International Carbon Action Partnership

Indian Carbon Credit Trading Scheme

General Information

ETS Description

The government of India introduced an amendment to the “Energy Conservation Act, 2001”, providing a legal basis for the establishment of a Carbon Credit Trading Scheme (CCTS) and issuance of carbon credit certificates (CCCs). The amendment bill, incorporating these provisions, was passed in the Lower House (*Lok Sabha*) in August 2022, adopted, and subsequently passed in the Upper House (*Rajya Sabha*) in December 2022. The amendment bill provides the legal basis to establish an Indian carbon market (ICM) and grants the power to issue CCCs for the reduction of emissions.

Following passage of the amendment, the government began work on the institutional and regulatory framework for the CCTS. The draft notification was published for stakeholder consultation in March 2023. Based on received comments, the notification was revised and officially issued in June 2023. This notification established an institutional framework, including the National Steering Committee for the Indian Carbon Market (NSCICM), tasked with overseeing the ICM framework. Additionally, roles and responsibilities of the administrator, technical committee, and other stakeholders were defined. CCCs (denominated in 1 tCO_2e) will be issued or surrendered based on performance against emission intensity targets for covered entities.

In July 2024, the government adopted detailed regulations for the compliance mechanism under the CCTS. It will take the form of an intensity-based baseline-and-credit system, initially covering entities from nine energy-intensive industrial sectors (see ‘Sectors and Thresholds’ section).

Covered entities will receive an emissions intensity target covering a six-year trajectory period, notified by the Ministry of Environment, Forest and Climate Change (MoEFCC) and denominated in tCO_2e per unit of product. New targets will be announced every three years, to enable longer-term planning for covered entities. If a covered entity overachieves its emissions intensity target, it can earn CCCs based on the difference between the achieved and the targeted emissions intensity. Entities that fail to achieve their targets will have to surrender/purchase a corresponding number of CCCs to ensure compliance; this will be achieved by facilitating trading among the covered entities on a registry/trading platform.

Applying a “gate-to-gate” approach to cover the emissions along the entire value chain, the scope of the CCTS will include both direct emissions from fuel combustion and industrial processes, and indirect emissions from electricity and heat consumption (Scope 1 and 2). In addition, some Scope 3 emissions will also be considered (import and export of intermediary products). It will initially cover CO_2, and perfluorocarbons (PFCs).

The CCTS will be based on the existing Perform, Achieve and Trade (PAT) scheme – a mandatory energy efficiency scheme covering more than 1,000 entities from 13 energy-intensive sectors – that will be gradually transitioned into a compliance carbon market. The compliance mechanism will utilize existing MRV guidelines and administrative infrastructure.

A gradual transition from the current PAT scheme to the CCTS will begin in 2025, with the first nine industrial sectors being transitioned to the CCTS from FY2026. The baseline emissions level for these nine sectors will be determined using 2023-2024 emissions data, which will be used to determine obligated entities’ targets under the CCTS.

The compliance mechanism will be complemented by a voluntary domestic crediting mechanism that will allow non-covered entities to register eligible projects for GHG emission reduction, removal, or avoidance for the issuance of CCCs. This component of the CCTS aims to incentivize emission reductions in sectors outside of the compliance market and to increase market liquidity, encompassing a comprehensive approach for GHG reduction.

The compliance mechanism will be jointly managed by the Ministry of Power, the MoEFCC, and the Bureau of Energy Efficiency (BEE), acting as administrator of the scheme.

ETS Status

under development

Jurisdictions

India

Sectoral coverage

Industry

Emissions & Targets

Overall GHG Emissions excl. LULUCF (MtCO2e)

3,132.03 $MtCO_2e$ (2019)

GHG reduction targets

By 2030: Reduce emissions intensity by 45% below 2005 levels (updated NDC)
By 2070: Net Zero (updated NDC)

Size & Phases

GHGs covered

CO2, PFCs

Cap or total emissions limit

The total emissions limit under the Indian CCTS is the sum of the bottom-up output-based emissions limits for all individual covered entities. However, the bottom-up emissions limits do not represent an absolute cap.

Sectors and thresholds

PHASE 1 (from FY2026):

Initially, the compliance mechanism under the CCTS will cover entities from nine industrial sectors that were previously regulated under the PAT scheme: aluminium, chlor-alkali processes, cement, fertilizer, iron and steel, pulp and paper, petrochemicals, petroleum refining, and textiles.

INCLUSION THRESHOLDS: Entities currently covered under the PAT scheme will be transitioned to the CCTS, using the same inclusion thresholds (varying by sector).

Point of regulation

Point source (industry)

Type of entities

Installations/facilities

Number of entities

~800 entities (from FY2026)

Allowance Allocation & Revenue

Allowance allocation

Within the CCTS, the government will establish sector-specific GHG emissions intensity trajectories. Developed by the BEE in consultation with a technical committee, these trajectories will outline necessary sectoral reductions to meet India's NDC targets. They consider factors such as available technology, energy efficiency, and decarbonization potential, and will be regularly reviewed and updated.

