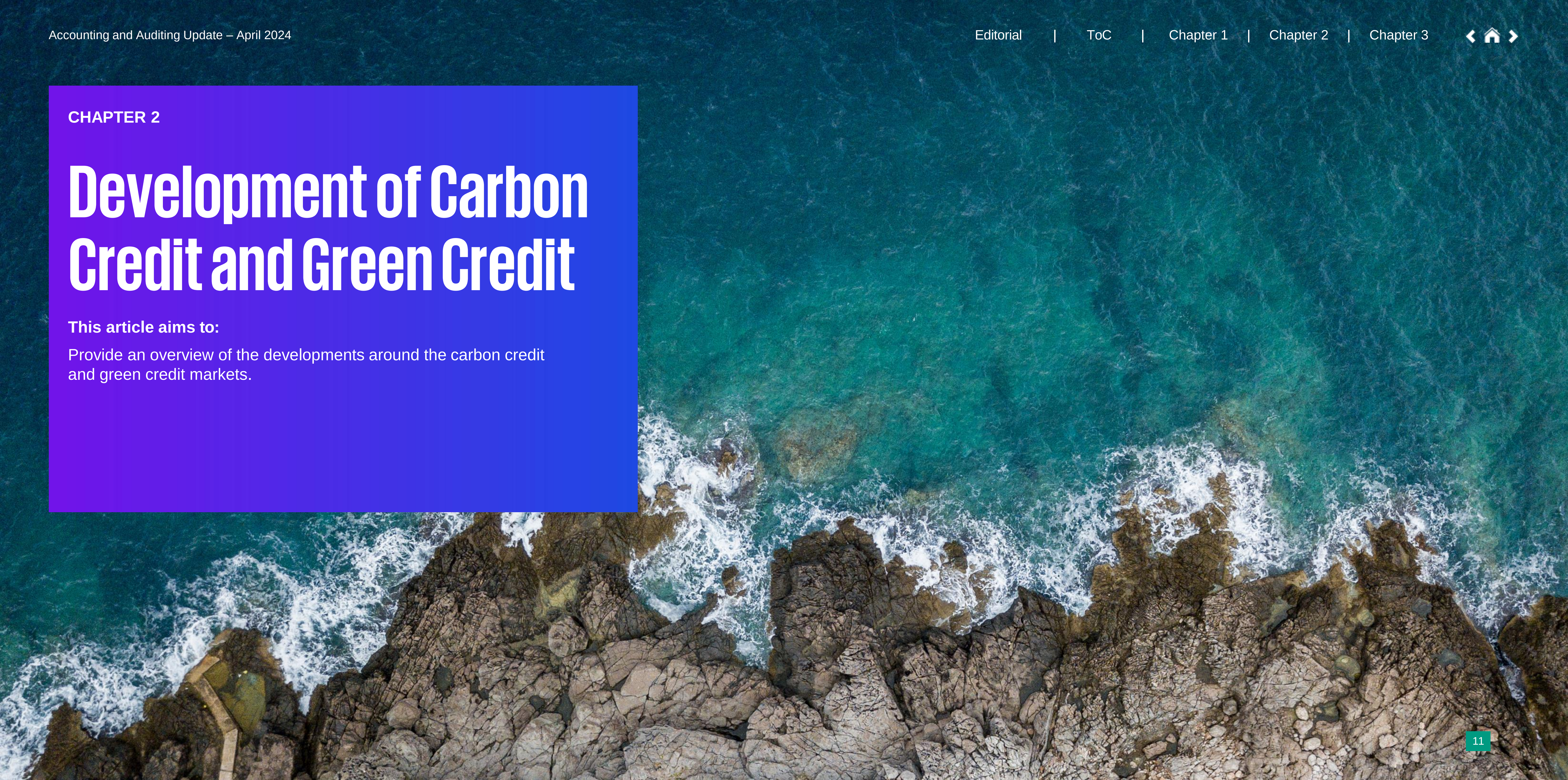
CHAPTER 2

Development of Carbon Credit and Green Credit

This article aims to:

Provide an overview of the developments around the carbon credit and green credit markets.



