon in the soil

~90%

Storing carbon in the soil by increasing living biomass & improve soil health

~10%

Reducing farming emissions by using less fuel and less inputs especially nitrogen fertilizers

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Best case</th>
<th>Base case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon storage</td>
<td>Storage reference 3.1 T CO₂/ha/year</td>
<td>Best case – 10% 2.8 T CO₂/ha/year</td>
</tr>
<tr>
<td>% farmers implementing practices</td>
<td>85%</td>
<td>80%</td>
</tr>
<tr>
<td>Non permanence buffer</td>
<td>20%</td>
<td>25%</td>
</tr>
<tr>
<td>Reducing carbon emissions (fuel, inputs)</td>
<td>Reduction reference 0.28 T CO₂/ha/year</td>
<td>Best case – 10% 0.25 T CO₂/ha/year</td>
</tr>
<tr>
<td>Total carbon</td>
<td>175 kT</td>
<td>140 kT</td>
</tr>
</tbody>
</table>

Carbon credits are modelled based on farmers’ practices reporting

a) Farmers reports their practices annually
b) Carbon credits are modelled according to VM0042 VERRA methodology

Carbon credits are estimated every year then verified & issued every 5 years
IMPLEMENTING A KPI MONITORING PLAN INCLUDING OUTCOME ASSESSMENT

**Environmental**
- Soil health
- Farm biodiversity
- Carbon avoidance & storage

**Social**
- Practice adoption
- Area in Regenerative Agriculture
- Farmers' pride
- Work efficiency

**Economic**
- Yields maintenance
- Lower input usage
- Lower fuel consumption

- Improving farms' margin
JOINING FORCES WITH REGIONAL AUTHORITIES AND LOCAL PLAYERS, SUPPORTED BY COMMITTED LEADERS

Steering and support

Chamber of agriculture
Project implementer

Sols d’Armorique
Co-project implementer

Public-private funders
Project Funding & Steering

LCF2
2,7 M€

Region
2,7 M€

Incentivize
on a result basis (practice based)
Fronted & channeled by the region

11 000 ha
~ 100 growers

Recruitment
Farmers’ coaching
Thank you...
First Q&A session – 10 minutes
Implementation of the CARBON AGRI methodology

Jean Baptiste Dollé
Institut de l’Elevage – French Livestock Institute

Wednesday 2nd June 2021
EU GREEN WEEK 2021
CARBON AGRI: A result-based methodology

From reductions quantification to rewarding farmers

Paying farmers for carbon reductions

Defining baseline 1st Audit

Building up mitigation action plan

Results based mechanism

Applying mitigation measures

Quantifying CO₂ reductions 2nd Audit

Verifying and certifying the carbon reduction

From the audit to the CO₂ reductions quantification

5 years duration
Audit for making the reference/baseline

Methodology: In accordance with main guidelines

Certified by Ecocert
Building up a mitigation action plan among 40 mitigations practices

