



**FRIEDRICH NAUMANN
FOUNDATION** For Freedom.
Pakistan



Centre for Peace and
Development Initiatives

CARBON MARKETS IN PAKISTAN

Policy Brief

<https://www.cpdipakistan.org/> 

info@cpdi-pakistan.org 

November, 2023

Title: Carbon Markets in Pakistan

Research and Author/s: Engineer Asad Mahmood

Production: Centre for Peace and Development Initiatives (CPDI)

No. of Copies Published: 75

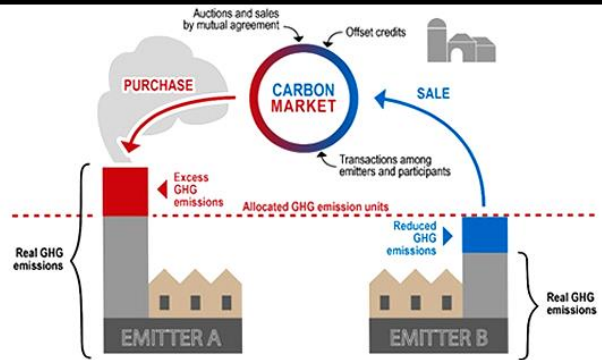
Disclaimer:

We have made every effort to ensure the accuracy of this publication. CPDI and Friedrich Naumann Foundation do not accept responsibility for any unintentional omissions. We appreciate accurate information to enhance our work. The printing of this publication is supported by Friedrich Naumann Foundation for Freedom Pakistan, but the views expressed here do not necessarily represent the views of the Friedrich Naumann Foundation for Freedom.

What are Carbon Markets?

Carbon markets are trading systems in which carbon credits are sold and bought.

A carbon credit represents one ton of Carbon Dioxide or equivalent greenhouse gases that have been reduced, avoided, or removed by a mitigation activity.



Two Types of Carbon Markets

Compliance or Regulated

Markets for carbon credits created by the need to comply with a regulatory act (carbon allowances)

Emission Trading Systems (ETS)

- Also referred to as **cap-and-trade** programs.
- The 'cap' on GHG emissions declines annually to achieve the climate policy targets of its jurisdiction or members.
- Allowances are **freely allocated or auctioned** to companies which can then 'trade' allowances to comply with the cap on their emissions.
- Companies with low emissions can sell their extra allowances to larger emitters.

Voluntary

Corporations, governments and individuals volunteer to offset their emissions by purchasing carbon credits (carbon credits, also referred to as offsets)

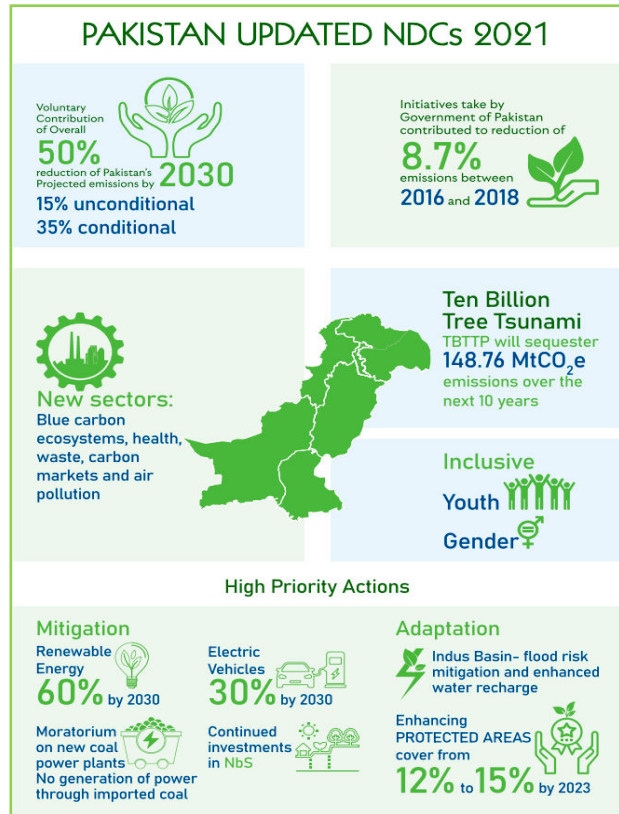
Carbon Credits / Offsets

- Generated by projects that **avoid, reduce or remove GHG emissions** beyond a business-as-usual scenario.
- Projects include **reforestation**, improved forest management, wetland restoration and **renewable energy**.
- Traded by individuals and companies on the voluntary markets (though some carbon offsets can also be used in select compliance markets).
- Majority of projects follow rules established by independent standards bodies.