Introduction

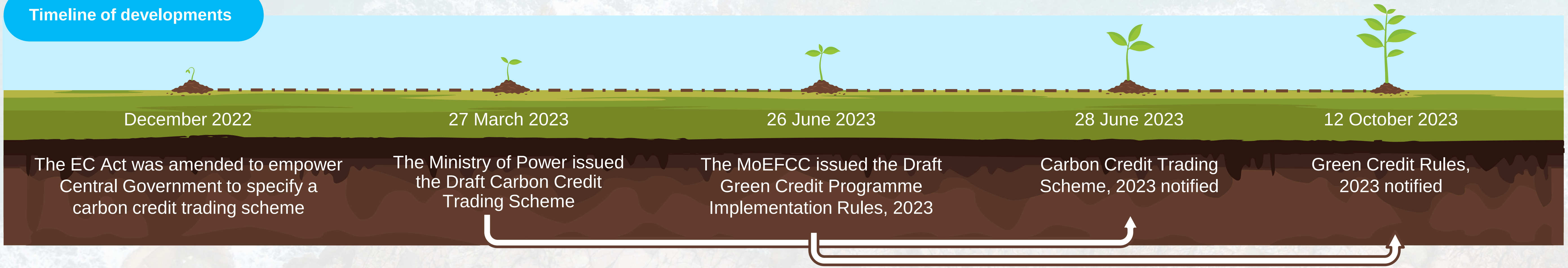
With climate change becoming a reality, governments of many countries have taken the responsibility of managing their carbon footprint in order to reduce the impact of climatic change or breakdown. The Paris Agreement adopted by 196 nations, including India, at the UN Climate Change Conference (COP21), is an international treaty to combat climate change. The participating countries are required to submit their Nationally Determined Contributions (NDCs) which provide the action plan of each country to reduce their Greenhouse Gas (GHG) emissions to achieve the goals of the Paris Agreement. The carbon credit market is one of the key solutions that is being adopted globally.

India is committed to reducing its carbon emissions intensity by 45 per cent by 2030 as per the Paris Agreement. Further, India has made commitments to limit global warming and has announced net-zero targets by 2070. Net-zero refers to reduction of GHG emissions to as close to zero, as much as possible, and offsetting the remaining emissions. Net-zero commitments typically include all value chain emissions as defined in the GHG Protocol. Carbon markets play a significant role to achieve such net zero commitments.

Against this backdrop, on 26 December 2022, the Ministry of Power issued amendments to the Energy Conservation Act, 2001 (EC Act). The EC Act establishes a regulatory framework for energy efficiency and its conservation. The amendments issued in 2022 to insert new provisions relating to carbon credit, emphasising decarbonization through a domestic carbon-trading scheme. To facilitate the achievement of India's enhanced NDC targets, the government has initiated the development of the 'Indian Carbon Market' (ICM) which will mobilise new mitigation opportunities through demand for emission reduction credits by private and public sector entities.

In this regard, in June 2023, the Central Government of India notified the Carbon Credit Trading Scheme (CCTS). Subsequently, in October 2023, the Ministry of Environment, Forest and Climate Change (MoEFCC) further notified the Green Credit Rules (the Rules).

