European Commission

Reviewing the Contribution of the Land Use, Land-use Change and Forestry Sector to the Green Deal

Workshop Report: The Role of Agriculture and Land-use Sectors in a Climate Neutral EU in 2050

Table of Contents

1. Overview

The following report contains a summary of the second workshop that was held as part of a four workshop series under the study "Reviewing the contribution of the LULUCF sector to the Green Deal" commissioned by DG CLIMA to experts from COWI, Technopolis Group and Exergia. The workshop entitled, "The role of agriculture and land-use sectors in a climate-neutral EU in 2050" was held on the 25th of February 2021.

The background information on the workshop was published one month before the event through an Eventbrite webpage and official invitations were distributed to specific stakeholders connected to the topic and DG CLIMA.

2. Workshop Objectives

As the second in a series of four workshops, the objective was to extract key information on the role of the land-use sectors in contributing to a climate neutral EU in 2050. The main topics in the workshop were the vision for 2050, exploring the role of agriculture and land-use sectors in reaching climate-neutrality in the EU, including the role of farmers, of private markets, and data and technology. The workshop was structured in a conference style, including keynote speeches and a panel debate.

3. Introduction

The workshop began with an introduction from the moderator, **Asger Olesen** (COWI). He welcomed the participants and introduced some guidelines for the workshop. He presented the agenda for the day as presented in Figure 1.

Table 1. Agenda of the workshop.

Agenda	
10:00 – 10:05	**Introduction** • Asger Olesen, COWI, Moderator
10:05 – 10:10	**Welcome and Setting the stage** • Christian Holzleitner, DG CLIMA, European Commission
10:10 – 10:20	**Carbon Farming in the EU: Pilots and Potentials** • Asger Olesen, COWI
10:20 – 10:30	**Ongoing work to support the design of an EU carbon removals certification mechanism** • Christian Heller, UBA
10:30 – 10:50	**Q&A session**
10:50 – 11:00	**Break**
11:00 – 11:50	**Inspirational speeches** Moderator: Asger Olesen • Samuel Masse, CEJA • Imke Lubbeke, WWF • Bart Vandewaetere, Nestle • Simon Henry, IETA • Inge Jonckheere, FAO
11:50 – 12:20	**Panel discussion** Moderator: Asger Olesen, COWI
12:20 – 12:30	**Closing remarks** • Christian Holzleitner, DG CLIMA, European Commission

4. Participants

Overall, 429 stakeholders registered to attend and participate in the workshop, representing different stakeholder categories. A total of 332 stakeholders participated in the workshop and provided their association beforehand, which is presented in the figure below.

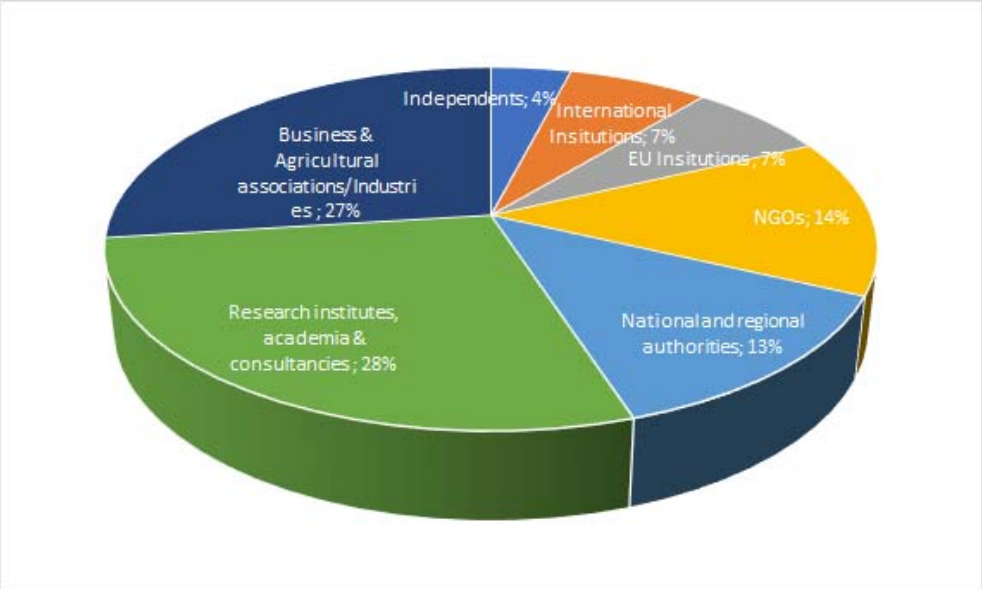


Figure 1. Makeup of the stakeholders participating in the workshop.

5. Welcome and setting the scene

Christian Holzleitner (DG CLIMA) provided an introductory presentation to set the scene for the workshop. He emphasised the overarching objective of the workshop to discuss how climate policy will look like in 2050.

Mr. Holzleitner painted a picture of the vision for 2050, which will see an economy where most fossil fuels will have been phased out and where the remaining emissions will derive primarily from the bioeconomy (e.g. from livestock and the use of fertilisers); at the same time, the land sector will contribute to climate neutrality via the sequestration of CO_2. Therefore, climate policy in 2050 will place the bioeconomy into the spotlight.

In order to achieve climate-neutrality in 2050, the capacity of land to capture CO_2 will have to increase so that there can be a balance with remaining emissions. Technology also plays an important role in this transition, such as Carbon Capture and Storage.

