



Indian Carbon Market

Saurabh Diddi

Director



Bureau of Energy Efficiency
Ministry of Power

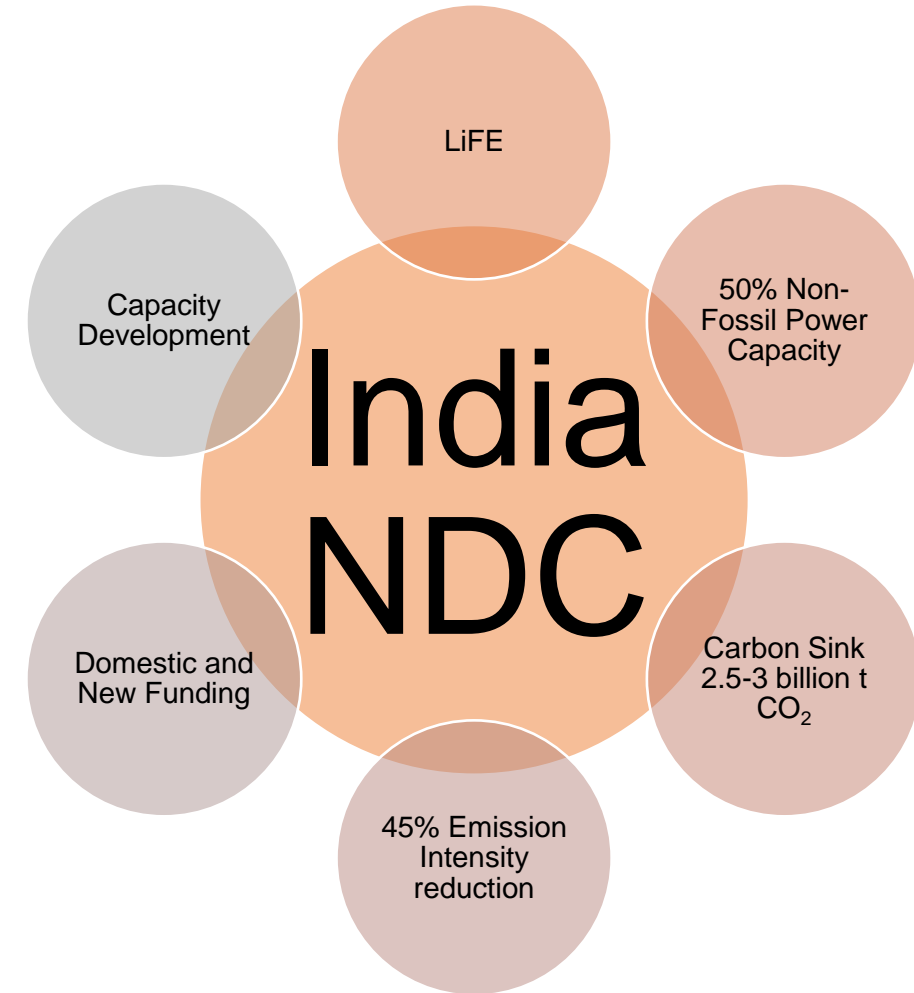


India's Climate Action Commitments



India has submitted its updated Nationally determined contributions (NDCs):

- To put forward and further propagate a **healthy and sustainable way of living** based on traditions and values of conservation and moderation, including through a mass movement for '**LIFE**'– '**Lifestyle for Environment**' as a key to combating climate change.
- To **reduce Emissions Intensity** of its GDP by 45 percent by 2030, from 2005 level.