Timeline of developments

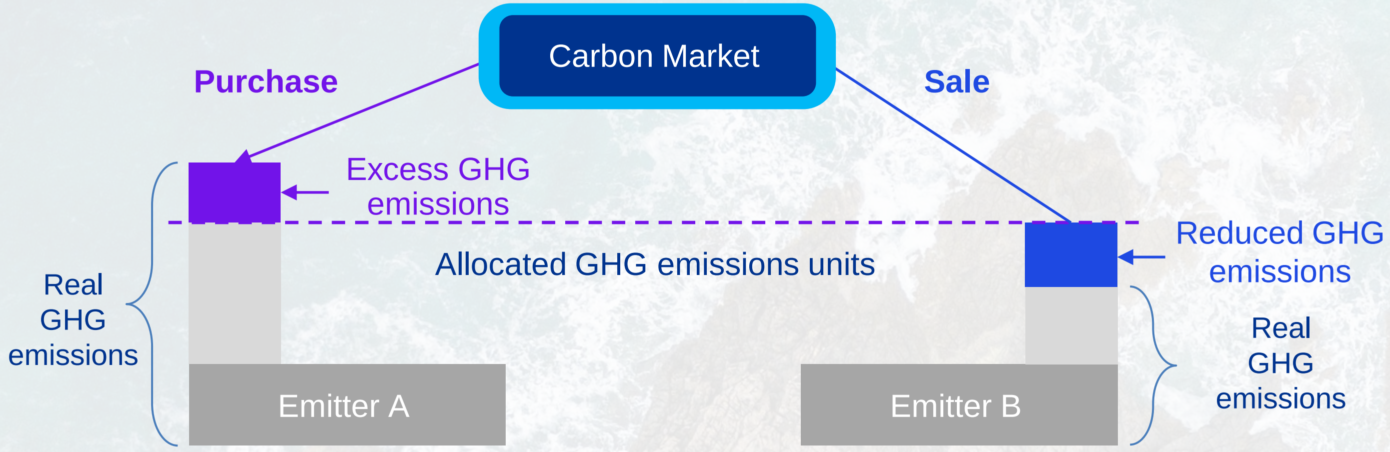


(Source: KPMG in India's analysis read with Notification no. 26 issued on 20 December 2022 issued by Ministry of Law and Justice, notification no. S.O. 2825 issued by Ministry of Power on 28 June 2023 and notification no. S.O. 4458 (E). dated 12 October 2023 issued by the Ministry of Environment, Forest and Climate Change)

How does the carbon market work?

Every industry is permitted to emit certain amount of carbon dioxide or other GHG in the atmosphere. Carbon markets incentivise entities for reducing or removing GHGs within the prescribed limits, by issuing Carbon Credit Certificates (CCC).

On the other hand, if an entity exceeds the GHG emission threshold, it is required to purchase carbon credits from the organisation that has been issued with the CCC in order to offset its excess emissions. These CCC are transferable or tradeable instruments. Companies can purchase carbon credits to achieve net emissions targets or meet regulatory requirements. The entities may face penalties by the government for not meeting the regulatory requirements.



(Source: KPMG in India's analysis, 2023)

1. The Scheme defines obligated entities as 'registered entities' that are notified under the compliance mechanism of the Scheme and given a target for emission reduction. The non-obligated entities as 'registered entities' that can either generate or purchase the carbon credit certificates on voluntary basis. As per EC Act, a registered entity means any entity, including designated consumers, registered for carbon credit trading scheme.

Carbon Credit Trading Scheme (CCTS)

The CCTS is a strategic government initiative to establish and operationalise the domestic carbon market in India. The CCTS lays out the roles of various stakeholders for the functioning of the carbon market. It includes formation of the National Steering Committee as the governing board, the Bureau of Energy Efficiency as the administrator of the carbon market, trading of carbon credit certificates, the registry, the trading administrator, formation of Technical Committees, offset mechanism, etc.

The National Steering Committee for Indian Carbon Market (NSCICM) would help establish the Indian carbon market; by suggesting rules, regulations, developing the framework for voluntary carbon credit trading, and establishing trading criteria for carbon credits.

Carbon Credits

As per CCTS, carbon credit means a value assigned to a reduction, removal, or avoidance of GHG emissions achieved and is equivalent to one ton of carbon dioxide (tCO_2e). The CCTS requires obligated entity[1] to comply with the GHG emission norms in accordance with the targets as notified by the Central Government.

Compliance mechanism under CCTS

CCTS has been notified in June 2023 and to operationalise CCTS, the Bureau of Energy Efficiency (the bureau), Ministry of Power and the Ministry of Environment, Forest and Climate Change (MoEFCC) issued a draft compliance mechanism. The draft compliance mechanism outline steps for obligated entities to ensure compliance with the CCTS scheme. Following are the key components of the draft mechanism:

i. GHG emission intensity trajectory and targets

The government would decide on the sectors and obligated entities that need to record and maintain GHG emissions data. It would then notify the GHG Emission intensity targets in terms of tons of carbon dioxide equivalent (tCO2e) per unit of equivalent product, which must be met annually over a three-year trajectory period. The obligated entities who fail to achieve the emission targets can purchase the CCC to meet the emission targets.