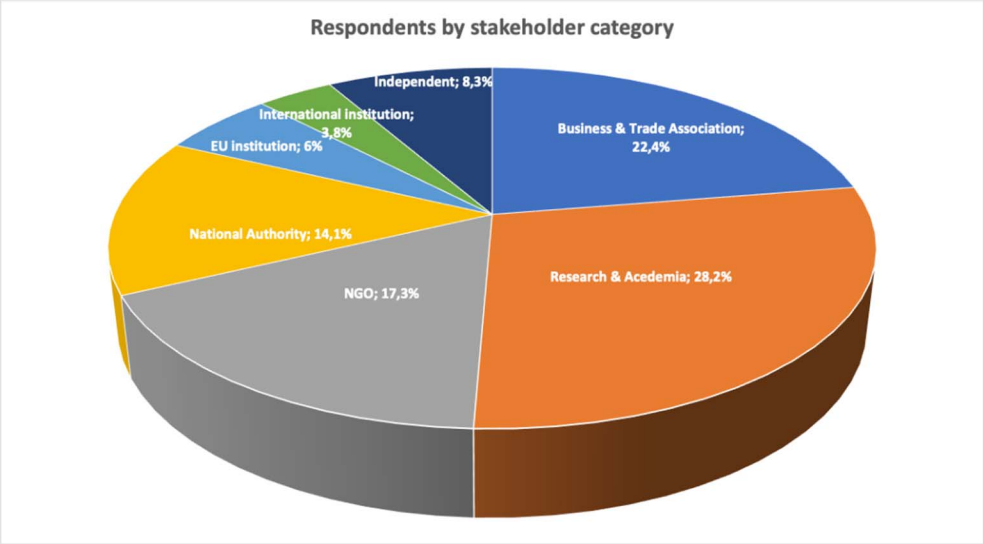
He then presented what the European Commission is currently doing in this context. Firstly, he mentioned the review of the LULUCF Regulation - in the framework of the Fit for 55 Package – providing an opportunity to simplify and modernise it towards the objective of climate neutrality by 2050.

Additionally, he referred to two EU initiatives which aim to bring further incentives for land managers, in order to create better business models for more climate friendly agriculture and forestry. The first initiative is about carbon farming, which promotes private or regulated business models for providing incentives for carbon removals. The second initiative regards a certification mechanism for carbon removals, which focuses on a high-quality market for carbon removals.

5.1. Interactive discussion

In order to stimulate the discussion, an interactive software – Mentimeter – was used to gather the stakeholders' views through a number of poll questions. The first poll question asked the participating stakeholders to select their stakeholder category.

136 stakeholders participated in the poll with the same breakdown of participant categories as presented in Figure 1.



The second poll question asked the participating stakeholders how they felt about stronger financial incentives for the reduction of GHG emissions and the increase of carbon removals in the land sector.

162 stakeholders participated in this poll.

The large majority of respondents – representing all stakeholder categories, with a majority of Business & Trade Associations and Research & Academia - indicated that they feel positive about stronger financial incentives for the reduction of GHG emissions and the increase of carbon removals in the land sector.

Very few respondents – representing Business & Trade Associations, NGOS and unspecified categories - indicated that they feel negative.

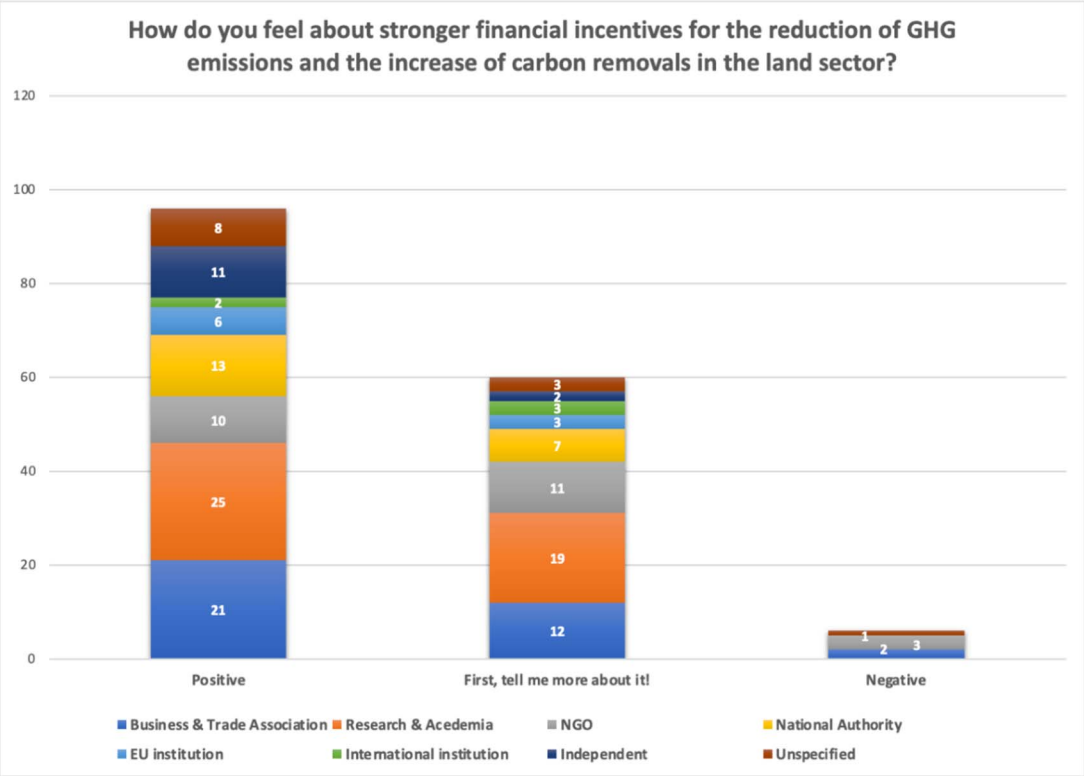


Figure 2. Respondents' answers to poll question 2.