NDCs and Carbon Markets

Carbon markets can help countries achieve their NDCs in several ways:

- They can provide a lower-cost way to reduce emissions. By allowing countries to trade carbon credits, carbon markets can help to shift emissions reduction activities to where they are most cost-effective.
- They can mobilize private sector investment in climate change mitigation. Carbon markets can create a financial incentive for companies to invest in clean technologies and projects that reduce emissions.
- They can promote international cooperation on climate change. Carbon markets can provide a platform for countries to work together to reduce emissions on a global scale.

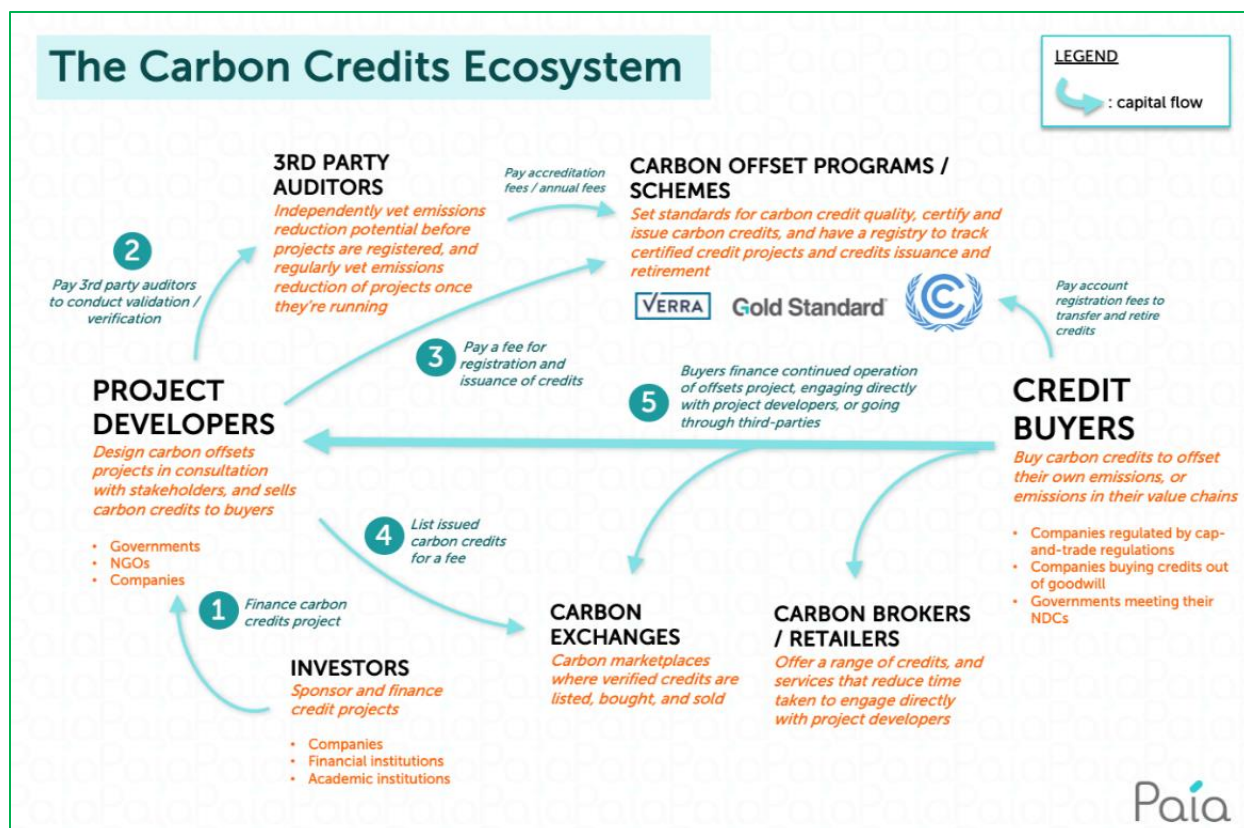


According to Pakistan's Updated Nationally Determined Contribution (NDC) 2021, its unconditional emission reduction targets include a 60% shift towards renewable energy, afforestation projects supported by government investments, and a 30% transition to electric vehicles.

Challenges of using Carbon Markets to achieve NDCs

There are a number of challenges to using carbon markets to achieve NDCs, including:

- Ensuring that carbon markets are well-designed and implemented. Carbon markets can be complex, and there is a risk that they could be ineffective or even counterproductive if they are not designed and implemented properly.
- Addressing concerns about environmental integrity. It is important to ensure that carbon credits represent real and additional emissions reductions.
- Ensuring that carbon markets are equitable. Carbon markets should be designed in a way that does not disadvantage developing countries or vulnerable communities.