Need for Carbon Market



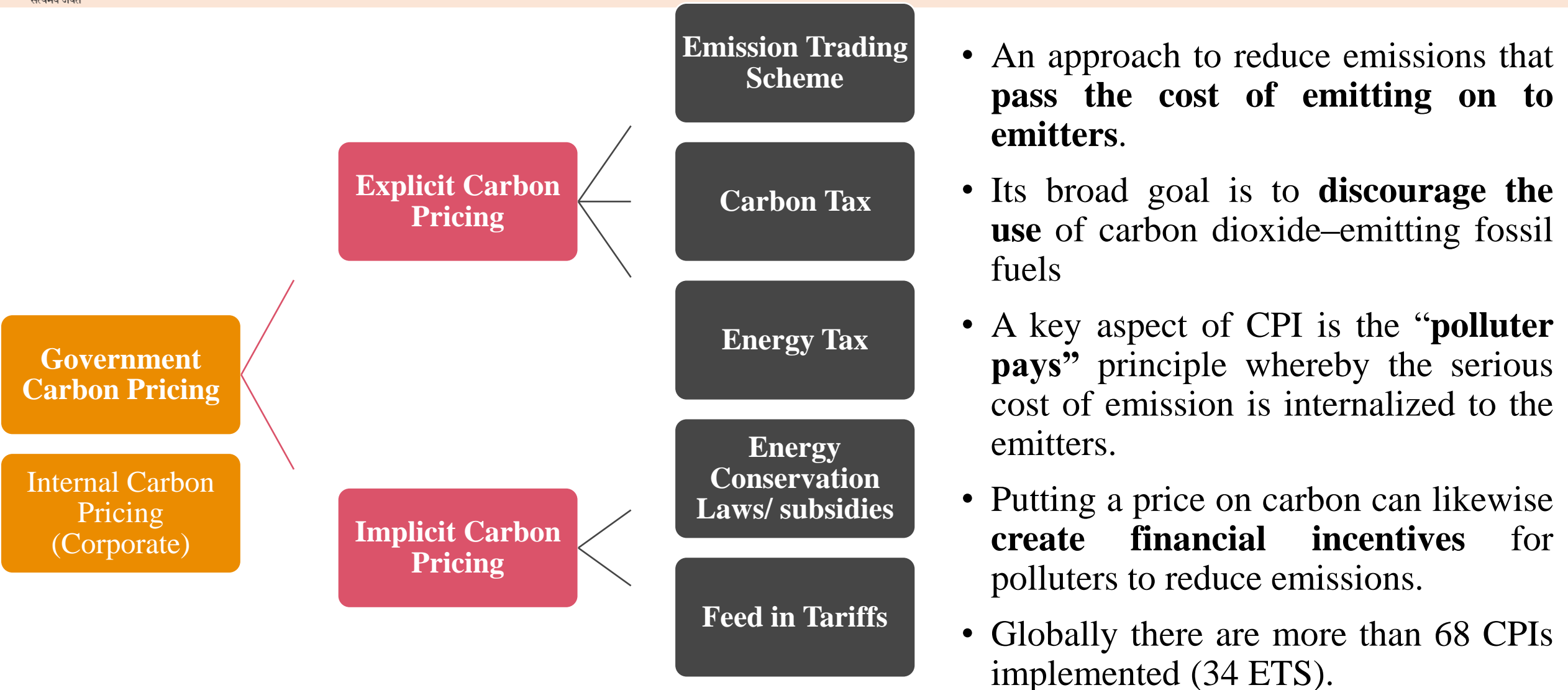
- To **facilitate** the achievement of India's enhanced **NDC targets** and **future NDC goals**.
- To mobilize new mitigation opportunities through **demand for emission reduction credits** by private and public entities.
- To **mobilise** a significant portion of **investments in clean technologies** required by growing economy to transit toward low-carbon pathways.
- To **leverage** the potential international collaboration and financing **opportunities under Article 6** of the Paris Agreement.