6. Keynote #1: Carbon farming in the EU: Pilots and potentials

Asger Olesen (COWI) introduced the concept of carbon farming and presented a study on carbon farming carried out by COWI, IEEP and Ecologic for DG CLIMA.

The study applied an open understanding and definition of carbon farming, made of three components:

- It is about managing carbon flows in farming and forestry
- It turns carbon sequestration and GHG emission reductions into a business for land managers.
- It provides result-based incentives at farm or forest level

The study had the objective to explore how carbon farming could be adopted in the EU, what the global experiences on similar schemes are, and what can be learnt from these. Five case studies were carried out to test and validate solutions and delivery models for carbon farming in the EU. A technical guidance handbook was produced on how to operationalise carbon farming in the EU. The Handbook together with the final report on the case studies will be published at the end of March 2021.

Mr. Olesen concluded his presentation by providing an overview of the advantages and challenges of carbon farming as identified in the study. Examples of advantages include increased investability and access to markets, flexibility for the farmers, and a clear link between carbon benefits and payments, among other. Challenges to carbon farming include a potential higher risk exposure for farmers, higher transactions costs, and inadequate monitoring, reporting and verification (MRV) systems.

7. Keynote #2: Ongoing work to support the design of an EU carbon removals certification mechanism

Following Mr. Olesen's presentation of the carbon farming project, **Christian Heller** (UBA) presented the ongoing project supporting the European Commission in the design of an EU carbon removals certification mechanism (CRC-M) carried out by UBA, Ecologic, Rambøll and Carbon Counts.

All the scenarios that are consistent with 1.5 degrees decarbonisation and net-neutrality require some sort of carbon removals. In the context of the European Green Deal, a CRC-M is proposed in the Circular Economy Action Plan to incentivise the uptake of carbon removals and increased circularity of carbon, and in the Farm to Fork Strategy as a way to enable payments to farmers and foresters for the carbon sequestration they provide.

The project aims to provide an overview of existing CRC mechanisms and solutions and provide a set of design options for an EU CRC-M, assessed for their advantages and disadvantages.

Mr. Heller laid out the objectives of the different tasks of the project:

- Task 1 will look at existing CRC mechanisms and methodologies to form the basis of the design and development of an EU-wide CRC-M. The task will assess different aspects of the mechanism architecture (e.g. governance, participants, scope, and coverage of carbon removal solutions, etc) and of the methodologies (e.g. scope, MRV rules, permanence management).

- Task 2 will look broadly at selected nature-based solutions, such as afforestation/reforestation, agroforestry, and sustainable forest management, and technology-based solutions, such as Direct Air Capture and Storage (DACCS), Bioenergy Carbon Capture and Storage (BECCS), and Carbon Capture and Utilisation (CCU). The analysis in this task will focus on different aspects, such as the maturity and future costs, the EU removal potential, permanence/reversibility, among others.

- Task 3 will involve stakeholders to give them the opportunity to share views and experience on the potential of CRC-M and validate interim results, through an expert roundtable, a survey, and a conference.

- Task 4 will gather the findings of the previous tasks and propose options for a CRC-M, focusing on the scope, the certification rules and governance.

- Task 5 will provide a pilot phase to develop design elements and accompanying monitoring.

He concluded the presentation by informing the audience that the results of the study are expected for Q1 2022.

7.1. Interactive discussion

Another set of poll questions were raised using Mentimeter to stimulate the discussion among the audience. The third poll question asked the participants what the focus of climate policies in light of the 2050 climate neutrality objective should be today.

153 stakeholders participated in this poll.

The large majority of stakeholders - representing all stakeholder categories, with a majority of Research & Academia, Business & Trade associations and National authorities – responded that the focus should be both on decreasing emissions and increasing removals.

A smaller number of stakeholders – representing primarily Business & trade associations, Research & Academia and NGOs – responded that the focus should be only on decreasing emissions.

