OPPORTUNITIES AND CHALLENGES OF THE CARBON CREDIT MARKETS

The carbon credit system is one of the tools for combating global emissions of greenhouse gases. A carbon credit represents a tradable unit that quantifies the reduction or removal of one metric ton of carbon dioxide (CO_2) or its equivalent in other greenhouse gases[1]. These credits can be issued by implementing projects that reduce or remove emissions, such as renewable energy installations, energy efficiency improvements, or afforestation activities.

The LULUCF sector includes all human activities related to the use of land, changes in land use, and forestry. This sector is unique as it can both emit greenhouse gases through activities like deforestation and land degradation, and sequester carbon through practices such as afforestation, sustainable agriculture, or wetland restoration. This is why the LULUCF sector is central in the carbon credit markets.

Carbon market in Europe

The European Union has been proactive in integrating carbon credits and offsets into its climate change strategy. The European Union Emissions Trading System (EU ETS) sets a cap on total emissions and allows trading of emission allowances, incentivizing reductions[2]. As of 2022, the value of the EU-ETS represented 87% of the global carbon market[3]. Sectors that have the mandatory requirement to purchase EU ETS credits include aviation, maritime, power and heat generation, as well as energy-intensive industrial companies like cement producers, oil refineries, or steel work companies. Approximately 40% of GHG emissions of the EU can be attributed to the operations of the organisations with EU ETS requirements[4].

As the deadline for reaching climate goals approaches, the EU is planning to introduce an updated ETS - ETS2 system. Starting in 2027, the ETS2 will cover CO2 emissions from fuel combustion in buildings, road transport, and additional small industry sectors. The cap set on ETS2 will aim to reduce the EU GHG emissions by 42% in 2030, compared to 2005 levels[5].

Moreover, the European Union has proposed a Union certification framework for carbon removals. This framework aims to ensure high-quality EU certified carbon removals, through a transparent and credible governance framework. This would open the possibility for further investments towards carbon removal activities and increased uptake. The proposed regulation aims to improve the EU's capacity to quantify, monitor and verify carbon removals[6]. The implementation of a standardised EU-wide carbon framework would not only increase the trust in the carbon market system, attract demand in for voluntary use in the private sector, but also introduce clear rules for organisations and individuals who wish to implement carbon removal or reduction projects and gain economic benefit from the EU carbon markets. Project types considered under the EU Carbon Removals and Carbon Farming Certification Regulation include permanent carbon removals (for example, capturing atmospheric CO_2 and storing it in geological formations), carbon farming and soil emission reductions (for example, no-till agriculture, wetland restoration), and carbon storage in long-lasting products (for example, wood construction products)[7].

1. What are carbon markets and why are they important? | Climate Promise (undp.org)
2. What is the EU ETS? - European Commission (europa.eu)
3. Carbon pricing worldwide - Statistics & Facts | Statista
4. Carbon removal in the EU Emissions Trading System (carbongap.org)
5. ETS2 : buildings, road transport and additional sectors - European Commission (europa.eu)
6. Carbon Removals and Carbon Farming - European Commission (europa.eu)
7. Carbon Removals and Carbon Farming - European Commission (europa.eu)

Projects like LIFE OrgBalt play a role in the development of this new regulation. This project, amongst others, contributes to the development of the certification framework by sharing the methodology used for carbon flux calculations on the project demonstration sites aimed at displaying climate mitigation measures for nutrient rich organic soils. The EU Expert Group on carbon removals combines the best practices from such climate mitigation projects to create a unified certification framework. The climate mitigation practices demonstrated in LIFE OrgBalt can also be an inspiration and knowledge source for future carbon project development. Practices that are most likely to be suitable for emission of carbon credits under the new certification framework could be the use of wood ash after thinning as well as rewetting and afforestation of grasslands. Practices related to converting cropland with nutrient-rich organic soil to a grassland could also bring both climate and biodiversity benefits, but the framework may not be accepting towards projects reducing the size of food production areas.

Voluntary Carbon Schemes

Beyond regulatory requirements, there are voluntary carbon offset schemes which offer a way for individuals and organizations to mitigate their carbon footprints. Companies that wish to solidify their commitment to carbon neutrality often choose to purchase carbon credits in the voluntary schemes. Standards like VERRA and the Gold Standard offer voluntary carbon offset projects, aiming to ensure environmental integrity, social benefits, and robust monitoring and verification processes. In 2021, avoided deforestation (also listed as REDD+) and grid-scale renewable energy (RE) projects, accounted for the majority of both issuances (77%) and retirements (79%) of carbon credits[8]. A critical issue with the voluntary carbon system is that many RE credits are non-additional, meaning many of these projects may have or would have happened even without the help of finance from carbon offset sales[9].

Reliability of carbon credits in creating real change

While carbon credits are claimed to be the solution for reducing greenhouse gas emissions by employing market mechanisms, the system has its downsides. Some argue that by purchasing carbon credits, companies can get away with polluting by shifting the attention towards offsetting. To achieve real sustainability improvements, reductions of an organization's own footprint should always be considered first. Moreover, a study covering almost 300 carbon offset projects found that the industry's top registries have consistently allowed developers to claim far more climate-saving benefits than justified[10]. The researchers found that project developers were often able to generate credits even when no changes were made. This has led to concerns about the integrity of the carbon credits system and calls for stricter oversight.

In conclusion, the carbon credit system has the potential to provide the financial mechanisms needed to support sustainable practices in the LULUCF sector and elsewhere. However, it's crucial to address the critiques and improve the system to ensure its effectiveness and integrity.

LIFE ORGBALT TEAM

8. Assessing the State of the Voluntary Carbon Market in 2022 | Carbon Direct (carbon-direct.com)
9. Assessing the State of the Voluntary Carbon Market in 2022 | Carbon Direct (carbon-direct.com
10. Millions of carbon credits are generated by overestimating forest preservation (cam.ac.uk)

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Project "Demonstration of climate change mitigation potential of nutrient rich organic soils in Baltic States and Finland" (LIFE OrgBalt, LIFE18 CCM/LV/001158) is implemented with financial supportfrom the LIFE Programme of the EuropeanUnion and State Regional Development Agency of the Republic of Latvia. www.orgbalt.eu

Additional information: www.orgbalt.eu