<table>
<thead>
<tr>
<th>GHG emissions</th>
<th>Carbon sequestration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inputs</strong></td>
<td><strong>Cover crops</strong></td>
</tr>
<tr>
<td>Pasture management,</td>
<td></td>
</tr>
<tr>
<td>Concentrates and fertilizers,</td>
<td></td>
</tr>
<tr>
<td>Legumes, Crops rotation</td>
<td></td>
</tr>
<tr>
<td><strong>Fuel and electricity</strong></td>
<td><strong>Avoid bare soil</strong></td>
</tr>
<tr>
<td>No-till cultivation,</td>
<td></td>
</tr>
<tr>
<td>Power and equipment,</td>
<td></td>
</tr>
<tr>
<td>Working organization</td>
<td></td>
</tr>
<tr>
<td><strong>Crops management &amp; fertilization</strong></td>
<td><strong>Agroforestry</strong></td>
</tr>
<tr>
<td>Legume fodder crops,</td>
<td></td>
</tr>
<tr>
<td>Optimization of fertilizers uses</td>
<td></td>
</tr>
<tr>
<td><strong>Herd management</strong></td>
<td><strong>Grassland management</strong></td>
</tr>
<tr>
<td>Increasing productivity</td>
<td></td>
</tr>
<tr>
<td>Reducing number of unproductive animals</td>
<td></td>
</tr>
<tr>
<td><strong>Feed</strong></td>
<td></td>
</tr>
<tr>
<td>Feed efficiency,</td>
<td></td>
</tr>
<tr>
<td>Forage quality and yield</td>
<td></td>
</tr>
<tr>
<td><strong>Manure management</strong></td>
<td></td>
</tr>
<tr>
<td>Time spent in shed vs pasture,</td>
<td></td>
</tr>
<tr>
<td>Biogas production</td>
<td></td>
</tr>
<tr>
<td><strong>Carbon sequestration</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Introduction more intermediate crops,</strong></td>
<td></td>
</tr>
<tr>
<td>more row intercropping and crop</td>
<td></td>
</tr>
<tr>
<td>grass strips</td>
<td></td>
</tr>
<tr>
<td><strong>Never leave soil bare and work it less,</strong></td>
<td></td>
</tr>
<tr>
<td>for example by using no-till methods</td>
<td></td>
</tr>
<tr>
<td><strong>Add to the hedges at field boundaries and develop agroforestry</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Optimise pasture management – with longer grazing periods, for example</strong></td>
<td></td>
</tr>
</tbody>
</table>
Quantifying CO$_2$ reductions

- A whole farm assessment
- 3 to 4 mitigation practices applied per farm
- GHG reduction from 15 to 20%

<table>
<thead>
<tr>
<th>Landscapes &amp; crops</th>
<th>Feeding</th>
<th>Energy and manure</th>
<th>Herd management</th>
</tr>
</thead>
</table>

Implementation cost
From 0 to 100 €/tons CO$_2$
## Monitoring the environmental co-benefits

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasing contribution to biodiversity</td>
<td>ha equivalent of biodiversity / ha</td>
</tr>
<tr>
<td>Reducing ammonia emissions (air quality)</td>
<td>kg NH$_3$ / an</td>
</tr>
<tr>
<td>Reducing nitrogen balance (water quality)</td>
<td>Kg N / ha / an</td>
</tr>
<tr>
<td>Producing renewable energy</td>
<td>MJ / an</td>
</tr>
<tr>
<td>Reducing soya bean consumption</td>
<td>Kg / an</td>
</tr>
<tr>
<td>Increasing catch crops area</td>
<td>Ha</td>
</tr>
</tbody>
</table>
Carbon reductions
Verification and Certification

External auditor

Emission reductions = Carbon credit

Baseline Scenario
Project Scenario
Crediting period

Time
Result based payment for farmers

After 5 years project:
#400 tons of carbon avoided/farm

+ public & private fundings for supporting audits and MRV costs: Ministry of agriculture, regional councils, agri-food companies,
France CARBON AGRI
A national aggregator for carbon offset projects

1st project accredited 2021
- 300 farmers
- 140 000 t CO₂ reductions
France CARBON AGRI Association
Project's implementation

Farmers

Project developers and advice companies

Carbon buyers

Ministry of Ecological Transition
Evolution of CARBON AGRI

• Version 1 certified in September 2019
  • Mixed crops & livestock production systems
  • 40 mitigation practices covered by CARBON AGRI

• Version 2 scheduled in October 2021
  • Small ruminants,
  • Other crops,
  • Monogastric production systems,
  • Lipids for reducing enteric emissions
  • Biogaz production
EU Dimension
LIFE CARBON FARMING project - 2021-2027

Action C1: Elaboration of harmonized tools and standards for implementing carbon farming initiatives
Tool farm kit, MRV standard, engineering tools

Action C2: CFPs implementation in 700 mixed crop livestock farms projects in France, Ireland, Belgium, Germany, Spain and Italy

Action C3: Elaborating CFP referential costs

Action C4: Applying result based carbon funding mechanism

Action C5: Setting up a low carbon cattle network

Action C6: A common framework for a European CARBON FARMING strategy
Result based carbon farming schemes

