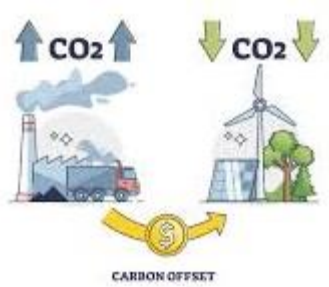
# Carbon Credits and its trading




- Laws and markets in India

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*Either you abandon fossil fuels, or you find a way to get that carbon back.*

**- Klaus Lackner**

# Agenda

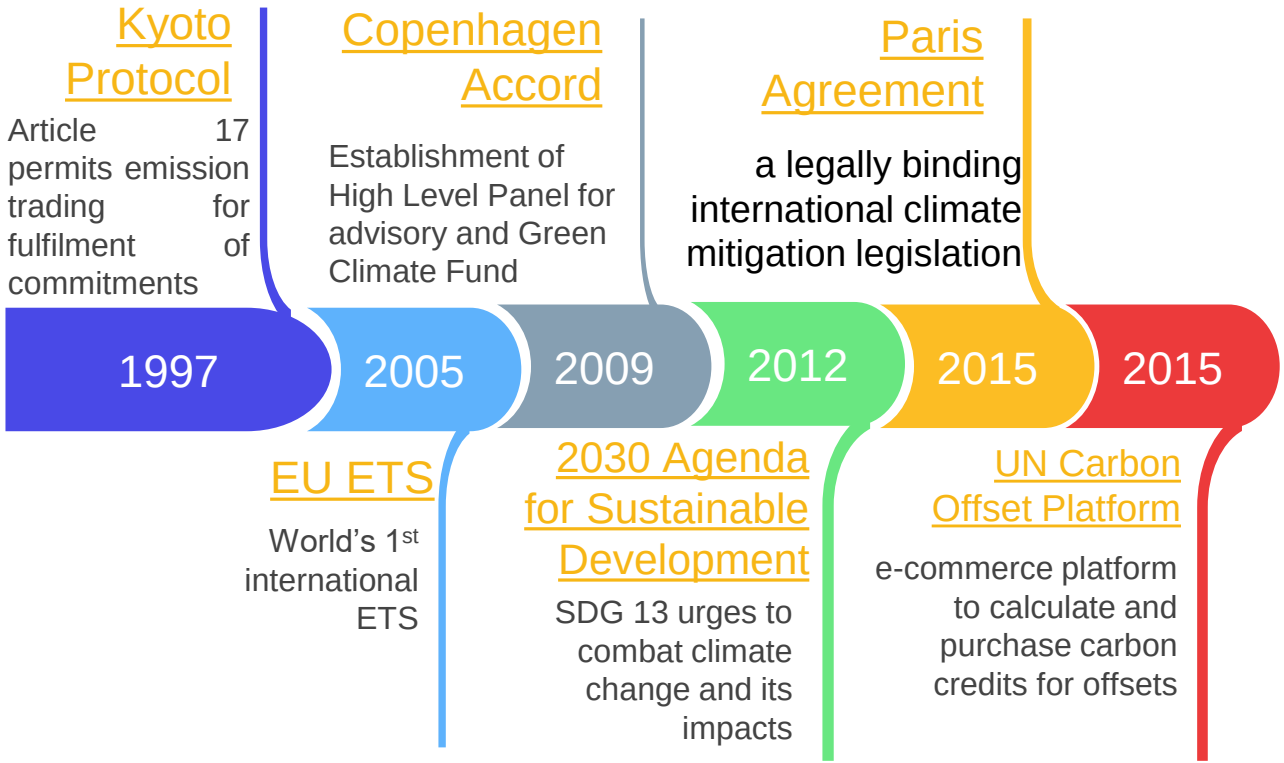
- History and meaning
- Relevance in context of India
- Existing regulatory framework in India
- Global carbon markets
- Accounting and taxation aspects
- Pros and cons
- Data and statistics

# Evolution and Meaning

# History and evolution

**1989 – 1st Carbon Offset Project**

- ❑ AES Corp, American electric power company
- ❑ Coal-fired power plant in Connecticut
- ❑ Financed agri-forest in Gautemala to offset emissions
- ❑ Air Act regulated emissions




*Various mandatory carbon reduction schemes and voluntary standards have evolved over a period of time*

# Meaning of carbon credits

- A generic term for any tradable certificate/ permit reflecting emissions reductions
- 1 CC = right to offset 1 tonne of CO2 or other equivalent GHGs

**Project A**
Emission avoidance project

Generate CC


**Retire** against high emission projects

**Project B**
High emissions project

**Trade** on carbon exchanges*

*E.g. – CTX, IATA ACE etc.

# Relevance in Indian context

# In news: Some of the “firsts” in India

- Mumbai based co
- First Indian co to sell credits generated from agriculture
- #EndTheBurn movement
- Crop Residue Management program
- Avoidance of **more than 1 million tons of CO2** along with other pollutant gases
  - 20,000 carbon credits generated and sold
  - 1,20,000 carbon credits under process

- Indore based company
- World’s first carbon trading company to bring IPO
- Operating for more than a decade
- Revenues from sustainability advisory and carbon offsets *(as on 31st March, 2021)*
  - Rs. 189.76 Crores representing 99.5%

**Delhi Metro**

- 1st metro project registered with UN under CDM in 2007
- Sale of 3.55 million credits generated from 2012 to 2018
- Earned revenues of Rs. 195 mn

**Indore Municipal Corporation**

- 1st Indian civil body to earn through carbon credits
- Sale of credits against 1.7 lacs tonnes of CO2 emissions
- Earned revenues of Rs. 50 lacs
- Project registered with VCS

# Proposed regulatory developments

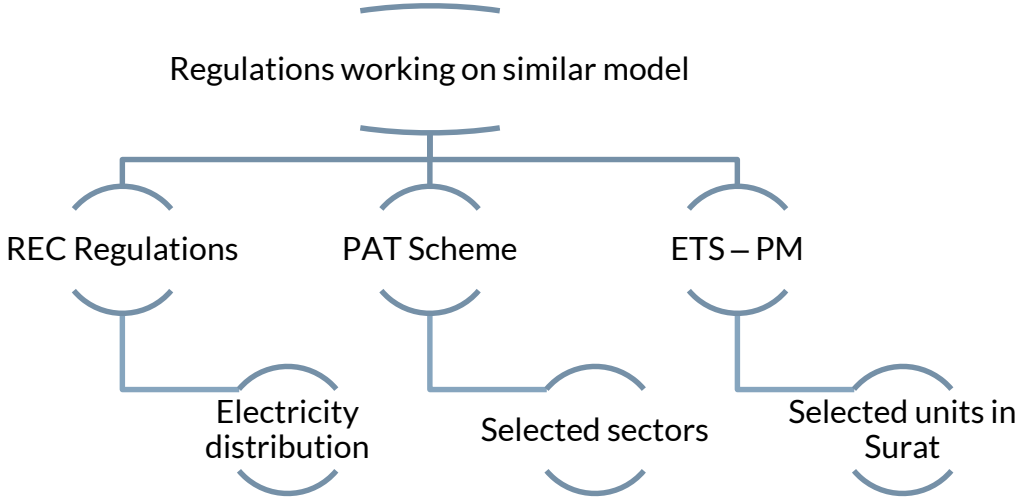
- India's first carbon trading market to be set up in Gujarat
  - Based on cap-and-trade scheme
- MoU between Gujarat Govt, EPIC India and J-PAL
- Proposed model –
  - Identification of large emitters in power and manufacturing sector
  - Set maximum level of permitted emissions ("cap")
  - Issue permits equal to emission targets
  - Allow trading among peers to meet targets
  - Design safeguards against price spikes
- **NSE IFSC – an international exchange in GIFT city**
- Announced launch of International Sustainability Platform
- Facilitate listing and trading of sustainability products including voluntary carbon
- Channelise flow of sustainable finance to India and other markets
- Commencement pending regulatory approvals