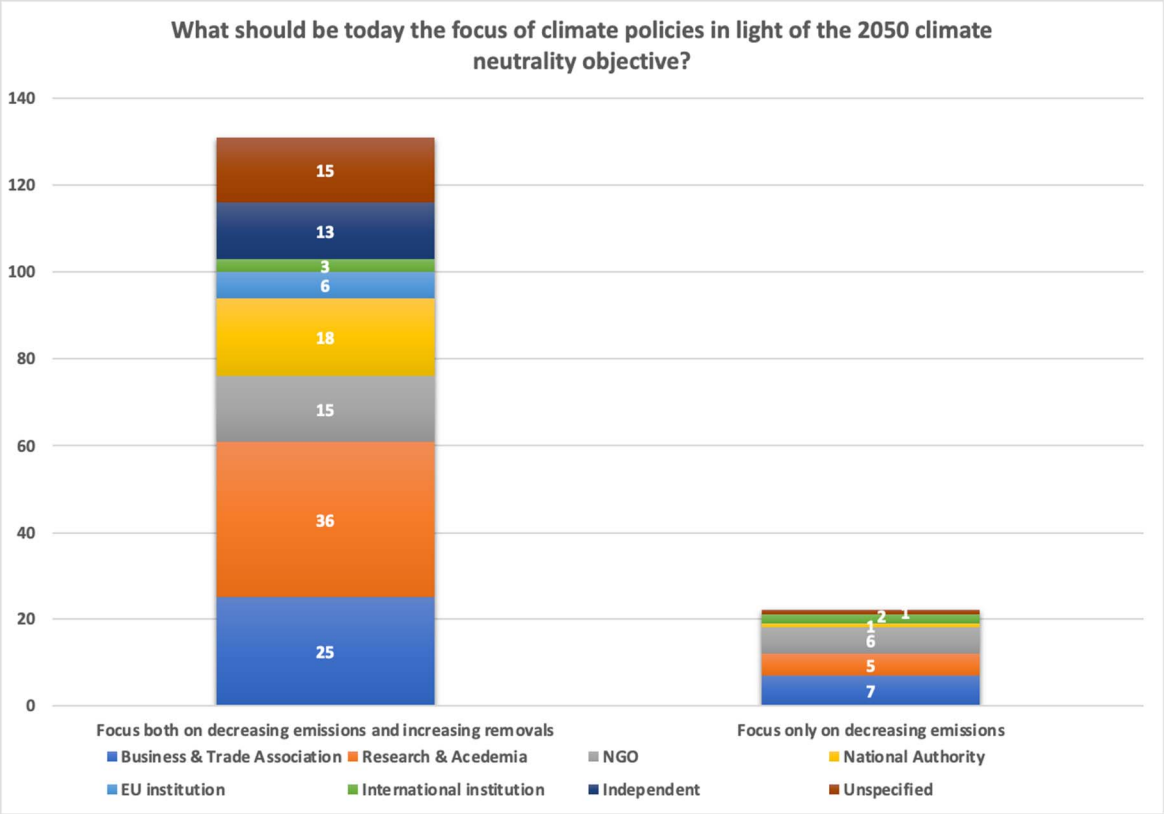


Figure 3. Poll answers to question 3.

The fourth poll question asked the stakeholders their views on the best type of policy to promote better financial incentives (carbon farming) in the land sector. Multiple answers were allowed.

146 stakeholders responded to this poll.

The majority of stakeholders – representing primarily Research & academia, Business & Trade associations and National authorities - indicated that subsidies at the national level (e.g. CAP) are the best type of policy, followed by an EU-wide carbon pricing for the land sector (e.g. emission trading including non-CO2 emissions and LULUCF removals and emissions).

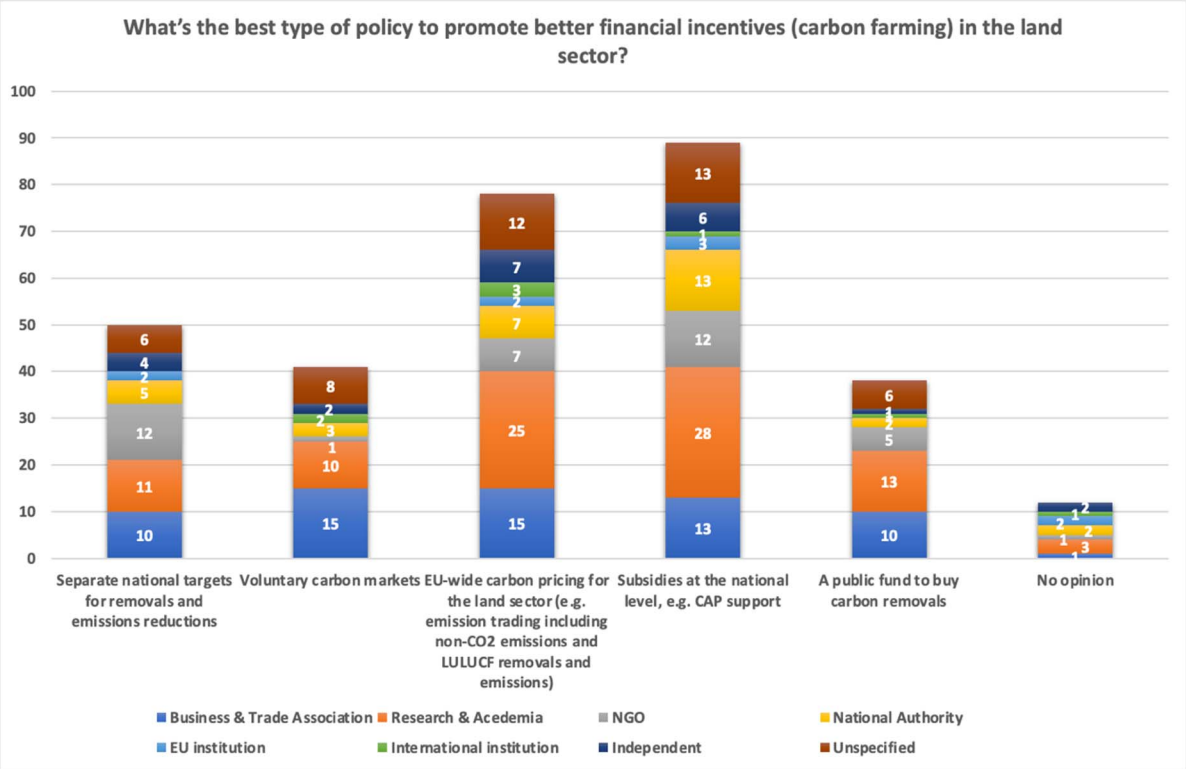


Figure 4. Responses to question 4.

8. Inspirational speeches

The moderator, Asger Olesen, introduced five speakers to provide inspirational speeches on their vision for 2050.

8.1. Inspiration speech #1: Samuel Masse (Ceja)

Samuel Masse (Ceja) presented his vision for agriculture in the EU in 2050, representing the generation that will enable the achievement of the objectives for 2050.

The presenter painted a picture where, in 2050, most objectives of the green transition will be reached with the help of new technologies, research and innovation but also by protecting agricultural land. He proceeded to emphasise the role of the agricultural sector for climate action in 2050.

Firstly, climate action will be embedded into business actions, indicating that diversity of farming practices will be a strength and there will be several pathways for climate action. In order to enable agriculture to sequester carbon, a mix of public and private funds will be made available, including contributions from other industries. By 2050, a framework for carbon farming schemes will be put in place. In addition, by 2050 we will have found a way to remunerate farmers through the market for land-use management practices useful to climate action (e.g. recognition of high-value nature agriculture).