• CARBON AGRI, an innovative mechanism
  • For quantifying and certifying GHG reductions in agriculture (Robust MRV system is essential for the results based approach)
  • For developing a transparency accounting and communication
  • To lever barriers in applying mitigation practices
  • To support farmers in reducing GHG emissions and increasing carbon sequestration
  • To mobilize innovative funds for local climate actions

A mechanism for boosting low carbon initiatives and moving to net zero carbon
Thanks for your attention

Jean Baptiste DOLLE
Jean-baptiste.dolle@idele.fr
French Livestock Institute - IDELE
Paris
The European popcorn specialist
Key Figures

- European leader in popcorn with 40% market share
- 200 million bags of microwave popcorn per year
- 57,000 tons harvested every year
- 56 M€ turnover
- 140 employees
- 253 farmer partners
- 20 organic activities: microwave, bulk & multigram
- 90% export to >50 countries
Naturellement popcorn PRoject

A NATURALLY FERTILE SOIL FOR MORE CARBON STORAGE

ENABLING A HIGHER REVENUE FOR GROWERS IN RESPONSE FOR IMPROVING THEIR CARBON FOOTPRINT

THE RIGHT ANSWER TO CONSUMERS’ AND INDUSTRY’S DEMANDS FOR SUSTAINABILITY AND AGROECOLOGY
Naturellement popcorn PRoject

Challenge(s) in our activity domain

We empower our farmer-partners to commit, and to join the agroecological transition, by rewarding their environmental services such as sustainable carbon storage in their fields.

Scientific Partner

For the past two years, Nataïs has been building a strong partnership with CESBIO in Toulouse. Our common goal is the development of a carbon footprint calculation method, thanks to modelling and remote sensing. This method, set up for popcorn could be applied to other crops and geographical contexts.

This tool enables us to objectively measure carbon footprint data at the level of the agricultural parcel.
Méthodologie de bilan carbone

2019
Manual collection &
sampling of biomass

2020
Sentinel 2

2021

2022

2022 -

2024

Vegetation index Sentinel 1 & 2 (operative -
guaranteed)

Integration of soil model with organic matter
simulation

Soil map

Specific parameterization for popping corn
(flow measurement station) cover crop –
including mixtures (biomass sampling
campaign).

AgriCarbon-EO chain

Carbon footprint V2

Carbon sink

Carbon source

In green/yellow : cover
plots/popping corn
In yellow/red: wheat plots

Manual collection &
sampling of biomass

BIOMASS ESTIMATION

STORED CARBON

SAFYE-CO$_2$
Approche Monteith
(Veloso, 2014)

CARBON FOOTPRINT V1

SAFYE-CO$_2$
Approche Monteith
(Veloso, 2014)
Our priorities

- Finalisation of the carbon footprint calculation method with CESBIO
- Promote the agroecological approach through the product and to the consumer
- Farmers’ compensation based on their carbon footprint
June 2\textsuperscript{nd} 2021

McDonald’s France actions for climate

EU Greenweek – Soil Carbon Farming Webinar
MCDONALD’S FRANCE PRESENTATION
Key figures

- 1485 restaurants
- 1,9 million customers daily
- 47 380 farmers over 7 principal agricultural sectors
- 34 000 farmers in France, whose 3000 under contrat
MCDONALD’S FRANCE PRESENTATION

Our purchasing strategy: 3 pillars of quality products

Quality of the relationship with the agricultural sector
- Build long term relationships with our suppliers and work in channels by promoting contractualisation and French origin

Quality of raw materials and products
- Guarantee the quality of our products: good agricultural practices, health safety, organoleptic quality

Environmental quality
- Improving our environmental footprint: the agroecological strategy
MCDONALD’S CARBON FOOTPRINT
MCDONALD’S CARBON FOOTPRINT

Working since 2005 to reduce its environmental footprint and is committed to contribute to neutrality in 2050