- **The Energy Conservation Amendment Bill, 2022**
  - Seeks to provide regulatory framework for carbon trading in India
- To be placed in monsoon session of Parliament
  - National carbon trading market may be launched on 15th August, 2022
- Bureau of Energy Efficiency (BEE) has also released blue print for national carbon market in India
  - Proposes fungibility of ERUs with existing RECs and ESCerts
- PIB Press Release on proposed amendments
  - additional incentives in the form of Carbon credits against deployment of clean technologies will result in private sector involvement in climate actions
  - Propose expansion of scope to larger residential buildings

# Regulations around carbon credits in India

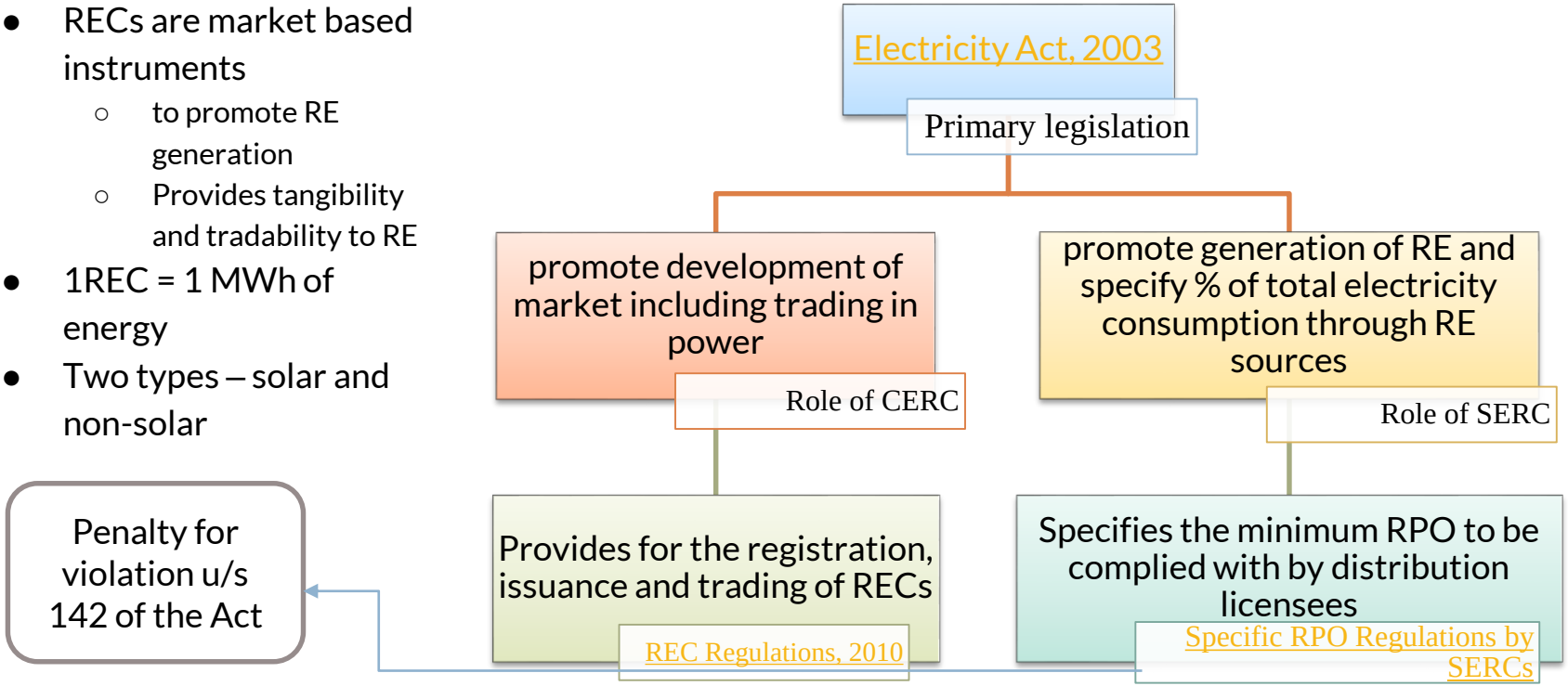
# Existing regulatory framework

- No regulatory guidelines on
  - Issuance of carbon credits
  - Registration of projects
  - Retirements against projects
  - Trading and sale of credits etc
- Partially governed by CDM
  - International mechanism under UNFCC
  - Various documentation and approval requirements