GHG emission intensity reduction trajectory for relevant sectors will be based on the following -	GHG emission intensity reduction targets for relevant sectors will be based on the following -
Nationally Determined Contributions	The GHG emission intensity reduction trajectory for that sector
Potential for usage of non-fossil fuels and decarbonisation in the sector	Average rate of reduction in GHG emission intensity for that sector determined based on the historical data
Technology and cost of implementations	

ii. Monitoring and reporting process

- In order to achieve the GHG emissions targets set, the obligated entities are required to put in place a transparent and credible monitoring plan to monitor and report their GHG emissions.
- The monitoring plan would be submitted to the Bureau with prescribed timelines covering details such as activities being monitored, sampling procedure, written procedure, etc.
- All the activities undertaken by the obligated entity under this procedure should be scrutinised by the accredited carbon verifier for the purpose of preparation of verification report and verify compliance with respect to GHG emissions norms as notified by the MoEFCC.

iii.Other components

- ***Verification and performance assessment:*** The compliance mechanism provides that the performance of the obligated entities in achieving the GHG emission intensity targets would be verified and assessed in the prescribed manner.
- ***Issuance of Carbon Credit Certificates:*** The obligating entities on achieving the set targets will be issued carbon credit certificates by the Bureau.
- ***Trading of Carbon Credit Certificates:*** After the issuance of the carbon credit certificates, it can be traded in the Indian Carbon Market (ICM) as per the prescribed procedures.
- ***Banking of Carbon Credit Certificates:*** At the end of every compliance cycle, the balance CCC can be banked for utilisation in the next compliance cycles. The obligated entity also has the option of selling the banked CCC that was issued to it in the ICM in the next compliance cycles. However, the banked CCC that were purchased from the ICM can be used only in the compliance cycles in which it was purchased.

Green credit rules

In October 2023, the MoEFCC introduced the Green Credit Rules (the rules) or the Green Credit Programme (GCP) which include activities for environmental preservation and protection that go beyond greenhouse gas emissions reduction or removal. The Rules define 'green credit' as a single unit of an incentive provided for a specified activity, delivering a positive impact on the environment.

The Green Credit market is independent of the CCTS framework, expanding the scope for climate action. The governance framework under these rules is supported by inter-ministerial Steering Committee and the Indian Council of Forestry Research and Education (ICFRE) as the administrator, who are responsible for program implementation, management, monitoring and operation.

List of activities notified under the Green Credit Rules

- Tree Plantation
- Water Management
- Sustainable Agriculture
- Waste Management
- Air pollution reduction
- Mangrove conservation & restoration
- Ecomark label development
- Sustainable building & infrastructure

(Source: KPMG in India's analysis, 2023 read with the Ministry of Environment, Forest and Climate Change notification dated 12 October 2023)

The Green Credit system incentivises positive environmental actions by individuals, organisations, and industries, extending beyond greenhouse gas emissions and encourages improvements in air and water quality, waste reduction or management, etc. Similar to the carbon market structure, the programme allows entities to claim credits for actions positively impacting the environment and trade these for financial benefits also.

The rules outline detailed process for obtaining green credits. The Central Government would constitute a Steering Committee and technical committee to monitor and assist implementation of the Green Credit programme.

In this regard, on 22 February 2024, the MoEFCC notified the methodology for calculation of green credit in respect of tree plantation. Additionally, a draft methodology for water harvesting has also been issued in October 2023.

Some of the key points covered in the notified tree plantation methodology and draft methodology for water harvesting are as follows:

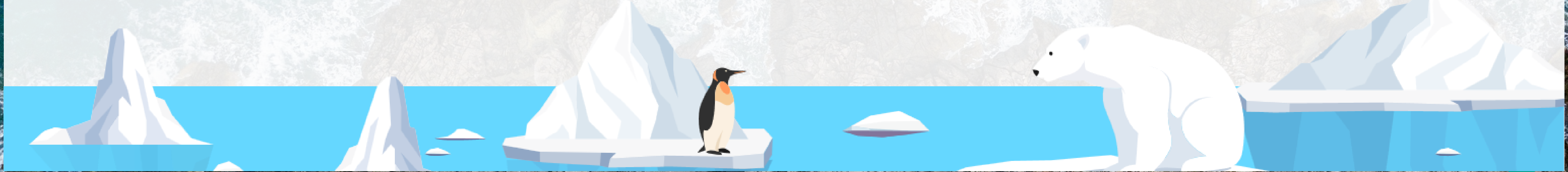
Tree plantation methodology

- The Forest Department of every State and Union territory is responsible to identify degraded land parcels, which should be made available for tree plantation and for green credit generation under the said notification. The land parcels identified should be sized five hectares or above and be free from all encumbrances.
- Any person or entity desirous of undertaking tree plantation is required to apply to the administrator who will assign a land parcel to the applicant.
- The applicant is required to submit a proposal for undertaking tree plantation for generation of green credit to the administrator.
- The green credit should be calculated at the rate of one green credit per tree grown through the tree plantation on such land parcel, subject to minimum density of 1100 trees per hectare, based on the local silvi-climatic and soil conditions, on the certification of completion of tree plantation provided by the concerned Forest Department.

Draft water harvesting methodology

- All persons and entities including individuals/Follow-on Public Offerings (FPOs)/Cooperatives/Forest Management Committees/Sustainable Agricultural Enterprises/Self Help Groups (SHGs)/Eco-development committee/Urban and rural local bodies are eligible for registration under the water harvesting scheme.
- The green credit should be calculated at the rate of 75 green credits per 100 cubic meter.
- Physical verification is carried out for projects upto 1000 cubic meter by the existing government machinery such as (Revenue, Municipal, Forest, Agriculture and Irrigation Department) and for projects of 1000 cubic meter and above by third party verifiers designated under Green Credit Rules, 2023.
- Any water harvesting project covered under any existing/new laws, as amended will also get registered under the Green Credit Rules, 2023 and can trade/generate the green credits generated as mandated under these laws/regulations.

The methodology and procedure for calculation of generating green credit for each of the balance environment activities mentioned above and the trading platform are yet to be developed and pending notification by the Government of India.



Key considerations relating to carbon credit market and green credit programme

With the CCTS framework already in place, the green credit programme is expected to encourage an incentive-based approach to achieve a low emission future. Even though green credit programme encompasses registration, calculation and issuance of green credits, final guidelines around them are yet to be notified by the government. Following are some additional points of consideration related to carbon credit market and green credit rules:

- The notified carbon credit scheme does not provide clarity regarding the timeline for operationalising the carbon market and which section of the market applies it first. The concept of carbon credit is not new and is currently regulated by Perform, Achieve and Trade (PAT) scheme by government. PAT is a mechanism designed to achieve the required energy efficiency in energy intensive sectors, with an associated market-based mechanism to enhance the cost effectiveness through certification of excess energy saving which can be traded. The scheme and draft compliance mechanism do not provide clarity that whether all the existing entities under the PAT scheme to get transferred to the carbon credit market.
- One of the crucial points for the effectiveness of the carbon market is the carbon price discovery. The price should be balanced to encourage participation and incentivise emission reduction. There is a need for robust price discovery methodology across sectors along with regular intervention to avoid over supply or over demand of credits.
- Currently, the carbon certificates are being traded under the voluntary international markets by the Indian stakeholders. With the new domestic carbon market now in place, clarity is required on the functioning of global carbon credit certificates parallelly with the domestic carbon credit certificates.
- The green credit programme is a new initiative by the government of India and currently, there is no existing market for green credit leading to lack of awareness around it. Since the main purpose of this initiative is to boost voluntary environmental activities, the government should take steps to develop awareness programs as part of this initiative. Such steps would help increase participation across various sectors and boost environmental conservation efforts by corporate entities.

The bottom line

Carbon markets have a significant role to play in achieving GHG targets and net zero commitments by enabling governments and organisations to effectively manage emissions and emission reduction limits. This is an emerging area and regulatory focus on carbon markets has been increasing. The carbon credit trading scheme and green credit programme are two groundbreaking steps taken by Indian government against climate change. The corporates in India should track the regulatory announcements in this area.