



Potentialities of emerging stock exchange markets for carbon transaction and proposed policies



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Introduction

One of the most important activities of the United Nations (UN) cooperative action to combat global warming was to put a price on the effects of using fossil fuels, which release CO₂ and other greenhouse gases (GHG) into the atmosphere. International conventions, most notably the Kyoto Protocol and the Paris Agreement, have set the foundation for the principle of recording both GHG emissions from large industrial installations and many polluting human activities so that they can be offset by absorption from natural processes, most particularly from forests.



Carbon Trade Markets

- CO₂ trading has emerged as a necessity mainly following pressure from the United States not to impose an "environmental pollution" tax on major polluters. So, both the CO₂ tax and the carbon markets coexist worldwide at the moment, with the aim of reducing CO₂ emissions and other greenhouse gases.
- Two types of carbon markets exist: compliance (or obligatory) and voluntary markets.



Carbon Trade Markets

- Compliance Carbon Market

- The compliance market is used by companies and governments that by law have to account for their GHG emissions. It is regulated by mandatory national, regional, or international carbon reduction regimes

- Clean Development Mechanism (CDM)
- Joint Implementation (JI)

- Voluntary Carbon Market

- On the voluntary market the trade of carbon credits is on a voluntarily basis. A voluntary carbon market project is similar to CDM project, but it is not regulated by the UNFCCC. There is a variety of different standards that can be applied, depending on the project type and size. The project developer can select the most relevant standard, such as the Gold Standard, the Verified Carbon Standard or the Plan Vivo.

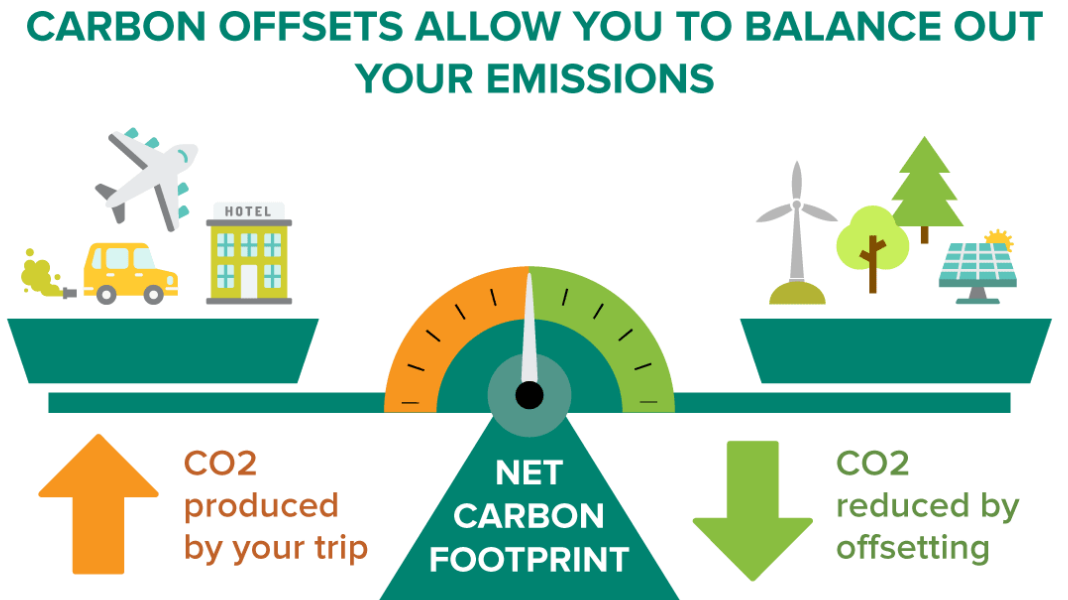
Source: UNFCCC Process-and-meetings, 2021, <https://unfccc.int/process-and-meetings/the-kyoto-protocol/mechanisms-under-the-kyoto-protocol/the-clean-development-mechanism>

<https://unfccc.int/process/the-kyoto-protocol/mechanisms/joint-implementation>

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Carbon offsets

- Carbon offsets are CO₂ absorbents that either prohibit further GHG emissions or sequesterate GHGs in the soil or in vegetation.
- They can be traded in voluntary markets, or in compliance markets