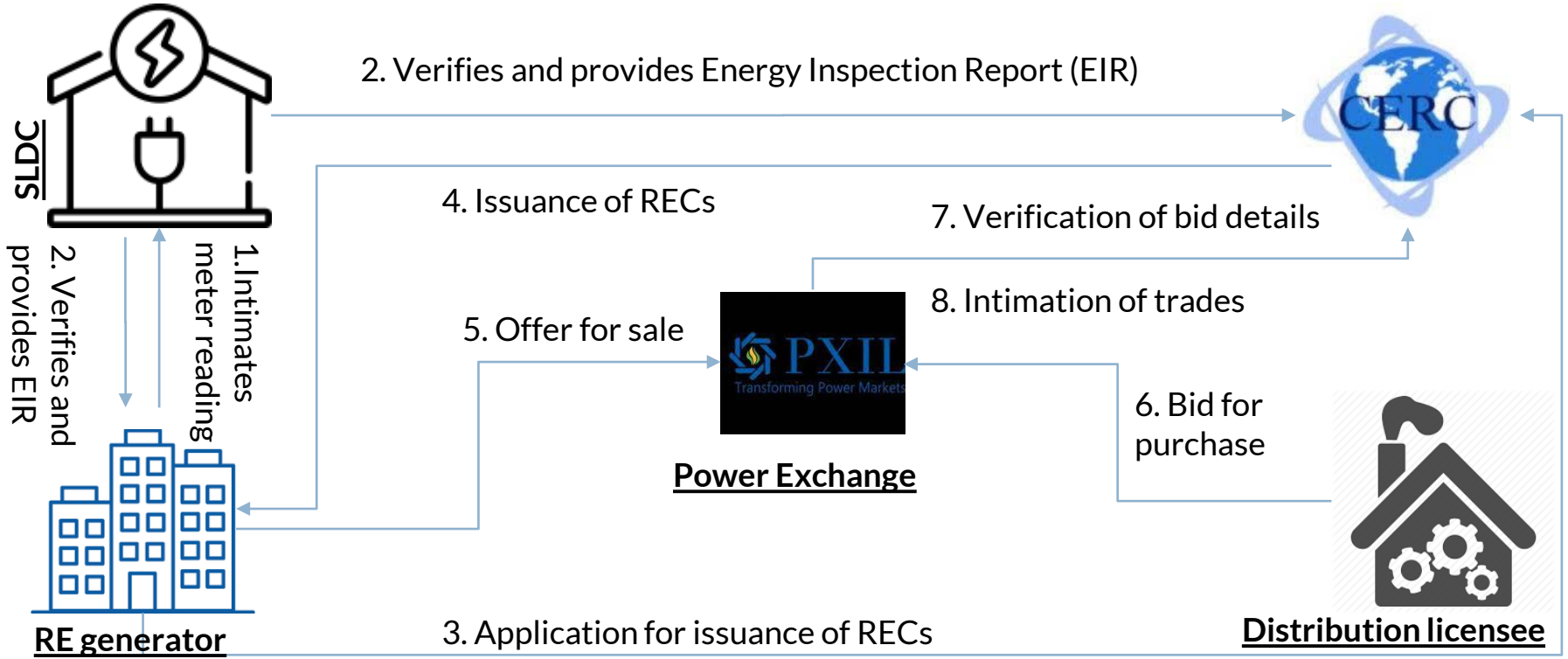


# Renewable Energy Certificates (REC)

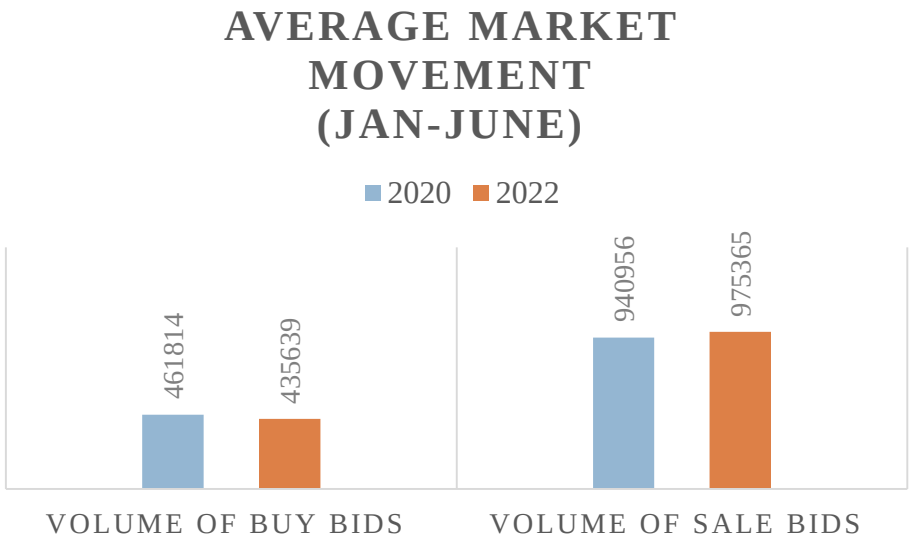
- RECs are market based instruments
  - to promote RE generation
  - Provides tangibility and tradability to RE
- 1REC = 1 MWh of energy
- Two types – solar and non-solar

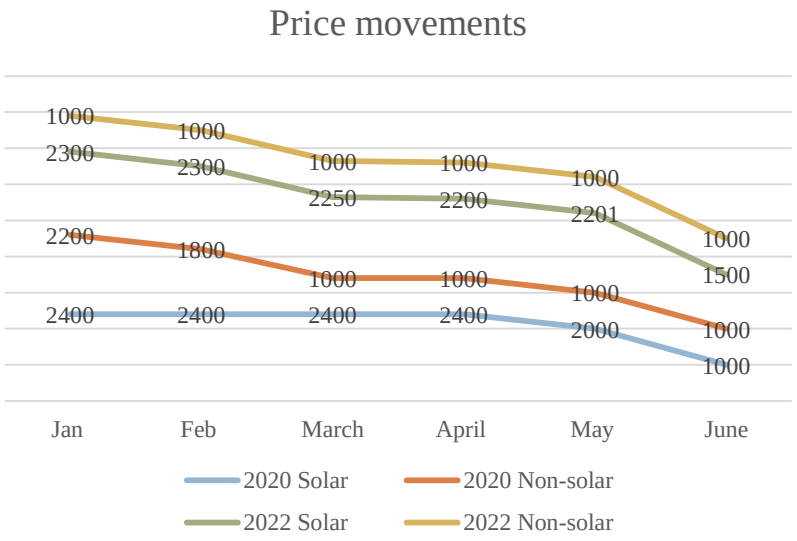


# How REC works?



# Data related to REC

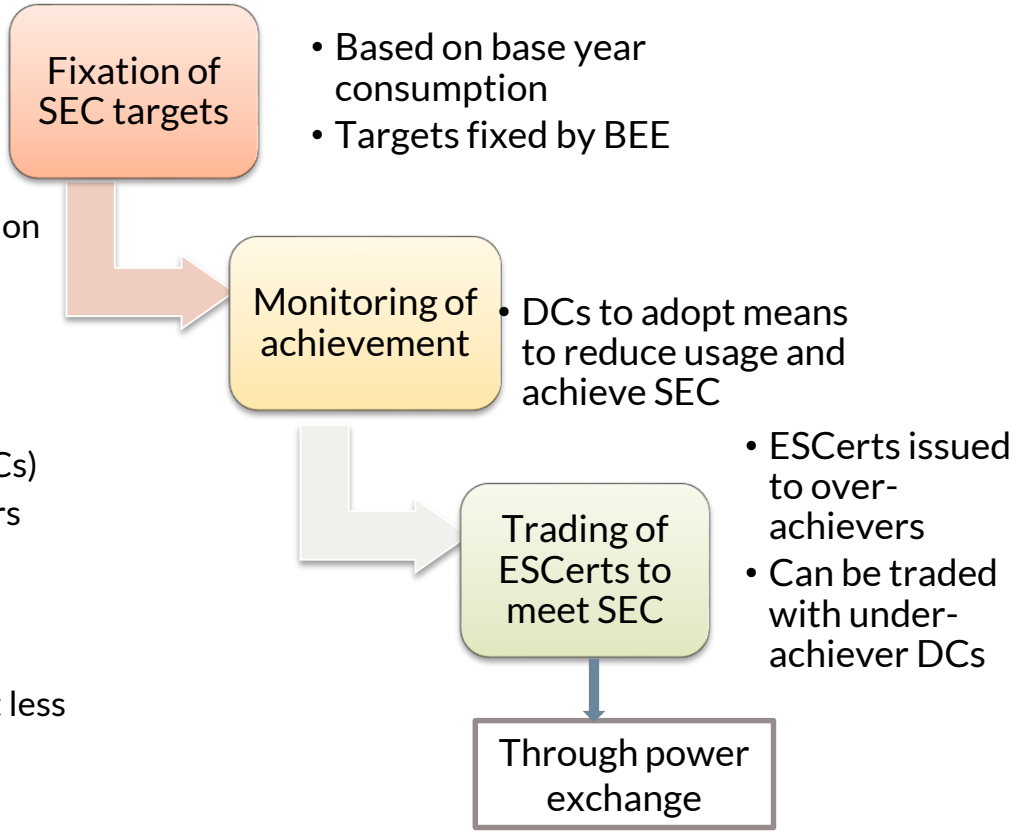



Based on the data derived from [Indian Energy Exchange Ltd]

# Energy Saving Certificates (ESCerts) under PAT

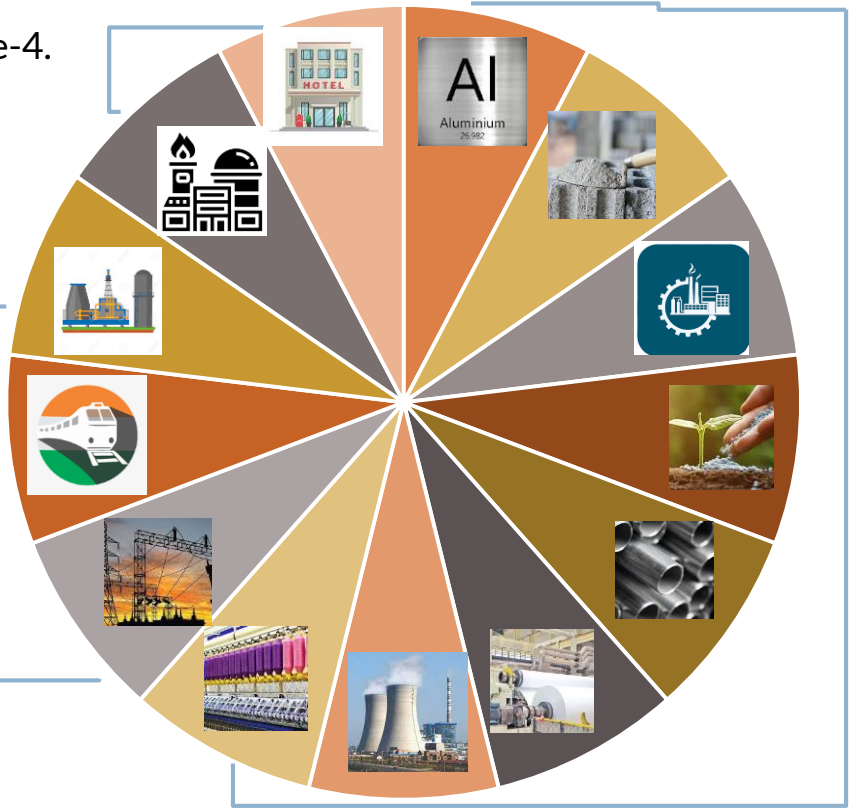
- Perform, Achieve and Trade mechanism
  - for reduction in energy usage
  - through reward and penalty
- "cap-and-trade" based scheme for energy reduction
- Primary legislations
  - Energy Conservation Act, 2001
  - Energy Saving Certificates Reg, 2016
  - Procedure for transaction in ESCerts
- Applicable to specific Designated Consumers (DCs) identified across high energy consumption sectors
- Value of 1 ESCert = 1 mt. oil (energy)
- Failure to comply –
  - Penalty upto Rs. 10 lacs
  - Continuing failure – additional penalty not less than price of 1 mt. oil equivalent of energy consumption