The socio-economic obstacles to climate action will be considerably reduced. There is a high probability that by 2050 farmland will be a very rare resource, a reality which young farmers are already confronting. But by 2050 we will have fixed inadequate access to land through land property and long-term leasing contracts to ensure long-term climate action, and access to finance to invest in land and its management. Biodiversity and agricultural production will no longer be opposed.

8.2. Inspiration speech #2: Imke Lubbeke (WWF)

Imke Lubbeke (WWF) started her presentation by stressing the importance of the road to 2050, and of the steps to be taken in the next two decades.

It is clear that all sectors have to reduce emissions rapidly, including agriculture. In particular, the restoration of ecosystems was mentioned as crucial for many of the set objectives, including addressing the biodiversity crisis, and for carbon removals. WWF is advocating for 50% of land to be restored and to help with carbon removals.

The importance to focus on ecosystem restoration was mentioned against a full reliance on the role for technology approaches, which the presenter considered likely to remain expensive, speculative, and high-risk.

The presenter also mentioned the risk of focusing too much on offsetting emissions with carbon removals. The way forward requires climate action to be done and supported by citizens, policy makers and farmers in order to make a change.

Bioenergy was mentioned as relevant for biodiversity and sustainability issues but the impact of bioenergy in terms of emissions was challenged by the presenter who called for the need to avoid locking ourselves into using forest biomass and agricultural land to produce biofuels. Consistency of policies and practices was mentioned as a crucial aspect.

Imke Lubbekke emphasised the need to incentivise farmers to into carbon removals activities. The Common Agricultural Policy (CAP) was mentioned as a very powerful instrument, which could be used in a smarter way. She called for the need to make sure that the CAP encourages farmers to restore marginal or abandoned land into carbon and biodiversity-rich landscapes.

Lastly, the role of farmers was stressed in terms of emission reductions to make the difference, while recognising that they are also impacted the hardest by changes in the sector.

8.3. Inspirational speech #3: Bart Vandewaetere (Nestlé)

Bart Vandewaetere (Nestlé) started his presentation with a flashback to the past, showing that in the agricultural sector there is now more awareness on the need for action to address climate change and biodiversity loss.

He presented Nestlé's plan to halve their emissions by 2030 and reach net-zero by 2050. He emphasised that the focus is no longer simply on mitigating the negative impacts of food production, but it is about recovery and regeneration of soil and water by using nature-based solutions.

This is the biggest transformation ever for the food sector and it is clear that not taking any action would translate in the disruption of the supply chain, the costs and availability of raw materials. In addition, consumers are also challenging the sector and their needs cannot be disregarded.

He stressed the importance of the action of policymakers, keeping in mind planetary boundaries and the well-being of people.

In the carbon footprint of Nestle, 70% is linked to agricultural raw materials. For this reason, Nestlé supports regenerative agriculture and the need to work with farmers.

Bart Vandewaetere concluded his contribution by presenting the LENS initiative (Landscape Enterprise Networks) which brings businesses together interested to procure all sustainability outcomes from regenerative agriculture.

8.4. Inspirational speech #4: Simon Henry (IETA)

Simon Henry (IETA) provided an optimistic view about the role of carbon markets to achieve a climate-neutral EU in 2050. One of the benefits is that carbon markets can simultaneously put a price on emissions but also place a value on removals. The EU is a global leader on carbon markets, but the land sector has broadly been excluded.

Simon Henry pointed out lessons that can be learnt from other countries' experiences. For instance, the Emission Trading System in New Zealand integrates the forestry sector and has proved successful in providing a strong source of income for removals. The presenter encouraged the European Commission to look at similar examples, including Australia, California, Colombia, and Canada (Alberta).

Discussion are ongoing on how the EU can incorporate the land sector in carbon markets, through the creation of a new regulated sector for agriculture, forestry and land use to become climate-neutral by 2035 and then generate more removals than emissions. One policy tool that could work is a new Emission Trading System for this sector, setting an emission cap that goes negative after 2035. CRC-M could then be deployed to verify removals in the EU.

The question that arises if we set an emission cap that goes negative after 2035 is where the demand could come from. Simon Henry mentioned that the obvious option is the EU ETS, otherwise he proposed that removals could be bought by governments. Lastly, as a more ambitious scenario, the presenter suggested that removals could be exported from Europe. As the EU is ahead of the world on decarbonisation, this could become a new export industry for Member States.

He concluded his intervention by stressing that the end goal is not climate neutrality in 2050, but there is a need to go beyond net zero and therefore think about would need to happen after 2050 - for instance, how removals from other technologies could be incorporated.

8.5. Inspirational speech #5: Inge Jonckheere (FAO)

Inge Jonckheere (FAO) introduced the work of the FAO, focusing on food security in developing countries. Her intervention focused on the potential of technological development in 2050. Innovation was mentioned as the central driving force behind a world free of hunger and malnutrition.

The speaker presented different tools being used in developing countries, such as FAO Digital, aiming to develop climate resilient food systems, OpenForis and SEPAL, to enable advanced data collection and processing.

As regards to tools, remote sensing has become much more accessible and feasible compared to the past, as since 2011 remote sensing data has become an open archive. Remote sensing is widely applied in the land sector, and it can enable farmers to monitor their GHG footprints. For this reason, having accurate monitoring, reporting and verification (MRV) systems in place is key, which is one of the building blocks towards 2050.

Inge Jonckheere agreed with the previous speakers on the objective for the EU to go beyond net zero, to become net-negative. In the context of technological development, she stressed the need to keep investing in data, as well as in its proper use. She concluded her intervention by emphasising the unlimited role of technology.

8.6. Interactive discussion

A last set of poll questions were raised to gain feedback from the audience.