ETS Global Experience



Carbon Pricing Instruments (CPI)





Type of ETS



Cap & Trade Scheme	Carbon Offset Scheme (crediting)	Perform, Achieve and Trade
Ex-ante emission allowances	Ex-post emission reduction units/carbon credits	Ex-post energy saving certificates
Obligated entities	Non Obligated entities	Obligated entities
<ul style="list-style-type: none"> Government allocates emission allowances to obligated entities. The obligated entities surrender their allowances at the end of the compliance period. The obligated entities can trade emission allowances to meet their obligation: <ul style="list-style-type: none"> Obligated entities with a higher level of emissions than their allowances should buy allowances. Obligated entities with a lower level of emissions than their allowances can sell allowances. 	<ul style="list-style-type: none"> A project proponent (i.e., a non-obligated entity) registers a carbon offset project and establishes the baseline scenario of emissions. Carbon credits are issued based on the amount of emission reductions achieved. Carbon credits can be purchased by both obligated and non-obligated entities: <ul style="list-style-type: none"> Non-obligated entities to meet their emission reduction targets. Obligated entities to offset a specific percentage (usually 5-10%) of their target defined under the ETS. 	<ul style="list-style-type: none"> PAT has elements of both ETS and carbon crediting by virtue of setting a baseline and a target) and trading ESCerts. Government sets a specific energy consumption target for all designated consumers (i.e., obligated entities): <ul style="list-style-type: none"> The obligated entities overachieving the targets are issued with ESCerts while those underachieving the targets are required to purchase ESCerts. ESCert are traded between obligated entities under the PAT Cycle.



Overview of International Carbon Market



ETS	Coverage	GHG covered	Number of Entities	Sectors	Impact	Offset Scheme	Allowance price as on date
EU ETS	43% of EU emissions – 1.59 billion t CO₂	CO ₂ , N ₂ O, PFCs	11,000 based across 28 EU member states	Power Plants and Major Industries	Installations covered by the ETS reduced emissions by about 35% between 2005 and 2019	No offset scheme in Phase III	EUR 52.93 (USD 62.61)
Korea ETS	70% of emissions – (0.6 billion t CO₂)	CO ₂ , CH ₄ , N ₂ O, PFCs, HFCs, SF ₆	610 firms across 17 sectors	Power Plants and Major Industries	Between the K-ETS start in 2015 and 2018, emissions intensity dropped 3.9%.	Domestic Offset Scheme (Credits allowed up to 10%)	KRW 26,373 (USD 23.06)
China ETS	40% of emission (4.5 billion t CO₂)	CO ₂	Over 2000 Power Companies	Power Plants	Nearly 194 million tonnes of China Emission Allowance (CEA) transacted.	Domestic Offset Scheme (up to 5%)	CNY 46.61 (USD 7.23)



