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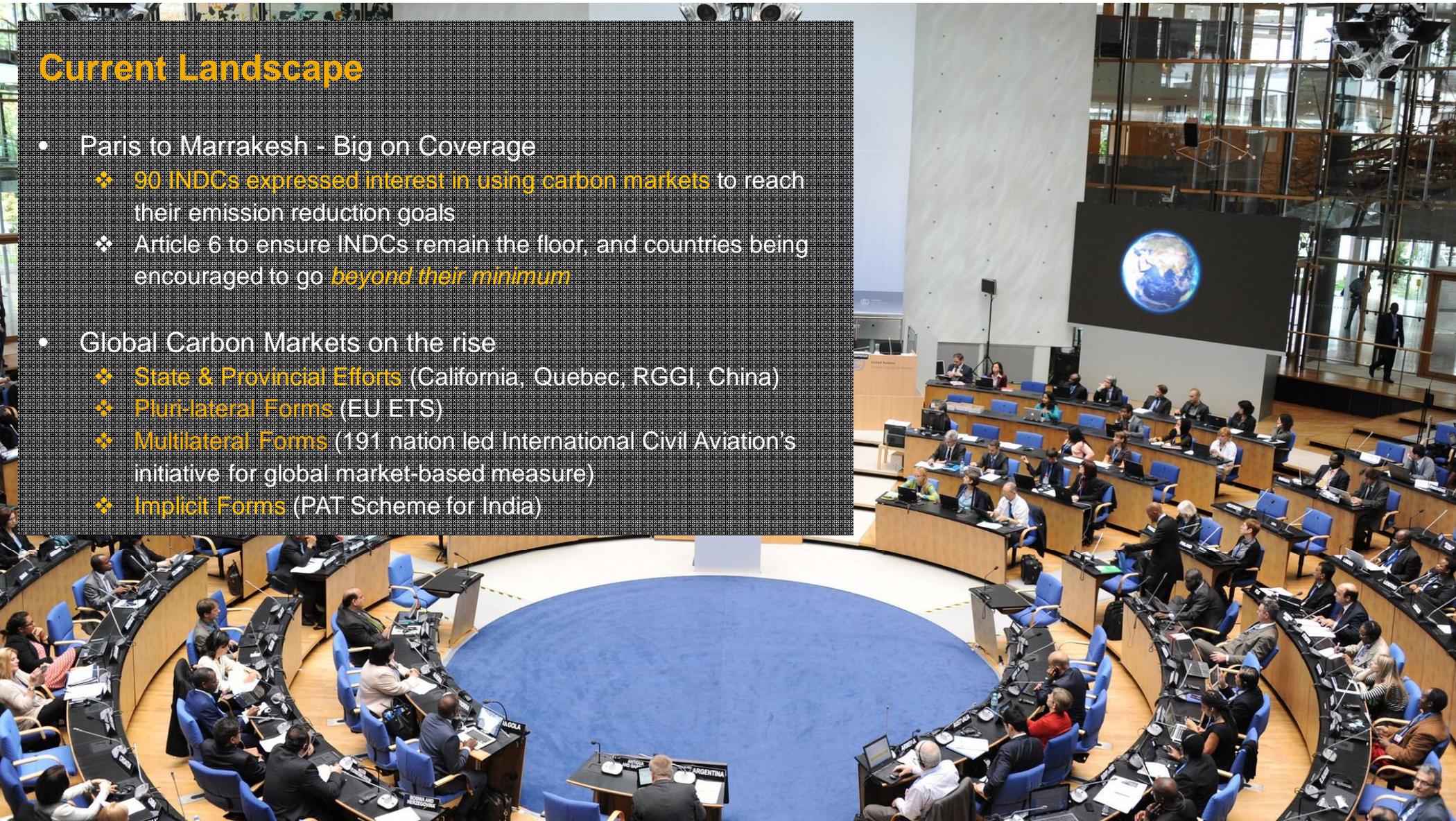
Market Mechanisms