# Sectors covered under PAT

2 new sectors in Cycle-4.
109 DCs in total

3 more sectors identified in Cycle-2.
621 DCs




478 DCs from 8 sectors identified in PAT-1 cycle

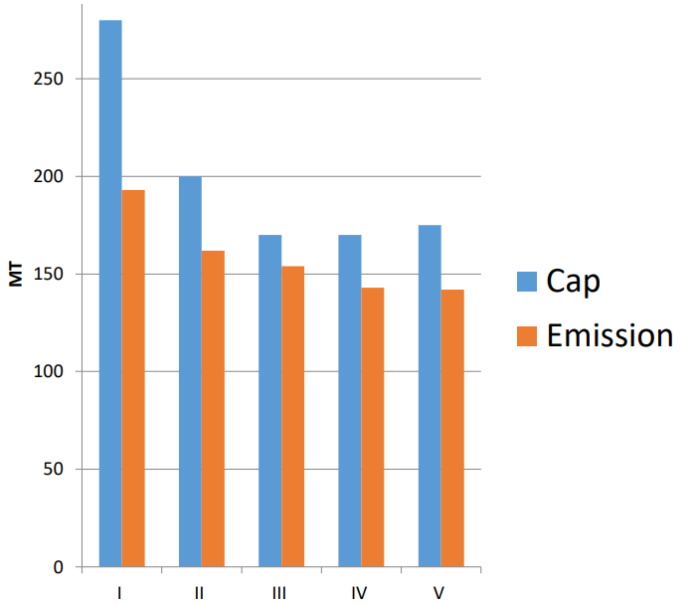
Price of ESCerts decreased over years
Price per ESCert -
Oct, 2017 – Rs. 1200
Oct, 2021 – Rs. 250

- 116 DCs from 6 sectors in Cycle- 3
- 110 DCs in Cycle-5
- 135 DCs in Cycle-6

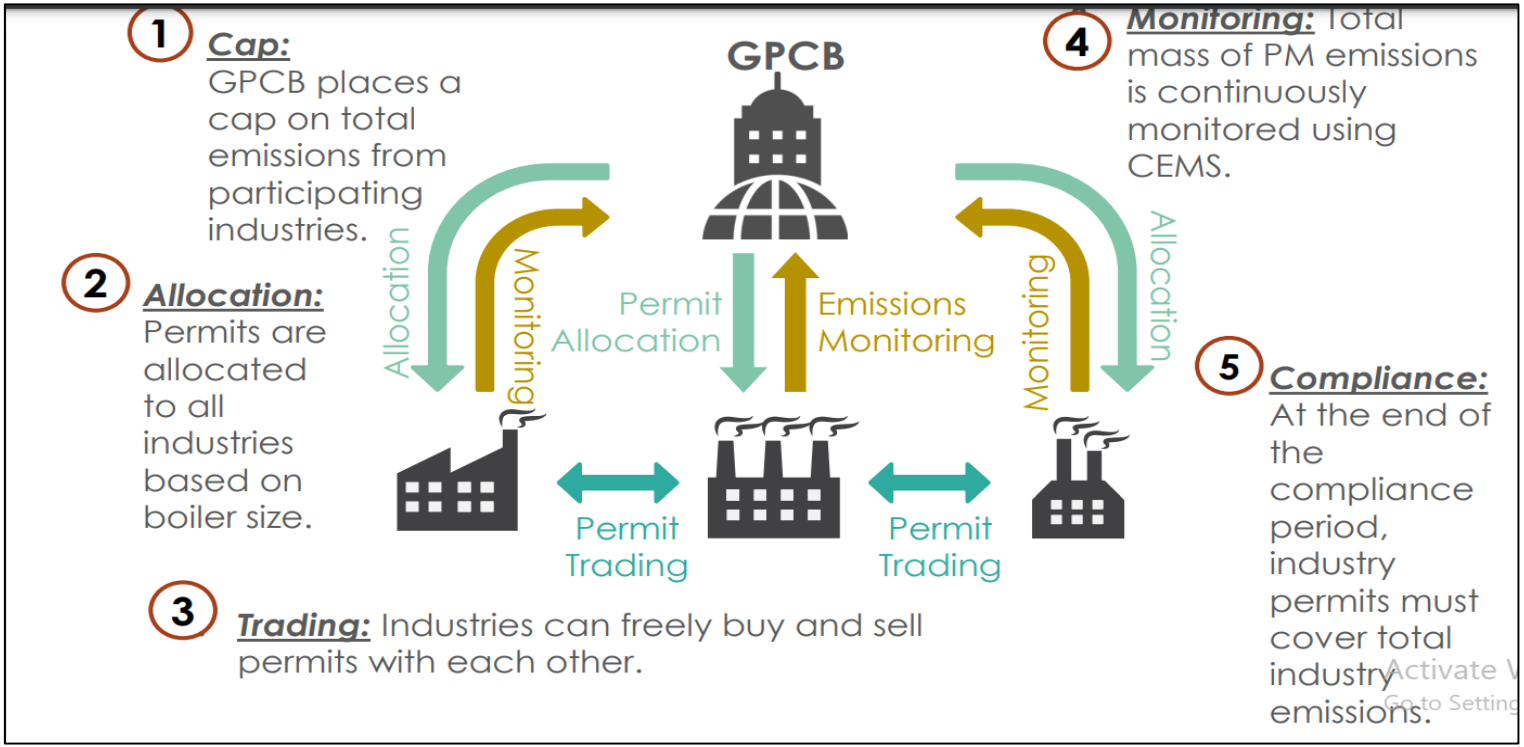
# Emissions Trading Scheme – Particulate Matter

- Pilot scheme in Surat putting cap on emission of “particulate matter”
  - On identified units in Surat
  - 342 units, as on 2020
- Unused emission limits can be traded through NeML
- Launched by GPCB in consultation with J-PAL
- In response to the problem of increasing air pollution in India
- Conceptualised the idea initiated by the MoEF Discussion Paper in 2010