ETS –Allowance Prices

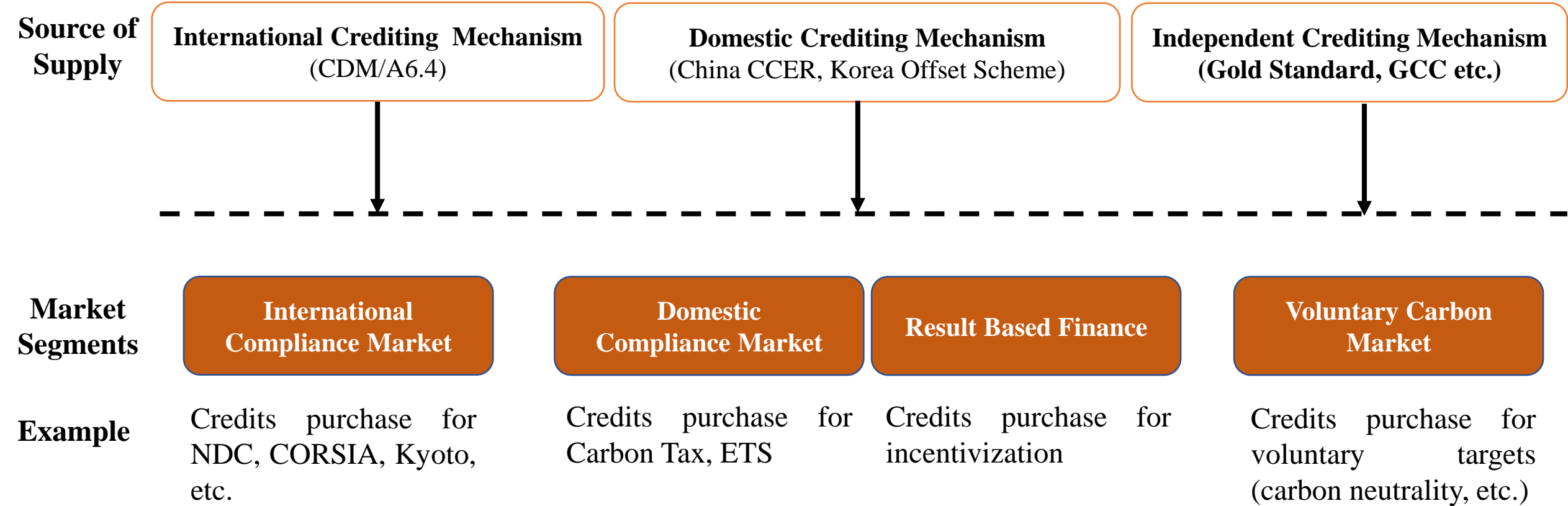


ICAP Allowance Price Explorer





Offset – Supply & Market Segments

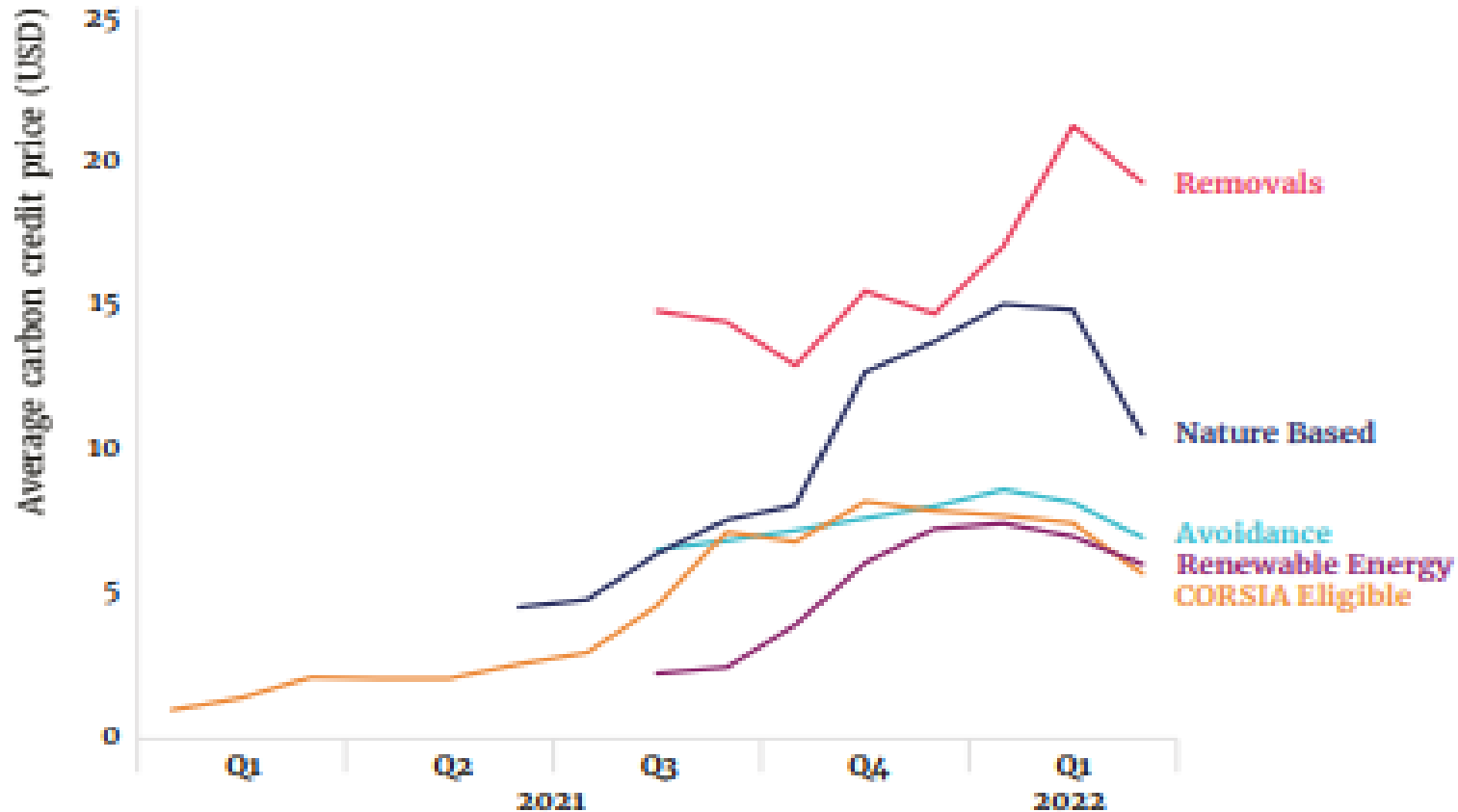


Five countries with national ETS have already implemented carbon crediting mechanisms, while Mexico's crediting mechanism is still under development

Source: The World Bank



Offset Market – Prices



Removals and nature-based credits fetching higher prices

Carbon Credit price USD 5-20/ t CO₂



India's Experience in Market-based Mechanism



Market-based Mechanisms in India



Scheme	Nodal Agency	Launched	Metric	Coverage	Regulatory body	Registry	Trading platform
PAT	Bureau of Energy Efficiency, MoP	2012	1 ESCert = 1 TOE saved	13 energy-intensive sectors	Central Electricity Regulatory Commission (CERC)	Grid Controller of India	Indian Energy Exchange (IEX) and Power Exchange India Limited (PXIL)
REC	Ministry of New and Renewable Energy (MNRE)	2010	1 REC = 1 MWh	Distribution Licensees, Captive Consumers, Open Access users	Central Electricity Regulatory Commission (CERC)	Grid Controller of India	Hindustan Power Exchange Limited (HPX)
CDM	National CDM Authority (India) and UNFCCC	2005	1 CER = 1 t CO ₂	Covering 15 sectoral scopes	-	CDM Registry	-



Proposed Indian Carbon Market



Development of Indian Carbon Market



- To develop the carbon market, the **required amendments** were proposed in the Energy Conservation Act, 2001 (52 of 2001) and notified in December 2022.
- The Energy Conservation (EC) Amendment Act, 2022, empowers the Central Government to **specify the Carbon Credit Trading Scheme (CCTS)** under the **clause (w) of Section 14** of the Act and to **issue the carbon credit certificate** under the **clause (1) of Section 14AA** of the Act.