The fifth poll question asked the stakeholders how synergies between climate action and biodiversity can be promoted. Multiple answers were allowed

116 stakeholders participated in this poll.

The majority or stakeholders – representing primarily Research & Academia and Business & Trade associations - responded “integrated incentive payments”, followed by “integrated monitoring”, “targets and standards” and “Integrated planning”.

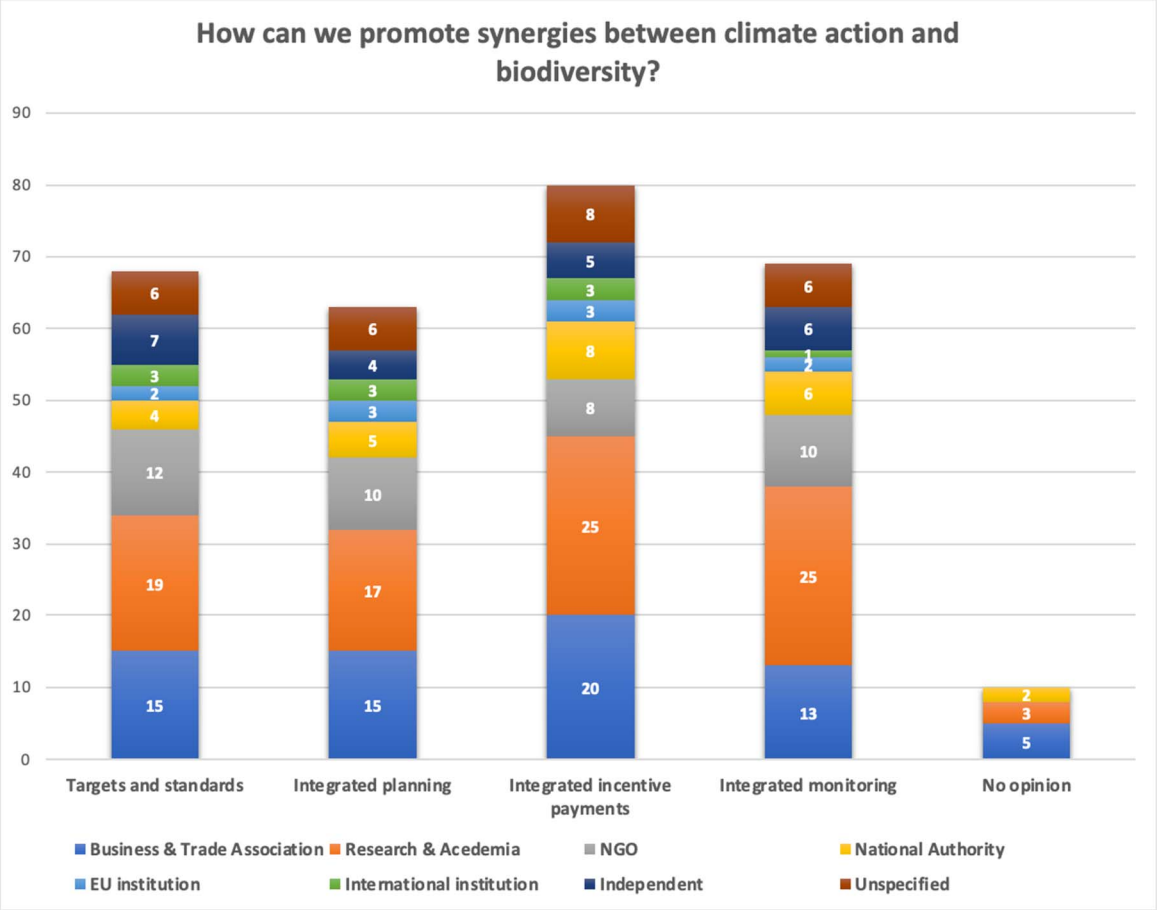


Figure 5. Answers to poll question 5.

The sixth poll question asked who should pay landowners for the climate and environmental benefits that they provide. Multiple answers were allowed.

120 stakeholders responded to this poll.

The preferred option for who should pay landowners for the climate and environmental benefits they provide was “polluters, via regulated carbon markets”, selected by the majority of stakeholders, representing primarily Research & Academia and Business & Trade associations.

The second preferred option was “public subsidies (e.g. CAP, national schemes)”, followed by “users of biomass (e.g. bioenergy plants, food producers).