- Emission reduced by 21% in first 6 months



# Process of Emissions Trading – Particulate Matter



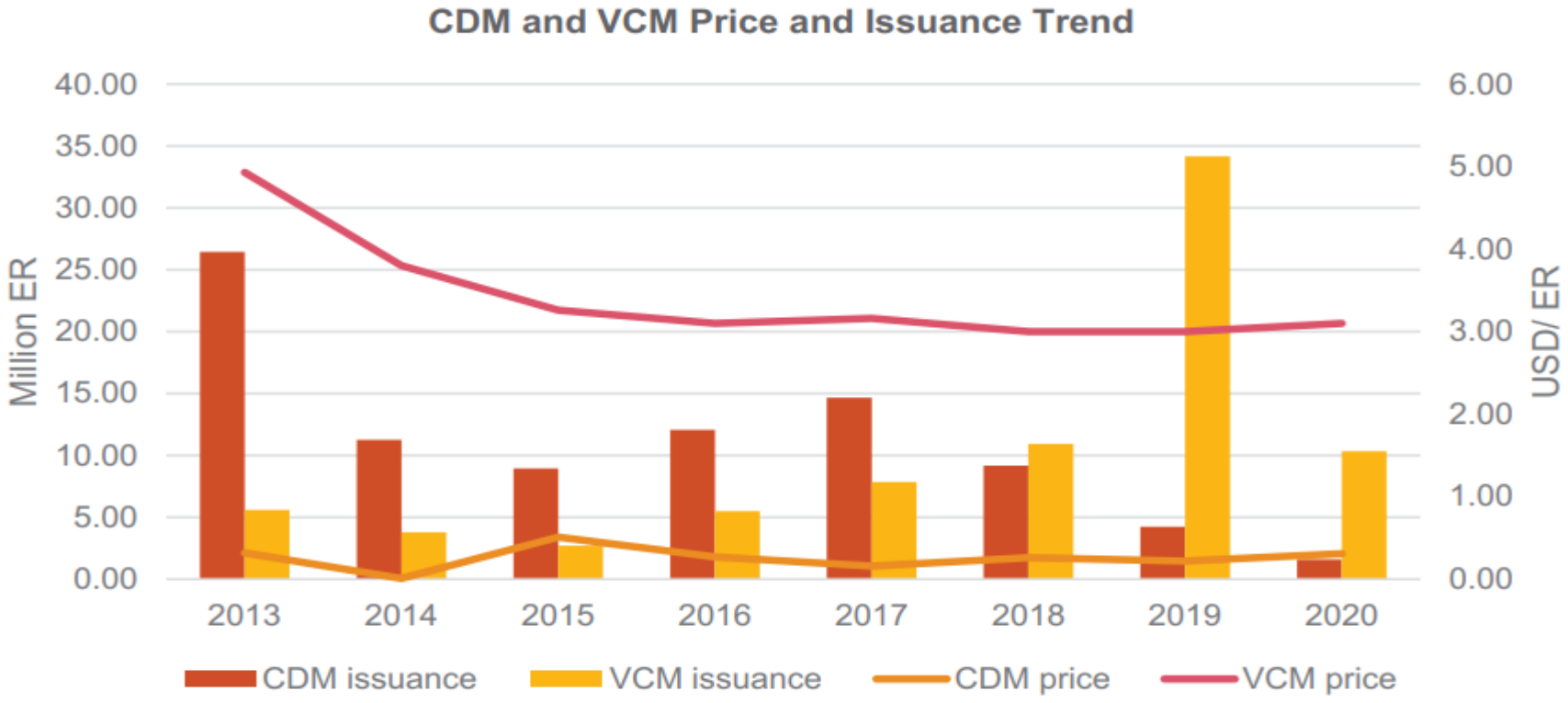

Source - SEIP report on ETS – PM (Pilot project in Surat)

# Global carbon markets

# Carbon Credit Markets

| **Basis of distinction** | **“Compliance” markets** | **“Voluntary” markets** |
|---|---|---|
| Arise out of | Regulatory obligations | Corporate social responsibility or response to market pressure and public opinion |
| Operated by | Governmental bodies | Not-for-profit organisations |
| Governed by | “cap-and-trade” emission schemes such as EU-ETS, California COP, China ETS, RGGI etc | voluntary carbon standards such as VCS – Verra, Gold Standards, Plan Vivo etc |
| Price of units | Higher since driven by regulatory demand | Lower as compared to compliance market |
| Interchangeability | Compliance offsets can be traded for voluntary offsets | Voluntary offsets cannot be traded for compliance offsets |

*Clean Development Mechanism (CDM) under the UNFCC is recognised as “compliance offsets” since they are regulated by the guidelines under the Kyoto Protocol*




CDM vs VCM - [Price and Issuance Trends in India]

# CDM vs VCM

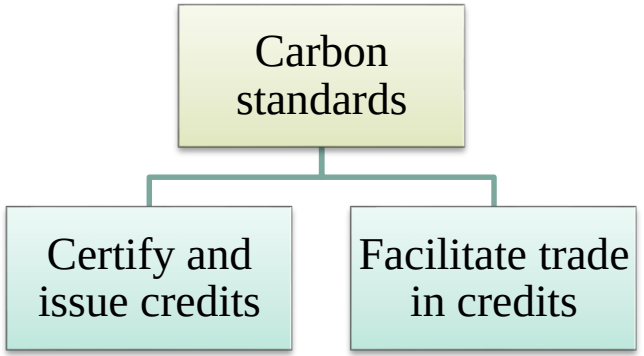
| Basis of distinction | CDM | VCM |
|---|---|---|
| Participant | Only countries which are party to Kyoto Protocol/ Paris Agreement | Countries around the world can participate. |
| Regulatory approvals | Approval of host country is required | No regulatory approvals required |
| Project methodology | Only UNFCC approved | UN approved as well as other innovative methodologies proposed by participant |
| Success rate | Rate of rejection is high | Rate of rejection is low |
| Price of credits | Demand is high and so are prices | Prices are low since supply is high |

# Meaning and role of Carbon Standards

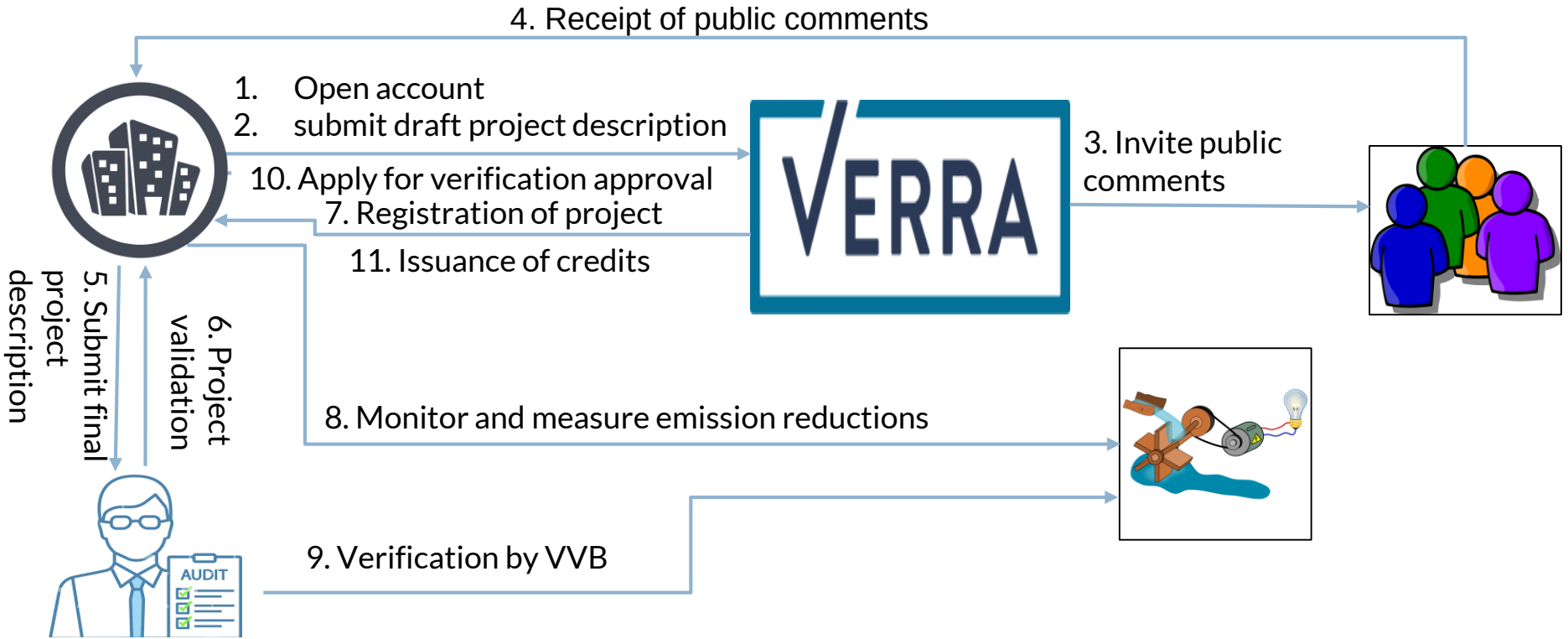
- Complete set of rules, procedures and policies governing VCM
- Governed by international NGOs, consisting of
  - Standard setting arm
  - Regulatory arm
  - Validation and verification system (outsourced)
- Standards include –
  - Independent auditing rules
  - Accounting methodologies
  - Registry system
- Benefits include –
  - Safeguard quality of credits
  - Provide credibility to the baseline-and-credit system