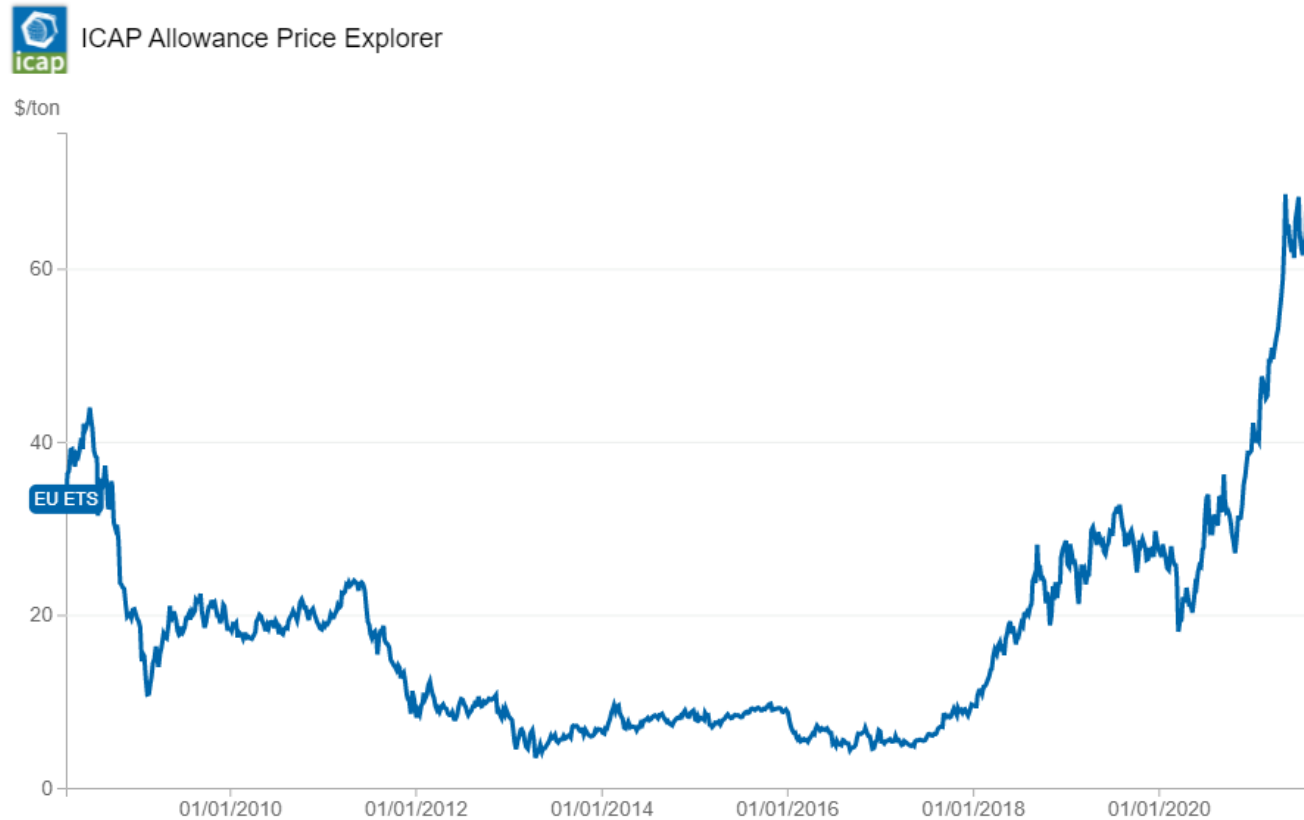
EU Emissions Trading System

- The EU Emissions Trading System (EU ETS) is a cornerstone of the EU's climate change policy and an important tool for cost-effective decrease of greenhouse gas emissions. It was the world's first major carbon market, and it continues to be the biggest.
- It operates in all EU countries plus Iceland, Liechtenstein and Norway,
- It limits emissions from around 10,000 installations in the power sector and manufacturing industry, as well as airlines operating between these countries,
- It covers around 40% of the EU's greenhouse gas emissions.

