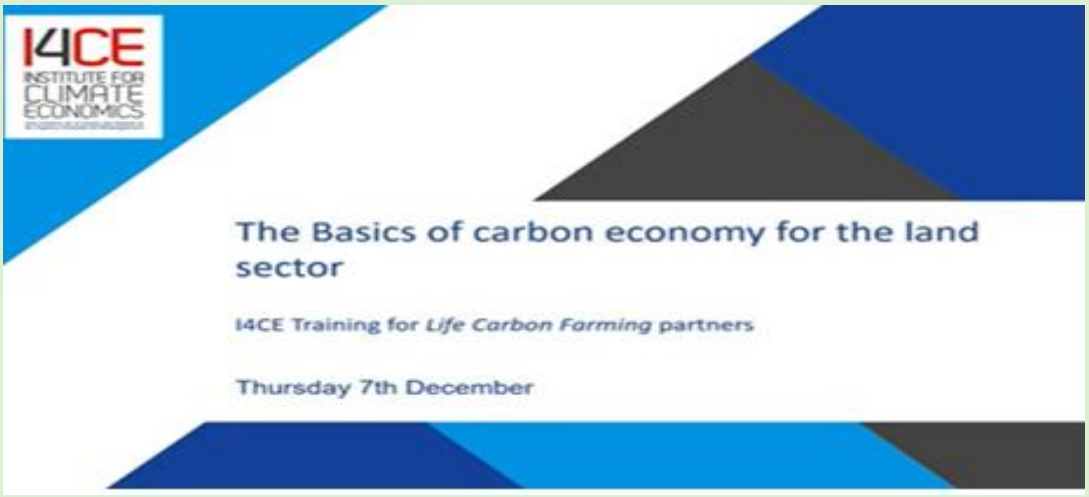
LIFE Carbon Farming

Newsletter #3- April 2024

Welcome to the third issue of the Irish newsletter for LIFE Carbon Farming.

In this issue, we report on an online lecture with the Institute for Climate and Economics (I4CE) about the topic of 'Climate Economics'. We cover ***the basics of carbon economy for the land sector, requirements of carbon certification, and the integrity of carbon markets.*** We also describe the development of a carbon farming framework Ireland and discuss a recent LIFE networking event.

1. The Basics of Carbon Economy for the Land *Sector*



The History and Evolution of Carbon markets

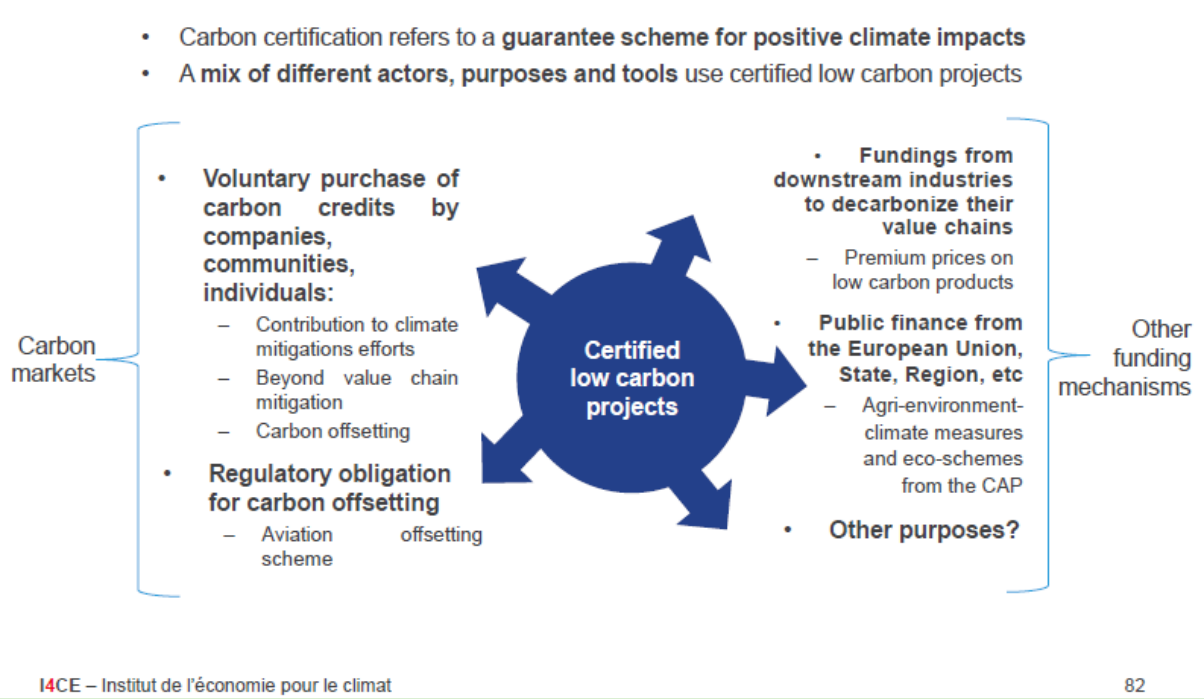
In the final month of 2023, the partners of LIFE carbon farming participated in a training session on "*the carbon economics of the land sector*".