**Internationally recognised standards**

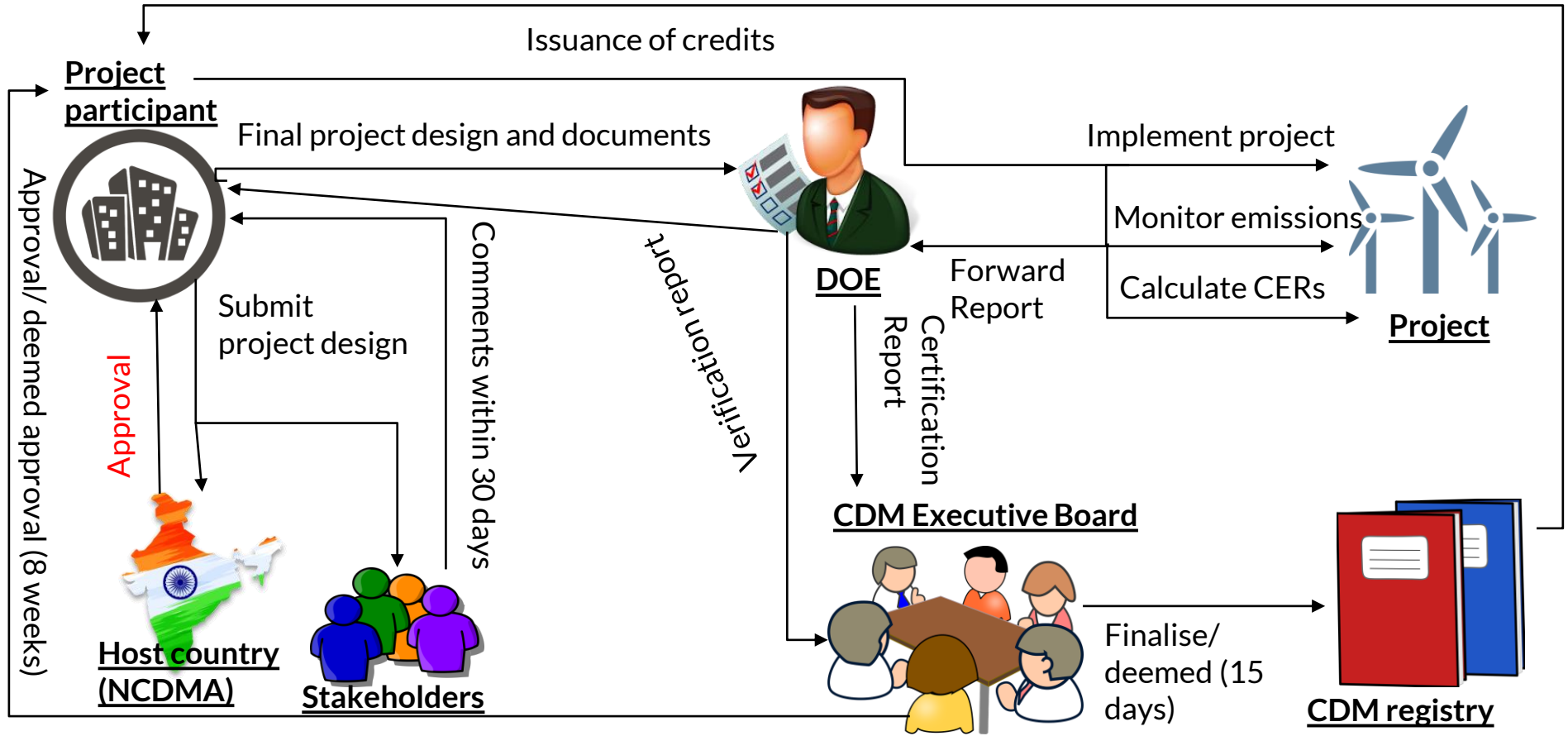
- Gold Standard
- Verified Carbon Standard (VCS)
- American Carbon Registry (ACR)
- Climate Action Reserve (CAR)



# Issuance of carbon credits in VCM



# Issuance of carbon credits under CDM



# Carbon Credit Pricing

| Live Carbon Prices | Last |
|---|---|
| **Compliance Markets** | |
| European Union | €76.15 |
| California | $28.83 |
| Australia (AUD) | $29.00 |
| New Zealand (NZD) | $72.80 |
| South Korea | $12.85 |
| **Voluntary Markets** | |
| Aviation Industry Offset | $3.35 |
| Nature Based Offset | $8.07 |
| Tech Based Offset | $2.37 |

Source: carboncredits.com
(accessed 24.07.2022 at 8 p.m.)

- Price fixation in compliance market
  - Range fixed by regulators
  - Real time price on the basis of demand-supply mechanism
- Price fixation in voluntary markets
  - Product-based price fixation
  - Depends on various factors