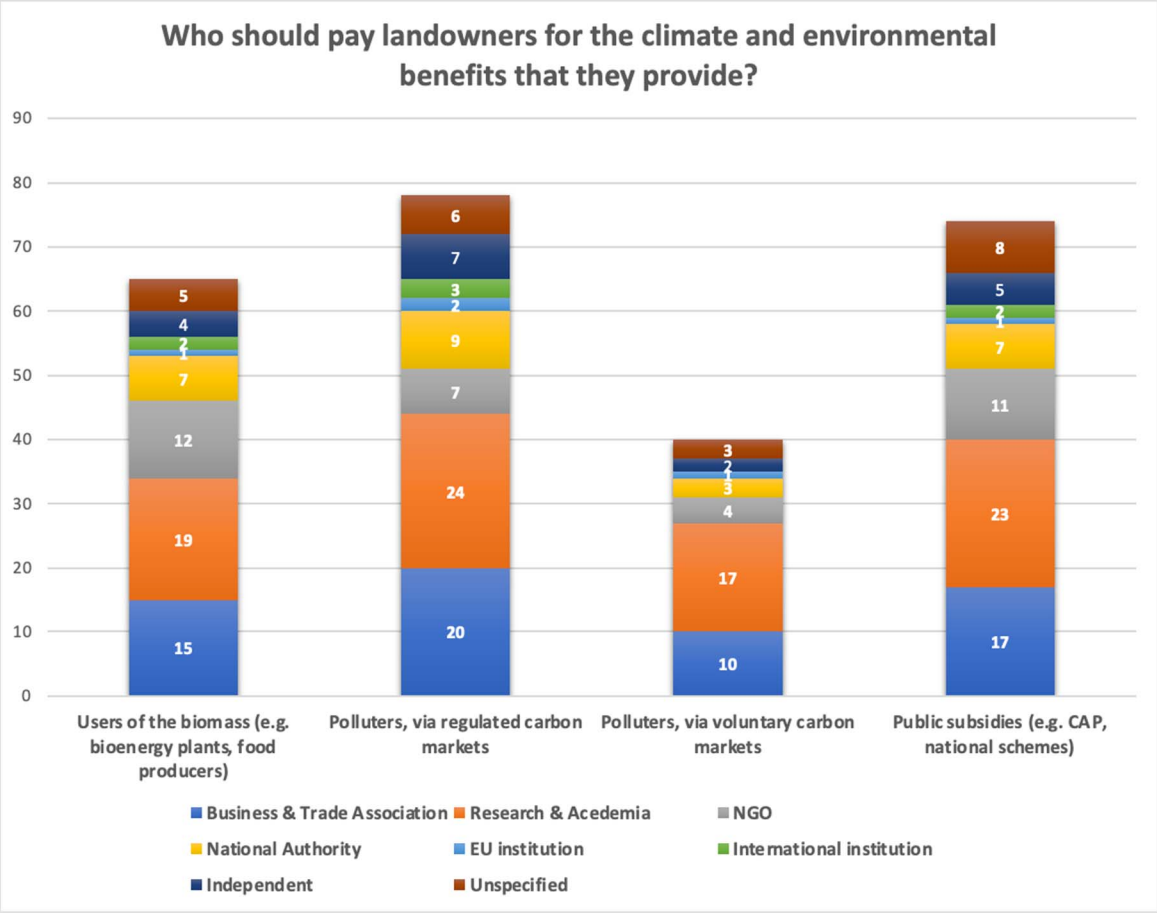


Figure 6. Answers to poll question 6.

The seventh and last poll question asked the stakeholders whether additionality is relevant in an economy-wide climate-neutral 2050 scenario.

95 stakeholders responded to this poll.

The large majority of respondents – representing primarily Research & Academia, Business & Trade Associations and unspecified categories - indicated that additionality is always relevant.

A smaller share of respondents indicated that additionality will only be relevant for emission reductions. Fewer respondents indicated that additionality will not be relevant at all.

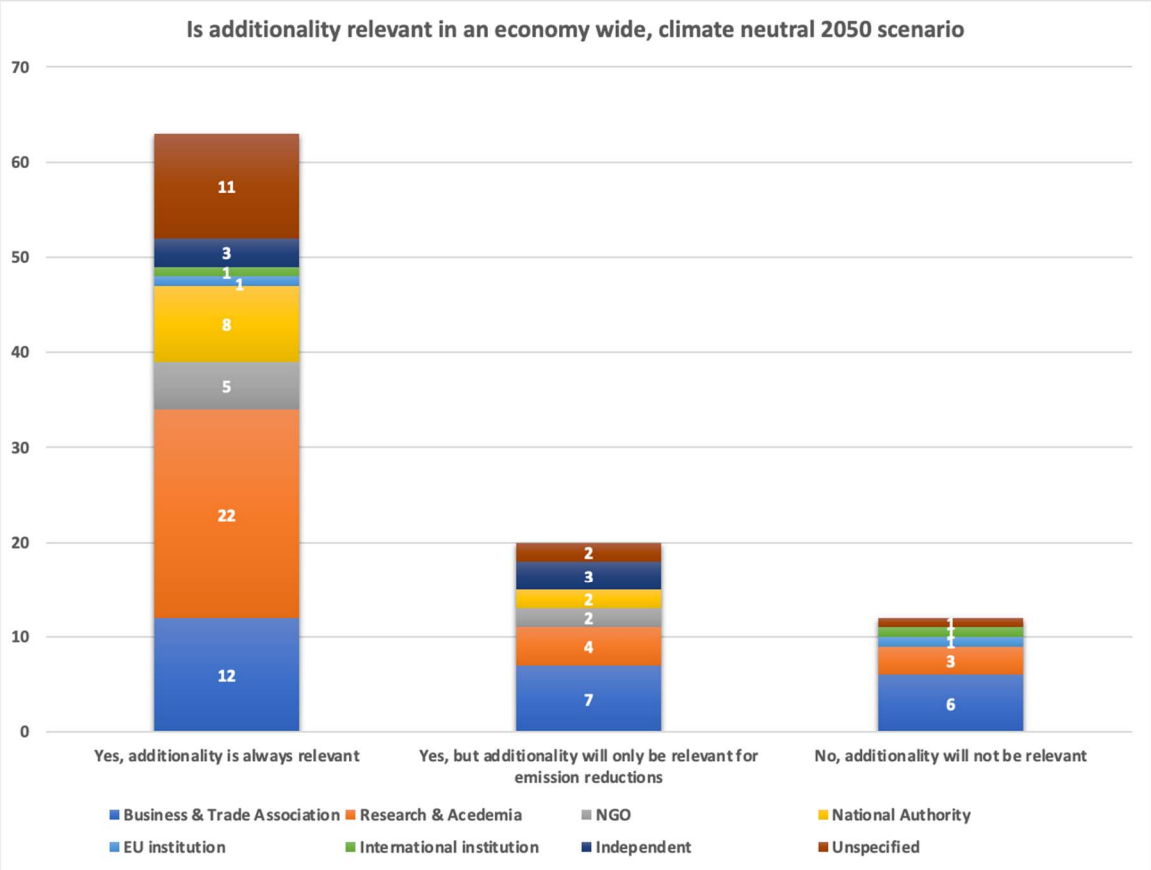


Figure 7. Answers to poll question 7.