Source: UNFCCC Process-and-meetings, 2021, https://ec.europa.eu/clima/eu-action/eu-emissions-trading-system-eu-ets_en



EU Emissions Trading System



Source: International Carbon Action Partnership, 2021, <https://icapcarbonaction.com/en/ets-prices>

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Effort Sharing Regulation

- For 2013–2020 and 2021–2030, the Effort Sharing law creates binding annual GHG emission targets for Member States.
- These targets apply to emissions from most non-EU Emissions Trading System sectors, such as
 - transportation,
 - construction,
 - agriculture, and
 - waste
- The national targets will result in a reduction of ~10% in total EU emissions by 2020, and a reduction of ~ 30% by 2030, compared to 2005 levels.



Land Use, Land-Use Change and Forestry (LULUCF)

- UNFCCC: Any process, activity or mechanism which removes a GHG from the atmosphere is referred to as a "sink".
- Human activities impact terrestrial sinks, through LULUCF
 - The exchange of CO₂ between the terrestrial biosphere system and the atmosphere is altered.
- The role of LULUCF in the mitigation of climate change has long been recognized.
- Human activities affect changes in carbon stocks between the carbon pools of the terrestrial ecosystem and between the terrestrial ecosystem and the atmosphere.
- Mitigation can be achieved through activities in the LULUCF:
 - increase the removals of GHGs from the atmosphere or
 - decrease emissions

Source: UNFCCC Process-and-meetings, 2021, <https://unfccc.int/topics/land-use/workstreams/land-use--land-use-change-and-forestry-lulucf>



International and National Carbon Accounting Standards in the LULUCF Sector

- Carbon accounting collects information important to an organization and its linkages to society and the natural environment.
- Climate accounting comprises greenhouse gas and carbon accounts, which help to document the scale of the effects and problems, raise awareness, and serve as a point of reference for political, economic, and business accounts

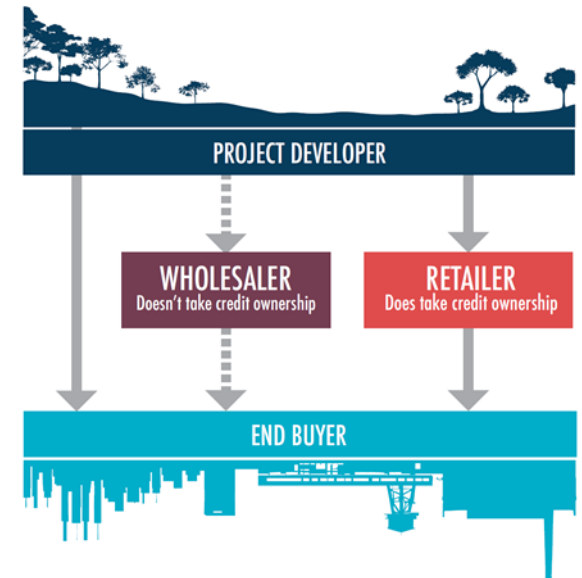
Source: Schaltegger, S., Zvezdov, D., Guenther, E., Csutora, M., & Alvarez, I. (2015). Corporate Carbon and Climate Change Accounting: Application, Developments and Issues. Springer.



Implementation of Sustainable Management For MLs

Carbon offset projects must engage a wide range of parties, stakeholders, and authorities in their design, implementation, and operation. Although the parties involved vary from project to project, the following are the most typical market player types and categories:

- Project owner
- Project Developer
- Project funders
- Stakeholders
- Third party auditor
- Standard organizations
- Brokers or exchanges
- Traders
- Offset providers
- Final buyer