# Factors relevant for price fixation in VCM

Type of project

Value of beyond-carbon benefits

Size of the project

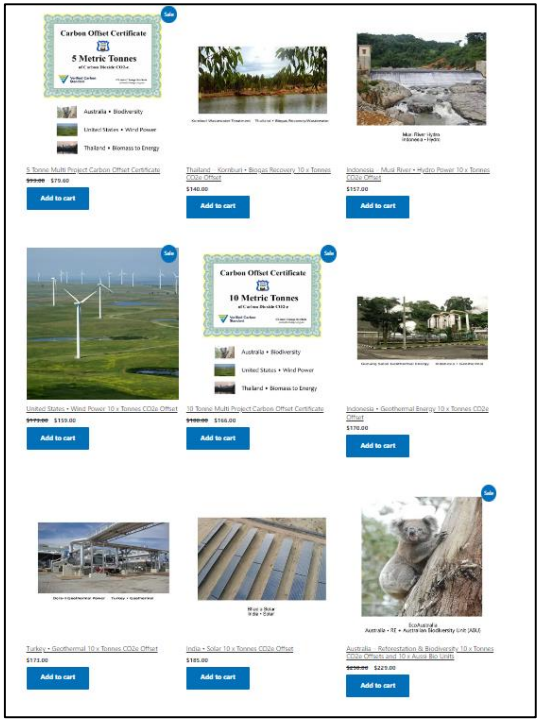
Location of the project

Objectives of purchaser

Vintage of generated credits

Methodology used for the project

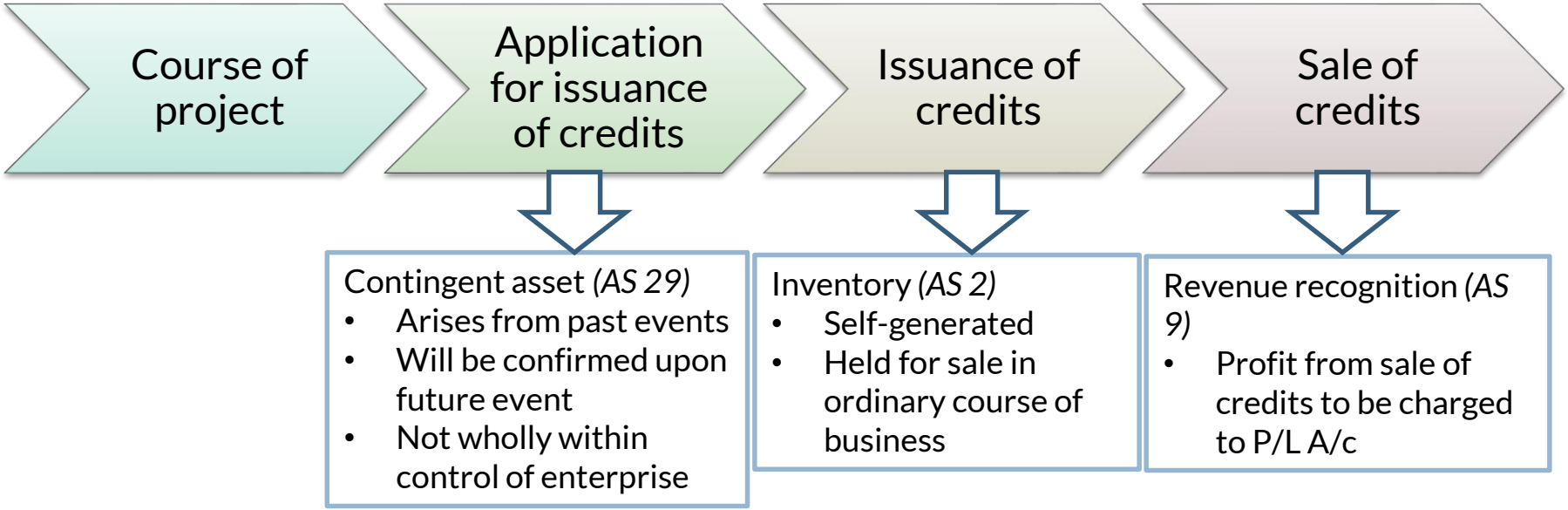
Quality of the project




Source – climatechange.org

# Accounting and taxation aspects

# Accounting aspects



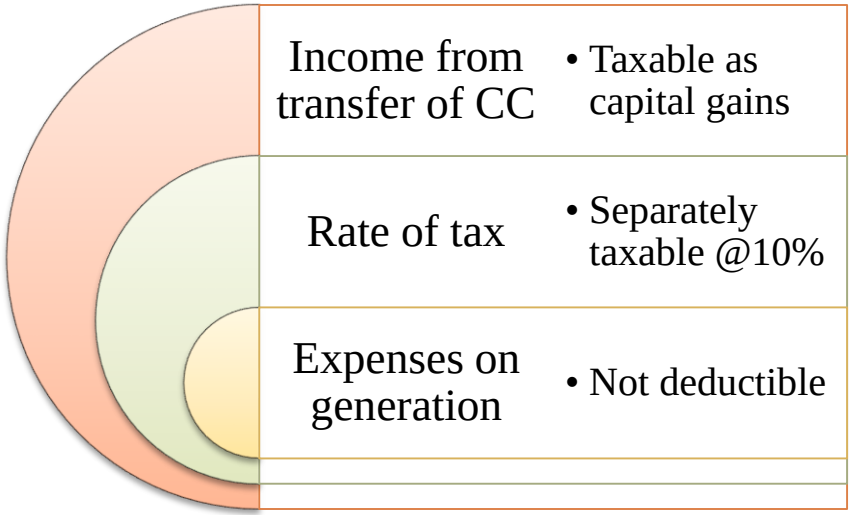

*Refer ICAI Guidance Note on Accounting for Self Generated Certified Emissions Reductions*

# Taxation aspects

- Taxability of carbon credits
  - Section 115BBG inserted to IT Act, 1961
  - Vide Finance Act, 2017
- For assessment period prior to notification of Finance Act, 2017
  - Judicial precedents of various courts
- In My Home Power Ltd vs DCIT, (2013) 151 TTJ 616 (Hyd),ITAT Hyderabad observed –

*"not an offshoot of business, but an offshoot of environmental concerns"*

- Reiterated in various subsequent judgments –
  - Jan, 2014
  - June, 2022



# Levy of GST on sale of carbon credits

**Whether goods or service?**

Goods in terms of CBIC Clarification dated 1st March, 2018

**What will be the HSN Code of same?**

HSN Code in the range of 4907, clarified vide CBIC Clarification dated 6th June, 2018

**What will be the rate of GST?**

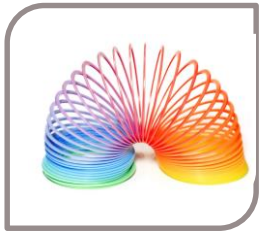
Applicable rate shall be 12%

# Pros and cons of carbon credits

# Benefits of carbon credits

Achievement of climatic ambitions

Emission reduction at least possible cost



Provides flexibility to industries

Promotes rural development

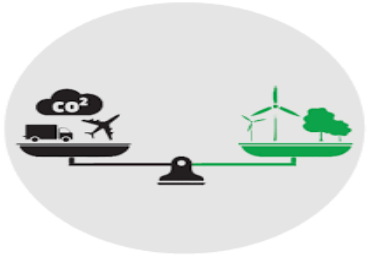
Potential for earning foreign currency

Avenue for responsible investing

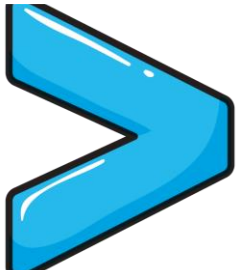

Projects may be undertaken as part of CSR


Creates a positive impact on BRSR

# Current issues in carbon credits




No real environmental benefit



Problem of over crediting

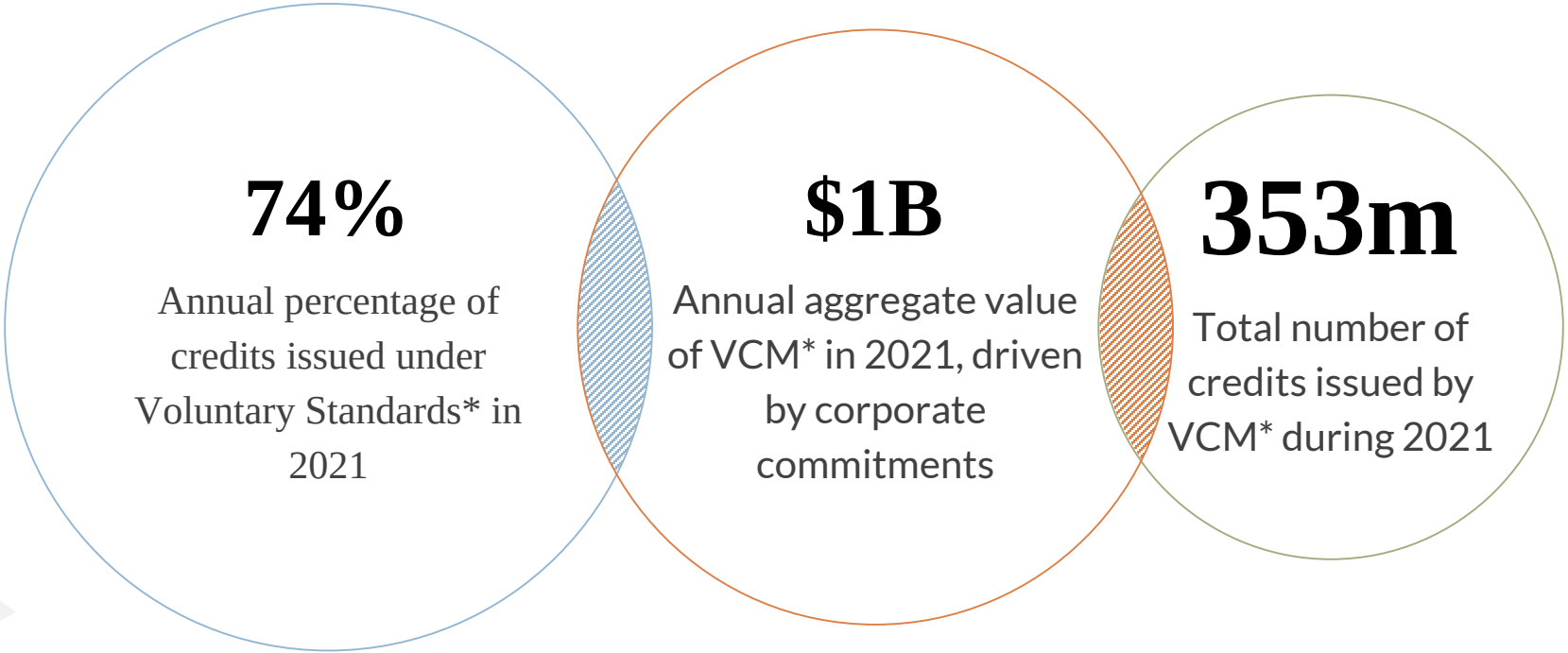
Double counting


Difficulty in price fixation

**Problems primarily relate to absence of proper regulations around the same or inconsistent regulations (for some countries)*

