

## Introduction : Objectives of the workshop (INRAE)

### Suzanne Reynders - INRAE









### Context of the webinar: the EIT Climate-KIC Carbon Farming project



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### The SCARF (Soil CARbon Farming) network is developed within the EIT Climate-KIC "Carbon Farming" project





### > The challenge of emissions reduction

### Greenhouse gas emission trend projections and target



Source : European Environment Agency (EEA), European Comission



- 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!

 $\rightarrow$  Carbone storage is part of the

### solution

> The voluntary carbon market :

A new market

A transition to be supported by the agricultural worldAn 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€/tCO**<sub>2</sub>**e** in Europe (price between 6€/tCO2e and 110€/tCO2e)

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

INRA@ Introduction 02/06/2021

Source : Gabriella CEVALLOS, Valentin BELLASSEN, <u>Julia GRIMAULT</u>, Domestic carbon standards in Europe, 2019 : <u>https://www.i4ce.org/download/domestic-carbon-standards-in-europe/</u> p. 6



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



RÉPUBLIQUE FRANCAISE Janu Janu Francis

Cadrage de modèles d'affaires possibles pour la mise en œuvre d'un démonstrateur carbone Demonstrateurs territoriaux du stockage de carbone dans les sols Rapport final livrable 2/3 - Neal 2021 **ADEME study :** Territorial demonstrators of carbon storage in soils

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



INRA

### > Aggregation of carbon credits by a third party



### INRAe

### > For example : France Carbon Agri Association

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







### > Aggregation of carbon credits by a Plateform



### INRAe

> 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<sub>2</sub>e

□ 175 farmers joined the program



### INRA@



## > The financing of carbon storage by an agri-food company in its value chain





Aggregation of carbon credits



### INRAØ

## Citizen financing of carbon storage projects (the Ecotree case)





#### INRA@

## 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



### INRA@







#### INRAe





# The contribution of public funding



SDPE / DGPE French Ministry of Agriculture and Food anais.valance@agriculture.gouv.fr

### Conditions for the development of the « Label Bas Carbone »

**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) :

Validated	In the process of validation	Under development
Carbon Agri – Livestock farming (CAP'2ER)	Agroforestry (hedges)	Sheep – Goat breeding
	Crop	Agroforestry (alley cropping)
Orchard plantation	SOBAC'ECO-TMM –	
	input's reduction	Methanisation
	Ecomethan	
→ Development of methodologies mainly driven by the private sector but public funding can be useful		Pig breeding
		Viticulture
		Pulses plants
		Perfume plants





## 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



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## 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 ».



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### **Content of Carbon Assessment Scheme**



- A diagnosis to assess GHG reduction and carbon storage potential
- An optional detailed assessment on « soils » : include soil analyses & agropedological 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
  - Sector Sector
- A tailor-made support over time to facilitate farmer's implementation of their action plans (+ 6 months)



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## Implementation of the Carbon Assessment Scheme measure



1.1

- Call for Projets 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
- $\rightarrow$  They are begining now and untill the end of 2022



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### To go further on the French Recovery Plan ...



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## 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



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### 4. How to ensure the coherence with the new CAP ?



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

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

 $\rightarrow$  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

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## 5. Role of the public sector to establish regulatory frameworks increasing climate ambition



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.





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## 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.



### 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





## A PROJECT BUILDING ON AN UNPRECEDENT STAR ALIGNEMENT

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

A decade long **proof tested &** attractive regenerative agriculture model A committed region willing to foster the change and cofound the project

Local leaders ready to support project efforts on the long run

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

LIVELIHOODS FUNDS ACT TODAY 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

#### A promising recruitment trend

State of recruitment prior to any official communication



FUNDS ACT TODAY FUNDS ACT TODAY FOR A BETTER FUTURE



## **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* 

Parameters	Best case	Base case
Carbon storage	Storage reference 3,1 T CO₂/ha/year	Best case – 10% 2,8 T CO₂/ha/year
% farmers implementing practices	85%	80%
Non permanence buffer	20%	25%
Reducing carbon emissions (fuel, inputs)	Reduction reference 0,28 T CO <sub>2</sub> /ha/year	Best case – 10% 0,25 T CO₂/ha/year
Total carbon	175 kT	140 kT

### Carbon credits are modelled based on farmers' practices reporting



Carbon credits are estimated every year then verified & issued every 5 years


#### **IMPLEMENTING A KPI MONITORING PLAN** INCLUDING OUTCOME ASSESMENT









Rapeseed Raize



#### JOINING FORCES WITH REGIONAL AUTHORITIES AND LOCAL PLAYERS, SUPPORTED BY COMMITTED LEADERS



FUNDS ACT TODAY







# First Q&A session – 10 minutes









# Implementation of the CARBON AGRI methodology

*Jean Baptiste Dollé Institut de l'Elevage – French Livestock Institute* 

> Wednesday 2<sup>nd</sup> June 2021 EU GREEN WEEK 2021

# CARBON AGRI : A result based methodology



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# Audit for making the reference/baseline





Assess your environmental performances and farm's sustainability, to improve farming systems and practices

A MULTICRITERIA ANALYSIS TO EVALUATE SUSTAINABILITY

Methodology: In accordance with main guidelines



Certified by Ecocert





Kg CO<sub>2</sub>/kg product ou /ha



## Building up a mitigation action plan among 40 mitigations practices







# Quantifying CO<sub>2</sub> reductions



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









# Landscapes & crops

Hedges&agroforestry – pasture and legumes– Fertilizer use-Manure and nitrogen spreadingcover crops

#### Feeding

Forage quality, pasture and concentrates, protein autonomy.

# Energy and manure

Energy consumption, biogaz, slurry cover.

#### Herd management

Animal health, shed, heifers rearing





# Monitoring the environmental co-benefits



Indicators	Units	
Increasing contribution to biodiversity	ha equivalent of biodiversity / ha	Conservation of biodiversity
Reducing ammonia emissions (air quality)	kg NH <sub>3</sub> / an	Air quality (acidification)
Reducing nitrogen balance (water quality)	Kg N / ha / an	Water quality (eutrophication)
Producing renewable energy	MJ / an	Energy production
Reducing soya bean consumption	Kg / an	Deforestation
Increasing catch crops area	На	Soil fertility
••••		







# Result based payment for farmers



+ 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





1<sup>rst</sup> project accredited 2021

- 300 farmers
- 140 000 t CO<sub>2</sub> reductions



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# France CARBON AGRI Association Project's implementation

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# **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



# Result based carbon farming schemes



- 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 <u>Jean-baptiste.dolle@idele.fr</u> French Livestock Institute - IDELE Paris



# The European popcorn specialist





European leader

IN POPCORN 40% MARKET SHARE



**200 million** of microwave popcorn bags per year





57.000 tons

56 M€





# Naturellement popcorn PRoject

**5** PARTENERS

6 YEARS OF 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

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natais





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<sup>nd</sup> 2021

# McDonald's France actions for climate



EU Greenweek – Soil Carbon Farming Webinar

#### **MCDONALD'S FRANCE PRESENTATION**



## MCDONALD'S FRANCE 2019



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



#### **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



#### 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



## 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 and **100%** of farms under contract assessed





# MCDONALD'S AGROECOLOGICAL STRATEGY 2010-2020

**Reduction of emissions from food input purchase in 2018** 



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

/ GC : Guest Count = transaction

#### 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



# MCDONALD'S CLIMATE STRATEGY

#### Our actions at a glance



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

**T** ASSESSING LOW (R) 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



### 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





Supported by :











## Thank You for Attending Our Webinar !