Clothilde Tronquet, a research fellow from Institute for Climate Economics (I4CE), led the session on the said theme. The I4CE is a non-profit organisation that provides independent policy analysis on climate change mitigation and adaptation. The training course began by focusing on the principles of carbon certification and the state of the carbon market today. Clothilde presented the history of the voluntary carbon market and the compliance market.

The I4CE pointed out that the compliance market is drawn from the market mechanism of the Paris agreement, Article 6. It is differentiated from the voluntary market by a regulatory demand obligation to reduce GHG emissions whereas the other is independent from regulatory constraints to reduce GHG emissions.

Additionally, it is crucial to note that carbon certification is not equal to carbon offsetting. This means that carbon certification is a tool for evaluating and verifying emission reduction projects and thus, allows projects to be certified by a third party but not necessarily engaging in carbon markets or carbon offsetting. For example, a livestock farm may be certified for carbon reductions but is not under obligation to participate or trade in carbon credits. The I4CE explained that it is necessary to understand how land use and management practices can influence carbon emissions and sequestration, as well as the potential economic opportunities associated with carbon farming related activities.

Financing carbon farming projects



Funding options for carbon farming projects, courtesy of Clothilde Tronquet (I4CE)

A range of financial options exist to support low carbon farming initiatives. The I4CE highlighted that the voluntary purchase of carbon credits by communities, companies and individuals, and regulatory obligation for offsetting GHG emissions are forms of funding mechanisms that exist in a carbon market. Other sources of funding include public finance, and private funding mechanisms. For instance, with the private financing, agri-food companies or downstream industries can incentivise farmers and other actors along the value chain to combat climate impact by providing premium prices for low-carbon products. These mechanism can also be used by other service providers in their mitigation efforts towards farmers and other key players in the carbon market. Also, there can be co-financing between member states of the European Union (EU), local communities, agri-business companies and financial institution. These collaborations can lead to provision of subsidies, direct investment, conditionality of aids, sustainable provision, loans and purchase of carbon credits from farmers through operation like training and advisory services, initial carbon balance auditing, low-carbon infrastructure support, insurance among others. Having said that, another vital thing to note in extending and coordinating the sources of funding is mapping out the different policies and schemes that will use the carbon certification and what could be claimed within the regulatory accountability, voluntary commitments and or corporate sustainability. So far, additionality rules are subject to consideration.

Requirement of carbon certification

For the second session detailing the certification requirement, Clothilde explained that the principle of carbon certification works on the basis of counterfactual analysis. The idea of this principle is that initial audit of the overall farm is conducted through life cycle analysis using a farm carbon accounting model e.g., AgNav. The results of the first audit gives the baseline level of emissions and sequestration for a farm. After establishing the baseline, a carbon action plan is built with the farm model. In this step, the farmer and advisor choose the best mitigation actions and forecast the amount of carbon avoided. Mitigation actions are typically applied over a 5-year period and assessed at the end of a project in a second carbon audit. The results of both audits are compared to quantify the amount of carbon avoided by a farm, which is then verified by an external auditor before certification is issued. Emissions or removals of one tonne of CO_2 equivalent equal one carbon credit. In this process, the project has to be measureable and monitored. The calculations must be transparent and verified. Also, the emission reduction or removal must be unique, traceable, and additional and must demonstrate environmental or socio-economic benefits. These criteria are used for the Label Bas Carbone project in France and currently serves as the primary reference for emission reduction or removal certification in agriculture within the EU. Each of the criteria together with their possible challenges, application and substantive solutions were explained during the training session.