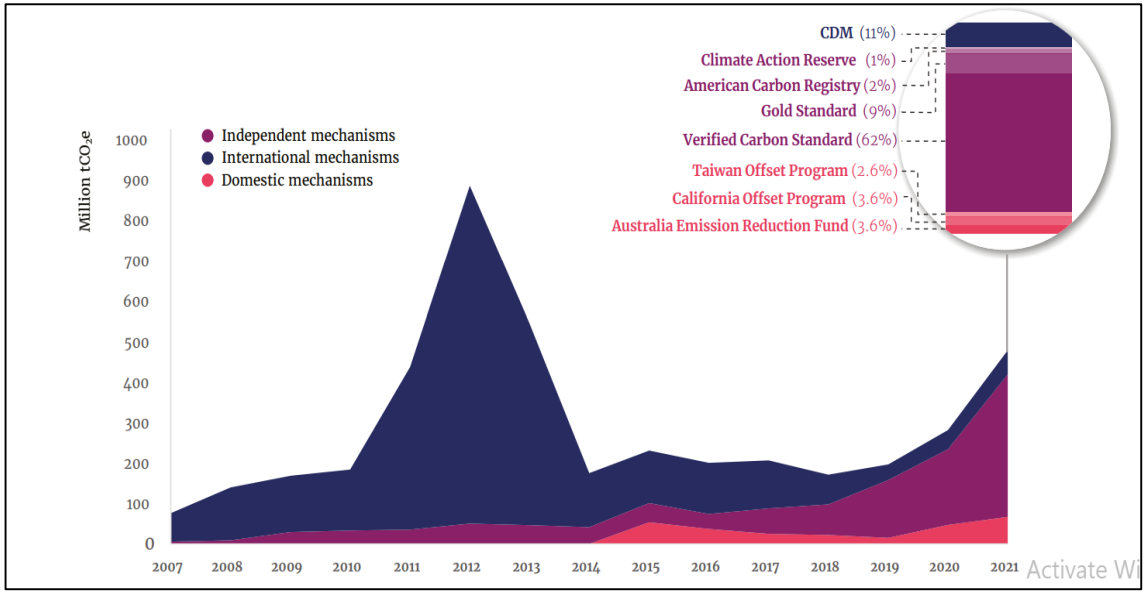
# Statistics – India and the world

# 2021- A year of accomplishment for VCM




**Data relates to the four internationally accepted carbon standards – VCS, GCS, CAR and ACR*

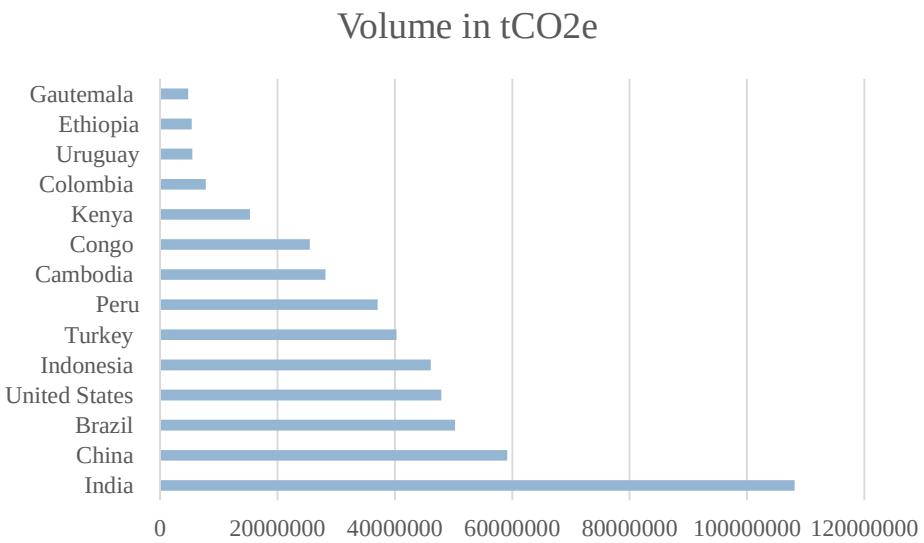
# Volume of credit issuances in 2021
## – How VCM takes the lead?




Volume of credit issuances in 2021
Source: State and Trends of Carbon Pricing 2022

# Current position and future potential – India

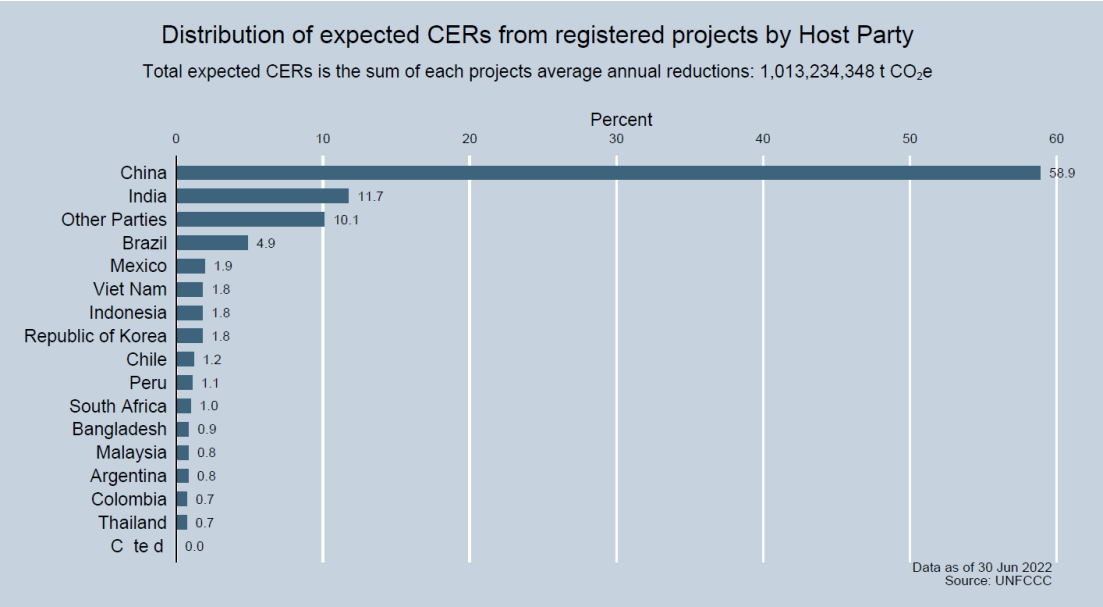
- Highest volume of non-retired credits in the world




Source – VCM Dashboard

- Deloitte's study suggests that export of decarbonisation in India can earn USD 11 trns
- Studies suggest expected gains of atleast US$ 5-10 billions from carbon trading
- Being identified as largest exporter of carbon credits

# Potential of generating CERs




Source - CDM registry

# Thank You!