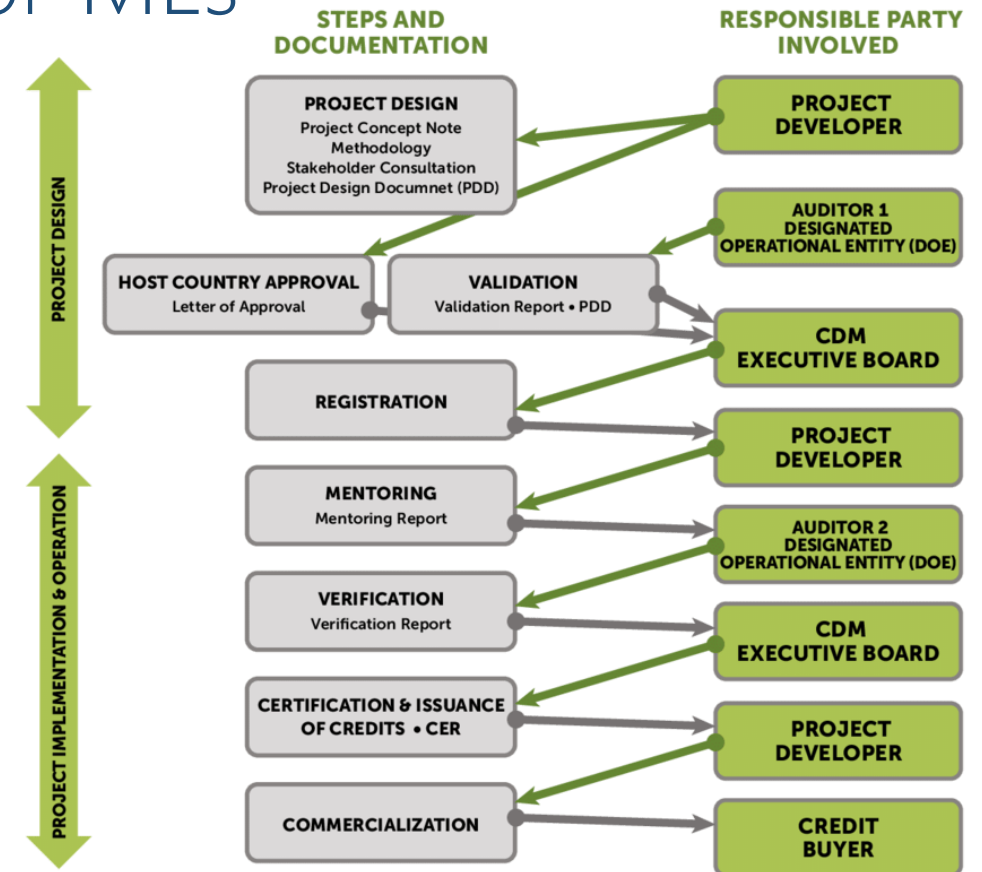


Source: Carbon Offset Guide, 2021, https://www.offsetguide.org/wp-content/uploads/2020/03/Carbon-Offset-Guide_3122020.pdf



Implementation of Sustainable Management For MLs

- The Project Design stage
- Concept of the Project
- Project Methodology
- The Project Design Document (PDD)
- Validation and Verification
- Registration
- Implementation of a Project
- Monitoring
- Verification from a third Party
- Certification Process
- Commercialization stage



Source: Carbon Offset Guide, 2021, https://www.offsetguide.org/wp-content/uploads/2020/03/Carbon-Offset-Guide_3122020.pdf

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Criteria and requirements

- Additional
- Real and Measurable
- Conservative
- Permanent
- Independently Verified
- Uniquely numbered and transparent listed





Conclusions

- MAIL Project can be included in the AFOLU project in the category of afforestation, reforestation, and revegetation (ARR), which focuses on increasing carbon sequestration and/or reducing GHG emissions by establishing, increasing, or restoring vegetative cover through the planting, sowing, or human-assisted natural regeneration of woody vegetation.
- The Voluntary Carbon Market describes a remarkable area of innovation in the fight to control global warming pollution in describing the foundations upon which many promising carbon reducing strategies have been built.
- The Voluntary Carbon Market also foreshadows the factors which will drive the next generation of market-based innovation for fighting global warming pollution.
- Demand and prices for high-quality credits, particularly carbon sinks, will rise.
- Despite the pandemic, ETS coverage continues to spread globally, and it is playing a larger role in climate policy as more governments declare net-zero targets.



Thank you for your attention!



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