First carbon footprint of McDonald’s France

2005

2010

2020

2030

2020 target
Restaurant : -60% / GC vs 2005
Global : -20% / GC vs 2005

2030 target
Global : -35% / GC vs 2005

Towards 2050
Contributing to French carbon neutrality

Agroecological strategy deployed on its 5 main agricultural sectors 2010-2020
Energy Plan
Waste Plan

Sustainable Supply Chain Strategy 2020-2030 (under construction)
Energy Plan
Circular Economy Strategy (waste)
0 Diesel Plan

GC : Guest Count = transaction
MCDONALD’S AGROECOLOGICAL STRATEGY 2010-2020
MCDONALD’S AGROECOLOGICAL STRATEGY 2010-2020

Evaluation and deployment of successful agricultural practices and Building a rich agricultural & food ecosystem

2010
Consultation, identification of innovative practices on climate, biodiversity and animal welfare
Stakeholder consultation (including NGOs)

2015
More than 50 practices tested and evaluated in 5 agro-supply chains
Deployment of over 50 successful practices
Continued testing of over 30 practices

2020
Agro-supply chain committees
MCDONALD’S AGROECOLOGICAL STRATEGY 2010-2020

Some key results on practicing impacting climate in 2020

- Contribution to the development of the environmental assessment tool CAP2ER
- 100% of farms under contract assessed
- 100% Soybeans ProTerra or covered by RTRS credits
- 100% of farms under contract use decision making tool to use fertilizers and measure nitrogen residues at the end of winter
Encouraging results obtained during the last carbon assessment in 2018, with more than 80% of emissions from food input purchases (scopes 1, 2 and 3 combined).

Current update of our carbon footprint.
MCDONALD’S CURRENT WORK ON CLIMATE STRATEGY
MCDONALD’S CLIMATE STRATEGY

In view of the importance of the agricultural sector in the company’s emissions, an in-depth consultation process was conducted.

- **Preparation of the climate strategy and action plan**: In-depth bibliographic study and exploratory meetings with Generalists and specialists NGOs, experts.
- **Development of the trajectory to achieve the 2030 and set up 2050 targets**.
- **Internal presentations and inclusion in sectorial strategies**.

**Consultation meeting 1**
Presentation of the roadmap and feedback from experts.

**Consultation meeting 2**
Presentation of a new version of the roadmap and validation by stakeholders.
MCDONALD’S CLIMATE STRATEGY

Our actions at a glance

- Support our agricultural supply chains to reduce their emissions and store carbon
- Reduce and make cleaner the transport of goods and people
- Reduce energy consumption and invent the restaurant of the future
- Improve the packaging of our products and move towards zero waste

Sustainable supply chain roadmap 2020-2030 launch in 2022

ON-GOING ASSESSMENT OF 2050 CLIMATE ROADMAP TO MAKE SURE IT MEETS EXPECTATIONS

McDonald’s France participate to the on-going test on the agrifood and agriculture sector methodology
MCDONALD’S CLIMATE STRATEGY
Pilot projects from 2021 to test sequestration practices before to scale-up them in under-contract farms

TREES AND HEDGEROWS
Plant

SOIL
Regenerate

GRASSLAND
Manage

ECO-DESIGN:
Produce on farms with low-carbon and High Environmental Value labels
opération réalisée avec le soutien financier de l’ADEME
MCDONALD’S CLIMATE STRATEGY

Points of consideration to go further

Our points of attention:

• Debate on « carbon neutrality » and what can be fairly claimed by a company
• Carbon accounting rules of the French Low Carbon Label being discussed (cf. I4CE working group)
• Low-Carbon Label controversy about non-permanence of carbon sequestration
• Communication on a product level that would require to define an allocation methodology in the French Low Carbon Label
• Evaluation of the additional cost of the transition for the farmer

Our expectations:

• Better recognition of the carbon stored
• Improvement of carbon sequestration and GHG reduction models in order to refine our projection results
• Development of relevant KPI and new reporting technologies (e.g. satellite monitoring of plant cover) thanks to R&D in order to monitoring new practices implemented
• Development of co-financing sources including private-public financing in order to fund the transition towards sustainable agriculture
Second Q&A session – 10 minutes
Conclusion
Thank You for Attending Our Webinar!