9. Panel discussion

Following the inspirational speeches, a panel discussion took place, moderated by Asger Olesen (COWI).

Asger Olesen, the moderator, directed the first question to **Inge Jonckheere** (FAO) and asked her view on whether we will have in 2050 high-resolution, high-frequency, digital, low-cost, field-level MRV through a combination of tools and technologies for all land uses.

Inge Jonckheere responded that from a technical point of view it is more than possible, especially by looking at what is already possible in countries such as Africa. Whether this will be achievable or not in 2050 is a political question. She added that a factor to determine in the future is whether there will be willingness to pay for data and how it will be organized.

The moderator asked **Samuel Masse** (CEJA), from the point of view of farmers, what would be the opportunity of new business models if all required data was made available.

Samuel Masse responded that data needs to be better managed but the issue to be defined is data ownership. He added that the major problem, especially for young farmers, is getting financial access to these new technologies, which are often very expensive.

Imke Lubbekke (WWF) commented on the data issue and agreed on the importance of data (e.g. for monitoring of carbon removals from farmers) and on the issue of data ownership. She added that the focus should also be on the need of farmers to change the way they manage data to ensure environmental benefits and work towards climate neutrality.

Imke Lubbekke added a comment in relation to previously mentioned examples of emission trading systems, such as Australia and California, to point out that these are hotspots for forest fires. Therefore, the nature and permanence of their carbon removals is very different.

The moderator asked **Simon Henry** (IETA) to articulate on his understanding of climate neutrality in 2050 for the land sector, for a business or a value chain.

Simon Henry responded that from an EU point of view, climate neutrality by 2050 implies all sources of emission being balanced by an equivalent number of removals. However, there will still be emissions which will have to be balanced with removals. The question that persists is how emissions will be regulated in the next 30 years. He explained that the ETS helps regulating emissions by setting a cap, but the challenge of the system is that it covers only half of the emissions. He proposed that one solution could be to include more emissions into the ETS or alternatively to create another ETS.

The moderator asked **Bart Vandewaetere** (Nestlé) whether 2050 company-level, supply-chain level or footprint-level carbon neutrality can be seen as a key part of the policy framework.

Bart Vandewaetere responded that Nestle has committed as a company to net-zero which is based on “insetting”, referring to action inside the supply chain to create ownership as well as to onboard the consumers. He stressed importance of regenerative agriculture, as well as standard setting at European level.

The moderator asked **Samuel Masse** (CEJA) to articulate his views on the feasibility of setting climate neutrality at farm-level.

Samuel Masse responded that there is a lot of diversity in farms, depending on the location and weather impacts, which would make it difficult to implement climate neutrality at farm-level. He added that there are already challenges for farmers to know exactly what the current situation in terms of neutrality is. He concluded by stating that the target should go beyond landowners, but rather focus on land users as well.

The moderator asked **Inge Jonckheere** (FAO) her undersndating of climate-neutrality for the EU.

Inge Jonckheere responded that for the UNFCCC climate neutrality is seen at country-level, but a much smaller scale can be considered if data is available. She agreed on the diversity of farms and the difficulty to look at the level of the farm. She explained that, from a data perspective, there is no limit on the level of sub-aggregation below country-level we can reach but we should ask ourselves what it makes sense to focus on. She stressed the importance to integrate different sectors when we speak of climate-neutrality, rather than focusing on agriculture alone.

The moderator asked the panelists what would be the role of subsidies and market incentives in 2050 to ensure balance.

Imke Lubbekke responded that ambitious targets should be set at Member State level but should be separate from the emission side, avoiding to create one pillar. The Climate Law was mentioned as an important element for climate neutrality. Regarding subsidies, she added that the CAP can play an important role as a powerful instrument, but that pollution avoidance should be the main goal. There is clear need for support to farmers, to incentivize carbon dioxide reduction and organic farming.

Samuel Masse mentioned the example of the French region of Normandie where a low carbon label recognition was implemented at farm-level and questioned the feasibility of implementing this in all farms. He added that farmers now have access to several opportunities to get income, including through carbon sequestration. The best way would be to involve both the public funding and private funding from companies for payments for carbon sequestration, which could be achieved by 2050. However, he warned that there

could also be negative side effects to this approach, such as the impact on the price of land, as well as potential impacts on landscape if farmers are incentivized to move to pasture.

The moderator asked **Bart Vandewaetere** (Nestle) how incentives could be transferred from producers to consumers.

Bart Vandewaetere responded that some consumers are ready for the transition to net-zero and Nestle is already trying to provide less carbon intensive products. The objective is climate neutral products, but this should be connected to ongoing discussions on products' environmental footprints and labels. He called for a framework to be set at EU level and stressed the important role to be played by governments in this direction.

10. Closing remarks

Christian Holzleitner (DG CLIMA) provided some closing remarks on the event. He stated that there is a need to push this discussion forward, on how the land sector should look like in 2050, in terms of production of food, of biomass and biodiversity.

He mentioned that a lot of change has already been achieved, for instance in diets, which has a significant impact on land use. There is a need to mobilise public money and give better incentives from more sustainable farming.

He referred to some ongoing initiatives from the European Commission, such as the Farm to Fork Strategy to explore how to get more sustainable food production across the value chain, the Forest Strategy, and the Fit for 55 Package.

He concluded by confirming that it will not be a low-cost transition and that funds need to be mobilised from different sources, such as from polluters, from the CAP budget of from better use of the revenues from emission trading systems.