The carbon credit ecosystem in Pakistan is a developing market with the potential to play a significant role in the country's efforts to mitigate climate change and promote sustainable development. Pakistan has a number of natural assets that can be used to generate carbon credits, including its extensive mangrove forests, its potential for renewable energy development, and its opportunities for energy efficiency improvements. The country is also home to a number of organizations that are working to develop and implement carbon credit projects. The Sindh Forest Department is currently the only seller of carbon credits in Pakistan. The department has two projects, the Delta Blue Carbon (DBC-1) and DBC-2 projects, which are focused on restoring and planting mangrove forests in the Indus Delta. The DBC-1 project has generated 3.1 million carbon credits to date, worth around \$40 million. In addition to the Sindh Forest Department, a number of other organizations are working to develop carbon credit projects in Pakistan.

Pakistan's CDM Projects Status & the Reasons for Limited Uptake

The CDM was relatively slow compared to other developing countries. Only 37 Projects were registered. The following factors limited the country's ability to fully leverage the mechanism:

➤ **Lack of Awareness and Capacity**

Many potential CDM project developers in Pakistan were not fully aware of the CDM or the benefits it could offer. Additionally, there was a lack of technical expertise and capacity to develop and implement CDM projects.

➤ **Complex and Time-Consuming Approval Process**

The CDM approval process was complex and time-consuming, which discouraged potential project developers. The process involved multiple stakeholders, including the Ministry of Climate Change, the Designated National Authority (DNA), and the CDM Executive Board.

➤ **Financial Barriers**

The initial costs associated with developing and implementing CDM projects were significant.

➤ **Uncertainty of Carbon Market**

The price of carbon credits in the CDM market had been volatile, making it difficult for project developers to secure financing and ensure long-term profitability.

Enabling Environment for Carbon Markets

To effectively implement Article 6, a supportive enabling environment is essential. This requires a combination of actions from different stakeholders:

1. Augmenting Permanent Technical Resource in the Ministry of Climate Change (MoCC):

As it is often remarked, Pakistan has not fully capitalized on the Clean Development Mechanism (CDM) due to the absence of a sustainable framework or dedicated body. To optimize the utilization of carbon markets, it is crucial to address this gap. This involves bolstering the technical resources within the Ministry of Climate Change (MoCC) and establishing a robust Climate Change Authority. This authoritative body would not only enhance the efficiency of carbon market-related functions but also ensure a comprehensive and well-coordinated approach. Therefore, there is a critical need to invest in and fortify both the technical capacity within MoCC and the overall functionality of the Climate Change Authority.

As per the provisions of the Pakistan Climate Change Act of 2017, one of the functions of the Climate Change Authority, as per its Section 8; Clause 1(q), is to work in collaboration with relevant Government Agencies and non-governmental organizations. After the conduct of relevant research and studies, the authority sets targets and coordinates actions for the reduction of greenhouse gas emissions and the development of carbon markets.

2. Provincial GHG inventories and NDC targets

a. Disaggregated Data for Informed Decision-Making

Provincial GHG inventories may provide disaggregated data on emissions from various sectors, such as energy, industry, agriculture, and waste. This granular information will allow policymakers to identify emission hotspots and develop tailored mitigation strategies for each province.

b. Tracking Progress towards NDC Targets

Provincial GHG inventories may serve as essential tools for tracking progress towards Pakistan's Nationally Determined Contribution (NDC) targets under the Paris Agreement. By comparing

emissions data over time, policymakers can assess the effectiveness of mitigation efforts and make adjustments as needed. One also need to look into that what is the existing mechanism for tracking NDC Progress.

c. Integration with National GHG Registry

Provincial GHG inventories once developed would be required to be integrated with national registry to create a comprehensive system for tracking emissions and carbon credits. This integration is essential for the effective implementation of carbon markets and other mitigation mechanisms.

3. Strengthening the Global Climate Change Impact Studies Centre (GCISC)

Providing the GCISC with additional resources and support can enhance its capacity to train and equip its staff with the latest knowledge and skills in GHG inventory development and methodologies. This will ensure that the GCISC is well-positioned to produce high-quality GHG emissions data.

4. Establish a Clear and Transparent Regulatory Framework

There should be a clear and transparent regulatory framework for the carbon market, defining eligibility criteria, emissions accounting standards, and mechanisms for monitoring, reporting, and verification (MRV). This framework should be developed with stakeholder consultation to ensure fairness and effectiveness.

5. The Role of Training in Carbon Market Participation and the Contribution of Universities and Technical Institutions

Effective participation in carbon markets requires a comprehensive understanding of carbon accounting methodologies, registry functionalities, and market regulations. Trainings through access to diverse carbon registries, including Climate Action Data and gaining understanding of carbon adjustments, shall play a crucial role in building the capacity of individuals and organizations to navigate the complexities of carbon markets. These trainings shall not only enhance technical skills but also shall foster collaboration and knowledge exchange among stakeholders, contributing to a more transparent, accountable, and efficient carbon market landscape.