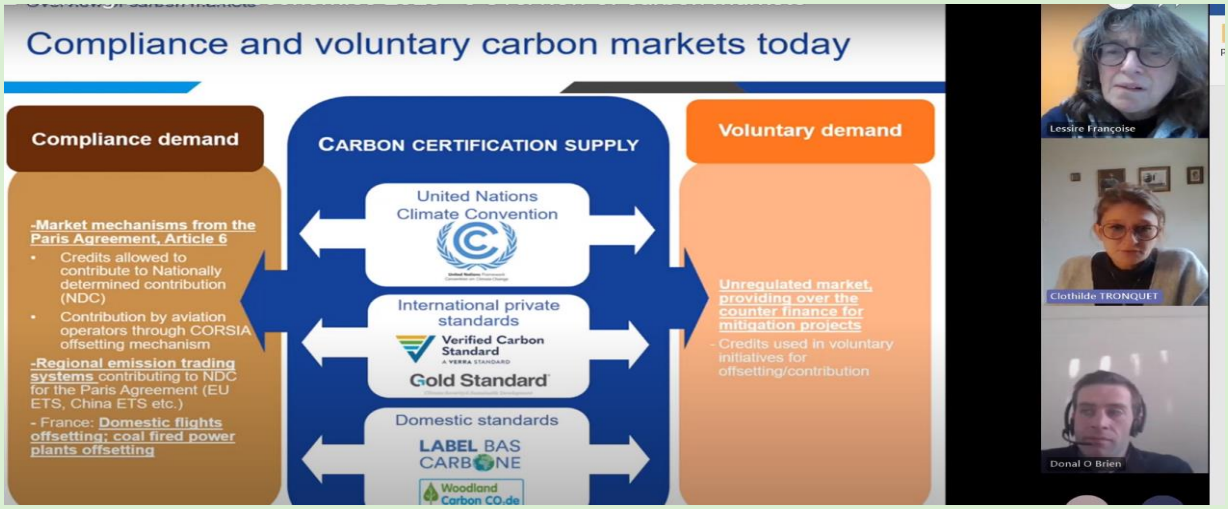
How is carbon certification framed into EU Climate policy?

Another area I4CE touched on during the training was on how to compensate for inevitable emissions from difficult-to-abate sectors of the economy, which is much needed if Europe is to become climate neutral by 2050. The I4CE narrated how a proposal was first made to the European Commission on creating an EU carbon removal certification framework linked to three major objectives namely;

1. Contributing to the achievement of the carbon removal objective (-310MtCO_2 by 2030) of the EU for the Land Use, Land-use Change and Forestry (LULUCF) sector.
2. Standardisation of a monitoring, reporting and verification (MRV) framework to certify temporary and permanent carbon removals.
3. Development of result-based payment for carbon farming with public and/or private funding sources.

So far, EU consideration of the scope of the certification framework highlighted carbon removal more than emission reductions. This was done in reference to the commission's QU.A.L.ITY (Quantification, Additionality, Long-term storage and Sustainability) criteria. Also, in the process of underlying interactions with carbon certification and voluntary carbon markets there is the need for harmonised GHG reporting tool in the EU and an adherence to the MRV procedures for certifying voluntary carbon farming actions.

The integrity of Carbon markets



A snapshot of the I4CE course on climate economics – from the top right corner- Françoise Lessire (Belgium), Clothine Tronquet (I4CE) and Donal M O'Brien (Teagasc, Ireland)

Ensuring the integrity of carbon markets is crucial for their effectiveness in driving emissions reductions, carbon sequestration and sustainable development. According to the I4CE, there is no international regulatory governance of voluntary carbon markets at the moment. In effect, guiding principles used by the Label Bas Carbone project is primarily considered and is separated into demand side (carbon credit financiers) and supply side (entities selling carbon credits). It is clearly separated to enable each player within the carbon market and its related activities know their roles, obligations and boundaries especially in reducing errors and potential risks of double counting, and fraud.

The demand side of the market is separated into compliance and voluntary demand. Under the compliance agreement, there are avenues for credit contribution to National Determined Contributions (NDC). Carbon credit contributions by aviation operators through the CORSIA distribution mechanism are possible too.

Clothilde Tronquet explained that a lot of emission reductions have been generated by carbon projects but prices in the voluntary carbon market have been volatile. They differ from country to country due to the share of afforestation and renewable energy projects and their location, which is generally outside of Europe. The average international price of carbon credit ranges from \$7-10/t CO_2 equivalent. Key factors determining prices include:

1. Localisation
2. Certification
3. Category of activities
4. Co-benefits
5. Supply and demand
6. Intermediaries and transaction costs

Carbon removals need to start rising rapidly to balance hard to abate GHG emission from sectors like agriculture.