- A **national framework** will be established with an objective **to decarbonize the Indian economy** by **pricing the GHG emission** through **trading of the Carbon Credit Certificates**.



Regulatory Framework



The Environment (Protection) Act, 1986

- **Clause (2)(iv):** laying down standards for emission

The Energy Conservation Act, 2001*

- **Section 14 (w):** specify the carbon credit trading scheme.
- **Section 14 AA:**
 - (1) The Central Government, or any agency authorised by it may issue a carbon credit certificate.
 - (2) The registered entity shall be entitled to purchase the carbon credit certificate.

*Amended in 2022



The Energy Conservation Act, 2001



- *Section 14 - Power of Central Government*

Clause (w): specify the carbon credit trading scheme

- *Section 14AA - Issuance of Carbon Credit Certificate*

Clause (1): The Central Government, or any agency authorised by it may issue a carbon credit certificate to the registered entity which complies with the requirements of the carbon credit trading scheme.

Clause (2): The registered entity shall be entitled to purchase the carbon credit certificate in accordance with the carbon credit trading scheme specified under clause (w) of section 14.



The Environment Protection Act, 1986



■ *Section 3 - Power of Central Government to Take Measures to Protect and Improve Environment*

Clause (2)(iv): laying down standards for emission or discharge of environmental pollutants from various sources whatsoever:

Provided that different standards for emission or discharge may be laid down under this clause from different sources having regard to the quality or composition of the emission or discharge of environmental pollutants from such sources.