Universities and technical institutions like GCISC, SDPI etc. have a critical role to play in providing high-quality carbon market training. These institutions can leverage their expertise and resources to develop and deliver tailored training programs that meet the specific needs of various stakeholders, including project developers, validators, investors, and policymakers. By integrating carbon market concepts into their curriculum and offering specialized training courses, universities can prepare the next generation of carbon market professionals with the necessary skills and knowledge to contribute effectively to climate change mitigation efforts.

In addition to providing training, universities and technical institutions can also serve as hubs for carbon market research and innovation. By conducting research on emerging carbon market trends,

developing new methodologies, and exploring innovative applications of carbon markets, these institutions can contribute to the continuous improvement and evolution of carbon market mechanisms.

The combined efforts of universities, technical institutions, and carbon registry platforms can create a comprehensive training ecosystem that empowers individuals and organizations to participate effectively in carbon markets. This, in turn, can accelerate the transition towards a low-carbon economy and contribute to the achievement of global climate change goals.

6. Provinces & ITMOs

The debate on whether Provinces can enter into ITMO deals is complex and there is no easy answer. The Federal Government and Provinces need to work together to develop a framework that allows for provinces to participate in ITMOs while addressing the concerns of stakeholders.

Although, the Provinces have the authority to manage their natural resources, including forests and have the expertise and experience to develop and implement effective carbon management programs and can benefit from the economic opportunities created by ITMOs. However, Federal and Provincial governments have different priorities for the use of forests. Ensuring that ITMO deals are fair and equitable for all stakeholders may be difficult. The lack of a harmonized approach to carbon market regulation across Provinces could lead to inconsistencies and inefficiencies. The Federal Government should clarify the legal framework for provinces to enter into ITMO deals. Provinces should engage in dialogue with various stakeholders, including local communities, indigenous groups, and civil society, to ensure that ITMO deals are equitable and sustainable. Pakistan's Agriculture, Forestry, and Other Land Use (AFOLU) sector has an enormous potential in generating carbon credits in the form of ITMOs, as stipulated by Article 6 of the Paris Agreement.

7. Invest in Capacity Building and Technical Expertise

The MoCC should invest in capacity building and technical expertise to support the development and implementation of carbon market projects. This includes training for project developers, validators, and verification bodies, as well as providing technical guidance on MRV procedures and carbon accounting methodologies.

8. Promote Domestic Participation and Encourage Local Expertise

The MoCC should prioritize the participation of domestic stakeholders in the carbon market, including project developers, investors, and service providers. This can be achieved through targeted outreach, capacity building programs, and incentives for local participation.

9. Address Financial Barriers and Facilitate Access to Finance

There is a need to identify and address financial barriers that may hinder the development of carbon market projects. This could involve establishing financial support mechanisms, such as subsidies, grants, or risk-sharing instruments, to encourage project development and attract investment.

10 Ensure Environmental Integrity and Social Safeguards

The MoCC should implement robust mechanisms to ensure the environmental integrity of carbon market projects and protect social safeguards. This includes establishing clear criteria for project approval, conducting regular audits, and addressing any potential environmental or social concerns.

11 Link Carbon Market to Sustainable Development Goals

The MoCC should align the carbon market framework with Pakistan's sustainable development goals (SDGs), ensuring that carbon market projects contribute to broader objectives such as poverty reduction, economic growth, and environmental protection.

12 Promote Regional Cooperation and Knowledge Sharing

The MoCC should actively engage in regional cooperation and knowledge sharing on carbon markets, learning from experiences of other countries and exploring opportunities for joint initiatives.

13 Regularly Review and Update the Framework

The MoCC should establish a regular review process for the carbon market framework, ensuring that it remains relevant, effective, and in line with international best practices.

Centre for Peace and Development Initiatives (CPDI) is an independent, non-partisan and a not-for-profit civil society organization working on issues of peace and development in Pakistan. It is registered under section 42 of the Companies Ordinance, 1984 (XLVII of 1984) later substituted by Companies Act 2017. It was established in September 2003 by a group of concerned citizens who realized that there was a need to approach the issues of peace and development in an integrated manner. CPDI is a first initiative of its kind in Pakistan. It seeks to inform and influence public policies and civil society initiatives through research-based advocacy and capacity building in order to promote citizenship, build peace and achieve inclusive and sustainable development. Areas of special sectoral focus include promotion of peace and tolerance, rule of law, transparency and access to information, budget watch, media watch, local government, climate change, election watch and legislative watch and development.



Centre for Peace and
Development Initiatives

 +92 51 237 51 58-59, 431 94 30

 CPDI.Pakistan

 CPDI_Pakistan

 CPDI_Pak

 CPDIPakistan2003

A Company setup under section 42 of the Companies Ordinance, 1984

www.cpdipakistan.org