2. National Carbon Farming Framework

Public consultation on national carbon farming framework (DAFM)

The Department of Agriculture, Food, and the Marine (DAFM) is leading the development of a carbon farming framework for Ireland. EIT Climate-KIC, Teagasc and state partners are assisting the DAFM establish this national framework which will emphasize the importance of carbon farming as a means of mitigating climate change. The framework aims to support farmers, foresters and other land users take climate actions that reduce greenhouse gas emissions and that enhance the capture of carbon in soils and vegetation. Initial public consultations have taken place on carbon farming and feedback has been gathered from over 450 stakeholders regarding the framework's scope (feedback on issues like governance, administration, funding, and market mechanisms). The framework is aligned with EU climate policies and aims to position Ireland as one of the (if not) major climate sustainability agents of food systems while contributing to climate neutrality targets.

The team tasked with delivery of the framework are establishing baseline information for carbon farming, and exploring public-private partnerships to support adoption of low carbon farming initiatives across the farming and land use sectors. The primary approach for increasing participation of landowners and managers in the areas of carbon removal, emission reductions, and ecosystem services is through financial incentives. This is expected to accelerate the implementation of climate actions that store carbon in soils, forests, grasslands, croplands, and hedgerows. The framework sets to use a number of tools in its implementation of which AgNav currently serves as a digital sustainability platform that provides metrics of carbon footprints for Irish beef and dairy farms. It also sets to support a series of sister schemes that value good environmental practices in areas such as forestry, peatlands and biodiversity on farms. This will be done by employing a number of principles in its

implementation in a bid to standardize its methodology. The national carbon farming framework is due to be launched in the second or third quarter of this year.

3. LIFE networking 2024 – Upscaling low carbon farming

The LIFE networking day "Upscaling low carbon farming in Europe" took place on February 6th, 2024 in Brussels. Co-organized by Life Green Sheep and Life Carbon Farming, the event gathered European stakeholders active in the area of low carbon agriculture. The aim of this day was to network to explore the different stages of dissemination, from research to the implementation of actions**.**

Researchers, scientists, veterinarians, advisors, students, and journalists and other actors in the agri-food sectors discussed the prospects and policies for reducing the carbon footprint of European agriculture, as well as the results of 25 projects carried out in Europe between 2010 and 2030. These projects cover topics such as carbon footprint mitigation, adaptation to climate change, environmental impact, biodiversity, and sustainability in a wider sense.

The projects presented covered a wide range of objectives, including knowledge repository (references, solutions, levers, etc.), innovation, the conception and comparison of tools, the experimentation/monitoring on farms, training, the dissemination of knowledge, the development of carbon farming framework, and the implementation of a financial reward system based on results to reduce the carbon footprint of livestock farms.

Participants were able to reflect on various issues related to carbon emissions from European farms in group workshops. The main questions discussed in the workshops were:

- How to build strong partnerships at the beginning of the projects to involve farmers and advisors?
- Which skills and methods are needed to support dissemination of low carbon & sustainable practices?
- How to involve stakeholders, sectors' bodies and institutions in upscaling low carbon & sustainable practices?
- How can farmers be rewarded for implementing these new practices on their farm?
- How can we capitalize the knowledge from low carbon farming European initiatives for research, advice and new projects?

After this reflection, the working groups shared their conclusions to delve deeper into each question. A question-and-answer session concluded a day filled with valuable insights

Upcoming events

The Ireland chapter of the EU LIFE carbon program will be gathering scholars, partners, and farmers at an open day in Teagasc Johnstown Castle research centre in the 2nd quarter of 2024. Interested persons should look out for an exciting event that will focus on discussing low carbon farming projects and related themes, and to explore possibilities for collaboration. Date will be announced soon.

See you in the next issue

Newsletter complied by Bright Ketadzo and edited by Dr. Donal O'Brien
Teagasc, CELUP, Johnstown Castle, Co. Wexford.
To find out more about LIFE Carbon Farming in Ireland and Europe visit:

- LIFE Carbon Farming Ireland
- LIFE Carbon Farming EU

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Teagasc Johnstown Castle Open Day 2024 – Farming for a better future