■ *Section 6 - Rules to Regulate Environmental Pollution*

Clause (2): In particular, and without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely: --

(a) the standards of quality of air, water or soil for various areas and purpose.

(b) the maximum allowable limits of concentration of various environmental pollutants.



Establishment of Governing Board



Indian Carbon Market Governing Board (ICMGB)

ICM governance and direct oversight of the administrative and regulatory functioning.

Chairperson

Secretary, Ministry of Environment, Forest and Climate Change

Secretary, Ministry of Power

Members

Ministry of Finance	Niti Aayog	Ministry of Power	Ministry of Environment, Forest and Climate Change
Ministry of New and Renewable Energy	Ministry of Steel	Ministry of Coal	Ministry of Petroleum and Natural Gas
Central Electricity Authority	Grid Controller of India Limited	Member Secretary: Director General, Bureau of Energy Efficiency	





Indian Carbon Market (ICM)



Mechanisms under Indian Carbon Market

Compliance Mechanism

A mechanism under the Carbon Credit Trading Scheme under which the obligated entities shall **comply with the prescribed GHG emission norms** notified by the Central Government.

Offset Mechanism

A mechanism under the Carbon Credit Trading Scheme where the non-obligated entities can **register their projects** for GHG emission reduction or removal against the baseline for the issuance of Carbon Credit Certificates;

Obligated Entities

Mandatory- Carbon Credit Certificates (M-CCC)

Non – Obligated Entities

Offset - Carbon Credit Certificates (O-CCC)



Certificate under ICM



Carbon Credit Certificates (CCC)

**Offset –
Carbon Credit
Certificates
(O-CCC)**

**Mandatory –
Carbon Credit
Certificates
(M-CCC)**

CCCs – Characteristics

- Additional
- Based on a realistic and credible baseline.
- Quantified, monitored, reported, and verified.
- Transparent chain of custody.
- Represent permanent emissions reductions.
- Are only counted once towards a mitigation obligation.
- No negative externalities on environment.

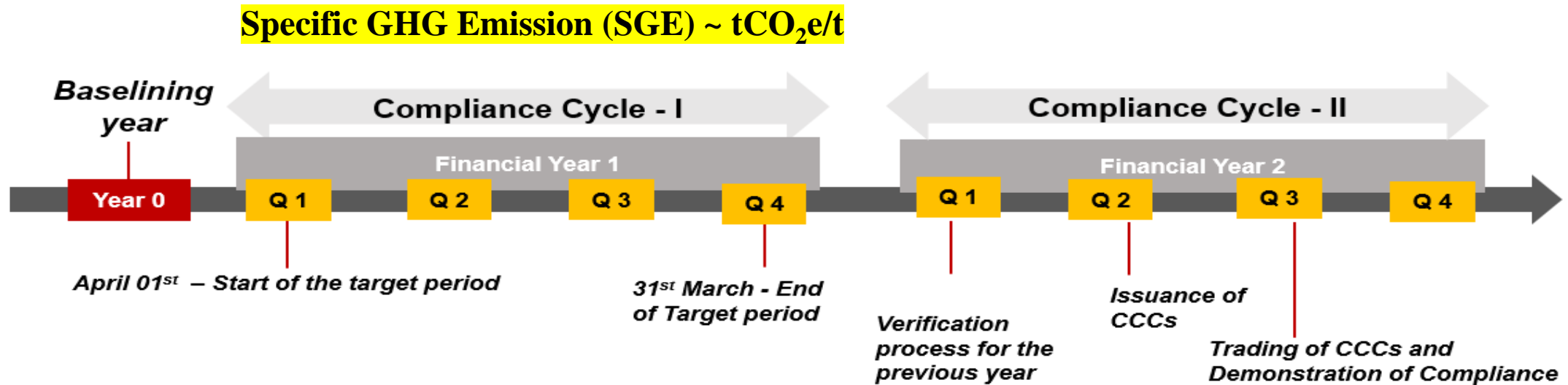
ICM will have a single uniform metric– 1 tonne of CO₂ equivalent (tCO₂e) as its fundamental trading unit under any ETS