Key tool for Driving Climate Mitigation

Vivek P. Adhia, WRI India
27th June, New Delhi

Current Landscape

- Paris to Marrakesh - Big on Coverage
 - ❖ 90 INDCs expressed interest in using carbon markets to reach their emission reduction goals
 - ❖ Article 6 to ensure INDCs remain the floor, and countries being encouraged to go *beyond their minimum*
- Global Carbon Markets on the rise
 - ❖ State & Provincial Efforts (California, Quebec, RGGI, China)
 - ❖ Pluri-lateral Forms (EU ETS)
 - ❖ Multilateral Forms (191 nation led International Civil Aviation's initiative for global market-based measure)
 - ❖ Implicit Forms (PAT Scheme for India)





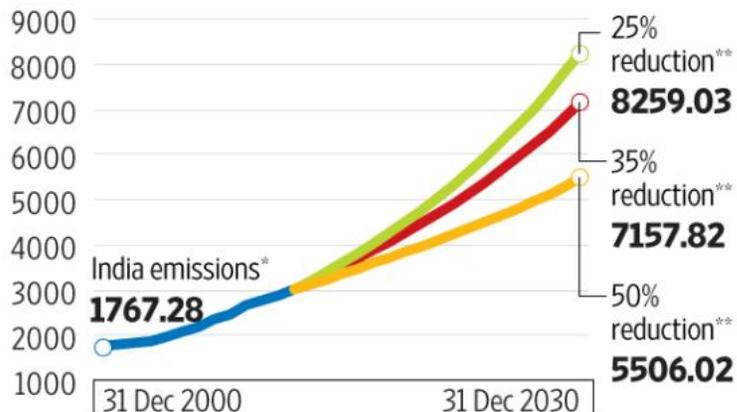
Cap & Trade v/s Carbon Tax / Dividends

- Linked to an overall reduction objective
- Emissions Cap or Reductions thereby fixed upfront
- Market decides the Price (Cost of Reductions)

Expected Impact of Carbon Markets in India – Linking Growth and Development to determine reduction Goal

INDIA: EXPECTED EMISSIONS

(if average GDP growth is 6.5% till 2030)



*Total Green House Gas (GHG) emissions excluding land-use change and forestry (MtCO2e)

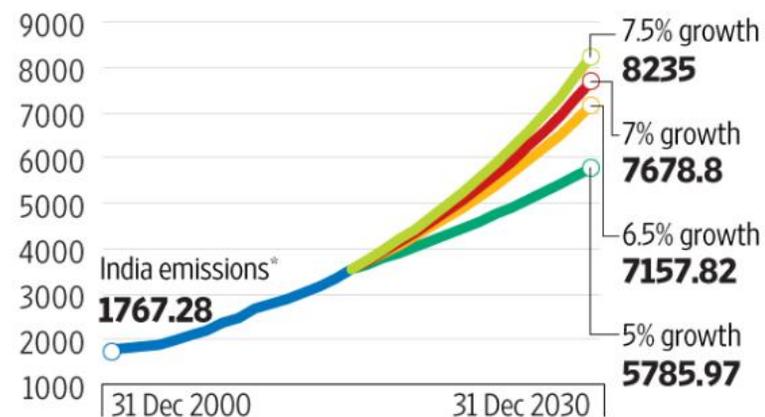
**reduction from 2005 emissions intensity

India's GDP growth is expected to average 6.5% year-on-year for 2016-30

Source: IMF, World Resources Institute (WRI) and Mint calculations

INDIA: EXPECTED EMISSIONS

(with 35% reduction in emission intensity by 2030)



*Total Green House Gas (GHG) emissions excluding land-use change and forestry (MtCO2e)

The various GDP growth assumptions are a constant annual average for 2016-30

Source: IMF, World Resources Institute (WRI) and Mint calculations

Scale of reductions can be determined based on a realistic mapping of emission intensity reductions across key sectors, along with a combination of various policy options.