Each covered entity will receive GHG emissions intensity targets based on its sub-sector's trajectory and relative emissions performance. These targets will be set for three-year periods, with annual compliance targets. The technical committee will evaluate entities' GHG emissions, including direct, process, and indirect emissions, to establish baselines and future targets.

The government will notify covered entities with a mandatory emissions intensity target (baseline), defined as tCO_2e per unit of output, for each year of the specified compliance period. Entities that overachieve their GHG emissions intensity target will be eligible for the issuance of CCCs, and entities that fall short of their target will be required to purchase and surrender an equivalent number of certificates to compensate for the shortfall.

The BEE will issue the CCCs, which will be traded through the country's power exchanges. C overed entities will be required to register on a national registry, while non-covered entities may do so if they wish to participate in trading. Initially, the CCTS will not allow over-the-counter trading; all trading will take place under the supervision of the exchange.

Flexibility & Linking

Banking and borrowing

Unlimited banking of CCCs is allowed. Banked CCCs can be either sold within the ICM or used to meet future compliance obligations.

Borrowing is not allowed.

Links with other Systems

The Indian CCTS is not linked with any other system.

Other carbon pricing instruments in the jurisdiction

Domestic crediting mechanism: India crediting mechanism (upcoming)*

* The domestic crediting mechanism is expected to be implemented in 2025.

Compliance

Compliance mechanism

Entities that fail to achieve their annual emissions targets will have to surrender a corresponding number of CCCs to cover the excess emissions and ensure compliance.

The annual emissions target for the first entities covered under the CCTS will be determined using 2023 to 2024 emissions data as baseline. New emissions intensity targets will be announced every three years, to enable longer-term planning for covered entities.

Compliance Period

One year

Monitoring, Reporting, Verification (MRV)

MONITORING: Covered entities must monitor emissions by either continuously measuring at the source or tracking aggregate fuel/material quantities delivered, consumed, and adjusted for stock changes. Activity data is calculated based on fuel/material received, used, and stock variations during the compliance year, expressed in mass (tonnes) or volume (kilolitres, cubic metres). If direct stock measurement is impractical, estimates from historical data or financial records may be used.

For emission calculations, entities must determine the net calorific value (NCV) of fuels. Solid fuel NCV is measured using Indian standards, gaseous fuel using Indian or ASTM standards, and liquid fuel can use supplier values certified by accredited labs. If NCV data is unavailable, IPCC standard conversion factors are applied. All testing must comply with relevant laboratory standards.

REPORTING: The covered entity must submit a verified GHG emissions report and proforma to the BEE and State Designated Agency within four months after the compliance year ends. The annual report should include:

- registration and contact details;
- reporting year and monitoring plan information;
- changes in operations during the reporting period;
- details on the production process, raw material consumption, and emissions sources;
- emissions data, including CO_2 and other GHGs in tCO_2e, with calculation methodologies; and
- details of sampling plans, data control, biomass use, and implemented GHG reduction measures.

VERIFICATION: The report must be verified by an accredited carbon verification agency to ensure compliance with GHG emissions intensity targets set by the MoEFCC.

FRAMEWORK: The regulatory framework for the compliance mechanism under the CCTS is defined in the “Detailed Procedure for Compliance Mechanism under CCTS”, published by the BEE in October 2024.

Penalties and enforcement

Penalties apply if covered entities fail to meet their compliance obligations.

Market Regulation

Market Design

MARKET PARTICIPATION: Compliance entities

MARKET TYPES:

Primary: Allowances will initially not be auctioned.

Secondary: CCCs will be traded through the country’s power exchanges, with the Central Electricity Regulatory Commission (CERC) acting as the regulator for trading activities.

LEGAL STATUS OF ALLOWANCES: CCCs will not be considered financial instruments in the initial stage of CCTS.

Other Information

Institutions involved

Ministry of Environment, Forest and Climate Change (MoEFCC): Responsible for national climate strategy. Formally designates facilities as covered entities under the CCTS and notifies GHG emission targets under the “Environment Protection Act (1986)”.

Ministry of Power (MoP): Responsible for national energy policy and the national carbon market. Recommends GHG emission targets to the MoEFCC for notification.

Bureau of Energy Efficiency (BEE): Responsible for the administration and implementation of the CCTS. Its responsibilities include identifying relevant sectors and their potential for GHG reduction, developing emissions trajectories and targets for covered entities under the compliance mechanism, issuing CCCs, and developing the necessary IT infrastructure for the operation of the Indian carbon market.

Grid Controller of India (GCI): Registry operator for the CCTS.

Central Electricity Regulatory Commission (CERC): Regulator for trading activities under the CCTS. It provides market oversight and takes necessary corrective action to prevent fraud.

Regulatory Framework

Detailed Procedure for Compliance Mechanism under CCTS (2024)

Carbon Credit Trading Scheme, 2023

Energy Conservation (Amendment) Bill (2022)

Energy Conservation Act (2001)

The Environment Protection Act (1986)

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