Compliance Mechanism

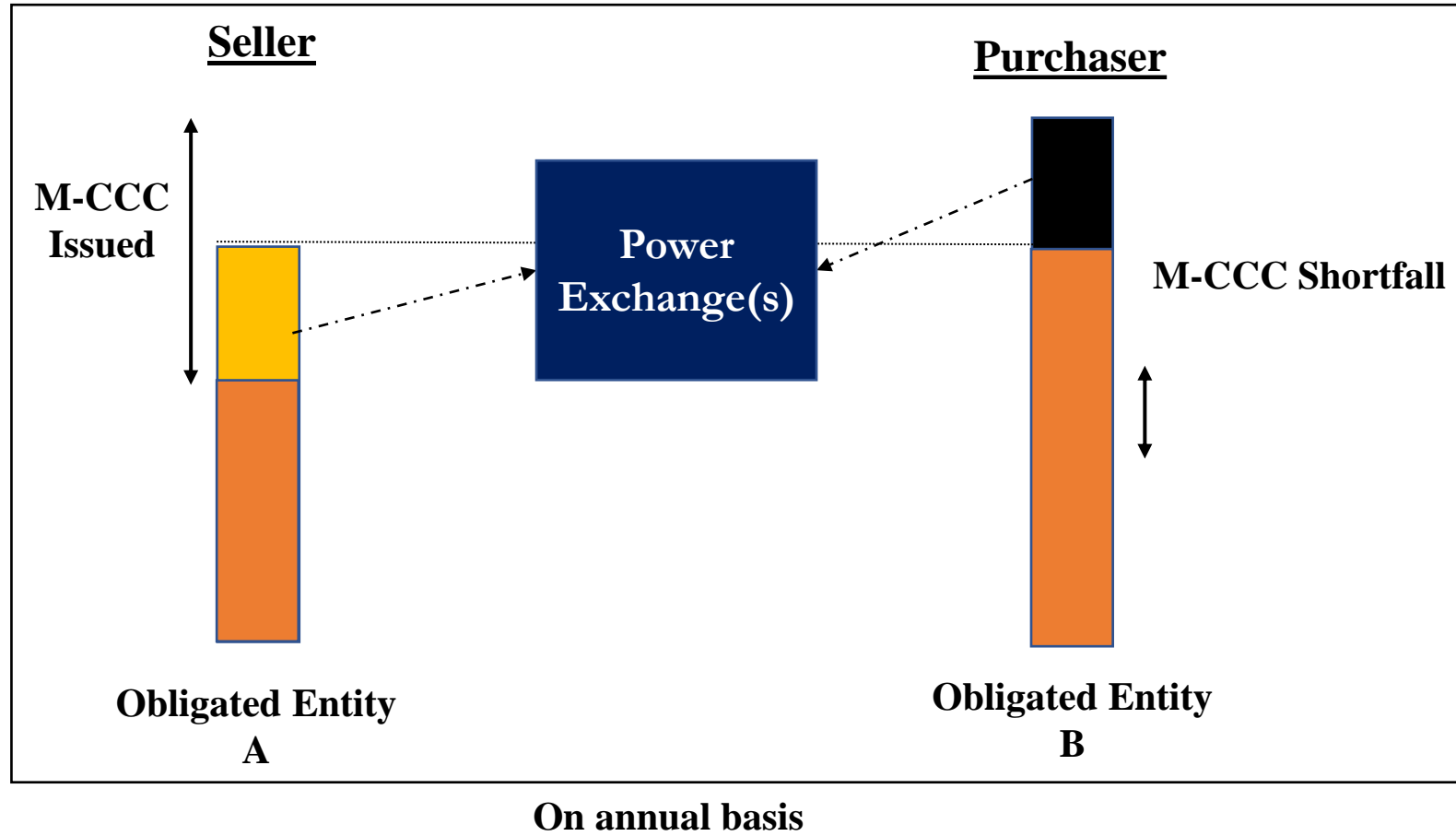


- MoEFCC will be notifying target to Obligated entities including Designated Consumers to reduce their GHG emission intensity in terms of tCO₂e/tonne of production.
- Bureau will develop GHG emission reduction norms for the obligated entity.