How has Carbon Markets fared Globally

A first-hand overview of regional experiences

EU ETS

Covered 11,500 installations accounting for 11% of world's emissions
While successful in reducing overall emissions, low market prices have ensured a complete revamp/recheck on the institutional architecture

RGGI

45% reductions in power sector emissions by 2020
\$8billion in added revenue, 57,000 jobs
Program limited in scope to electricity generation only, so questions on leakages need to be addressed

California ARB

Facilitating 9.5% reduction from 2004 peak of ~480mTCO₂e
Use of a hybrid allocation model, to look at competitiveness of industry within the state

Tokyo

First city level emissions trading scheme
Achieved 25% reductions over baseline. Now the goal revised to 30% reduction by 2030.
Provision to buy offsets from SMEs and Mid-size companies

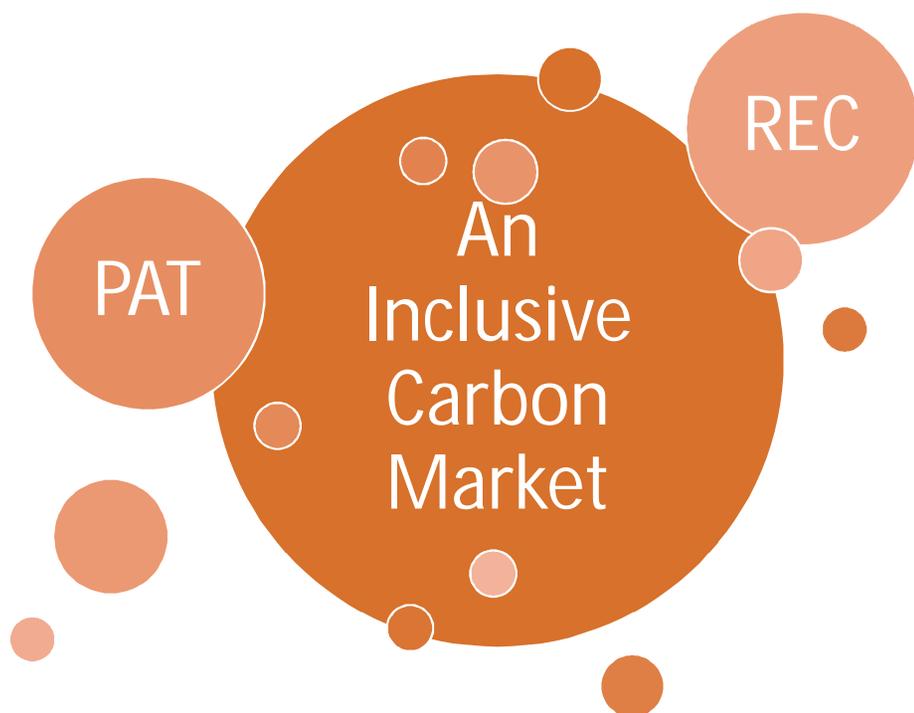
Korea

30% Reduction by 2020 over baseline. Scheme covers installations exceeding annual emissions of 125,000 tCO₂e
Unlimited banking, limited borrowing, and limited offsets allowed to companies for meeting obligations

China

Regional Pilots, with national expected to commence soon.
Current scheme covers 7% of national emissions, 28% GDP and covers key provinces
Second largest trading scheme in the world with 700 million tCO₂e

Next Steps: Leveraging Existing Mechanisms to feed-into an all inclusive Market Based Mechanism



- Will the PAT and REC Targets need to be revised in line with India's NDCs
- Is there merit in bringing these two schemes under a common "Carbon Currency"
- Would the inclusive market allow for businesses to look at more options outside of energy efficiency and renewable energy to reduce overall emissions
- Should the market mechanism include specific sectors like forestry etc. given the strong reference to it in NDCs.

What would be the considerations for an inclusive market based mechanism to advance on India's NDCs



Design Considerations

- Emission Caps Objective
- Scope of Coverage by Gases, Industry, Sector
- Threshold's for coverage/ inclusions
- Timelines, Trading cycles, Reporting Periods



Institutional Architecture

- Nodal Coordination Agency
- National GHG Registry
- Capacity Building Framework
- Trading/Exchanges
- MRV Framework & Allied Agencies
- Interlinking



Cross-Feeding

- Complementarity with existing sectoral approaches
- State v/s Center v/s Regional influence and impact
- Interactions with Carbon Tax, Cess, Excise duties, Subsidies etc.



Business Engagement

- Bottom-up feeding into the broader policy planning via Carbon Market Simulation
- Readiness on Cost-Competitiveness, Market share changes etc.
- Capacity building and Training