Compliance Mechanism





Offset Mechanism

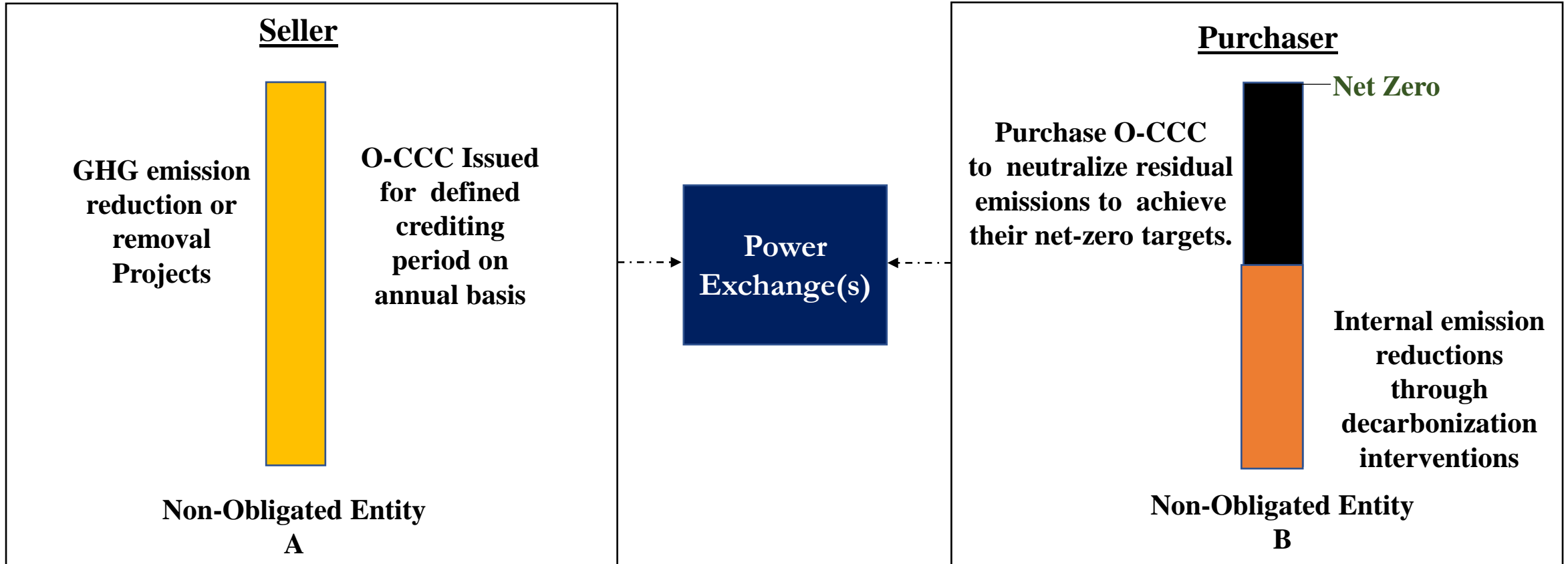


- Bureau will develop methodologies for registration of projects for different sectors with support of technical committees.
- Methodologies already approved by the CDM Executive Board will be considered as approved for the purposes of Offset Mechanism.





Offset Mechanism under ICM





Way Forward



Way Forward



- Development of detailed procedures for both the mechanisms.
- Development of detailed procedure for ACV registration.
- Stakeholder consultations on the proposed procedures.



Thank You

For queries please contact

Saurabh Diddi
sdiddi@beeindia.gov.in