WRI INDIA

Confederation of Indian Industry
125 Years - Since 1895

MSME TRAINING SERIES

#01: Fundamentals of Climate Change & the Business Case for Action

3rd September 2020 | 11 AM - 1 PM IST

Initiated by WRI India, in partnership with Confederation of Indian Industry (CII)

Image Source: https://bit.ly/2EVwbiH

GUIDELINES

- Attendees will remain in listen-only mode
- Today's presentation is being recorded and will be shared with registered participants
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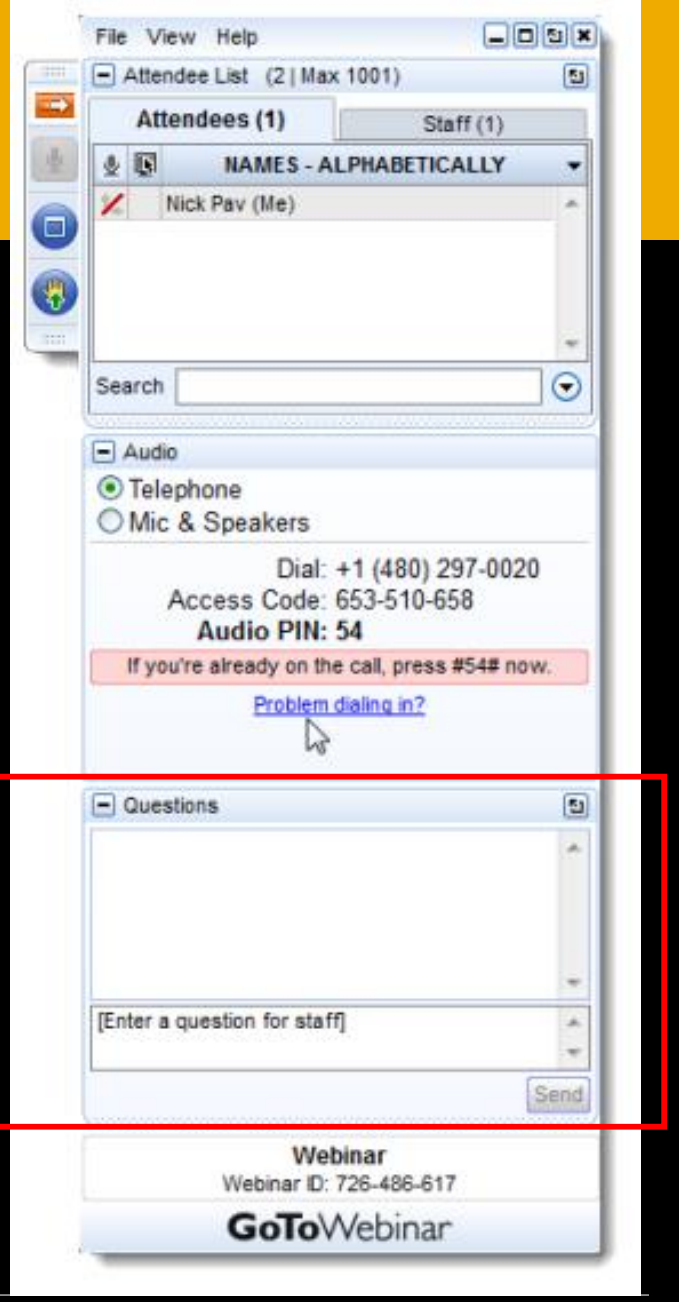


AGENDA

Welcome & Agenda	*Ashwini Hingne, WRI India*
Landscape Of Climate Change & Climate Action	*Megha Nath, WRI India*
Challenges & Opportunities For MSMEs	*Akshay Koul, CII*
GHG Accounting & Management	*Varun Agarwal, WRI India*
Experience From Leading Indian MSME	*Aditya Agarwal, SA Glass*
Introduction To Carbon Markets	*Shubhangi Gupta, WRI India*
Closing Remarks	*Tejaswini Kulkarni, WRI India*

LAUNCHING THE MSME TRAINING SERIES

Ashwini Hingne, *Manager and Project Lead, WRI India*

ABOUT THIS TRAINING SERIES

- *Part of the Carbon Market Simulation Project, facilitated by WRI India and supported by MacArthur Foundation*
- *Conducted in partnership with Confederation of Indian Industry (CII)*

Comprehensive topics

Expert Trainers

Open for All

Free

Online

Certificate of completion

OBJECTIVES


Build Skills
Build Preparedness
Build Resilience
Build Awareness
RESILIENT, PROFITABLE SUSTAINABLE MSME SECTOR
Leverage Opportunities

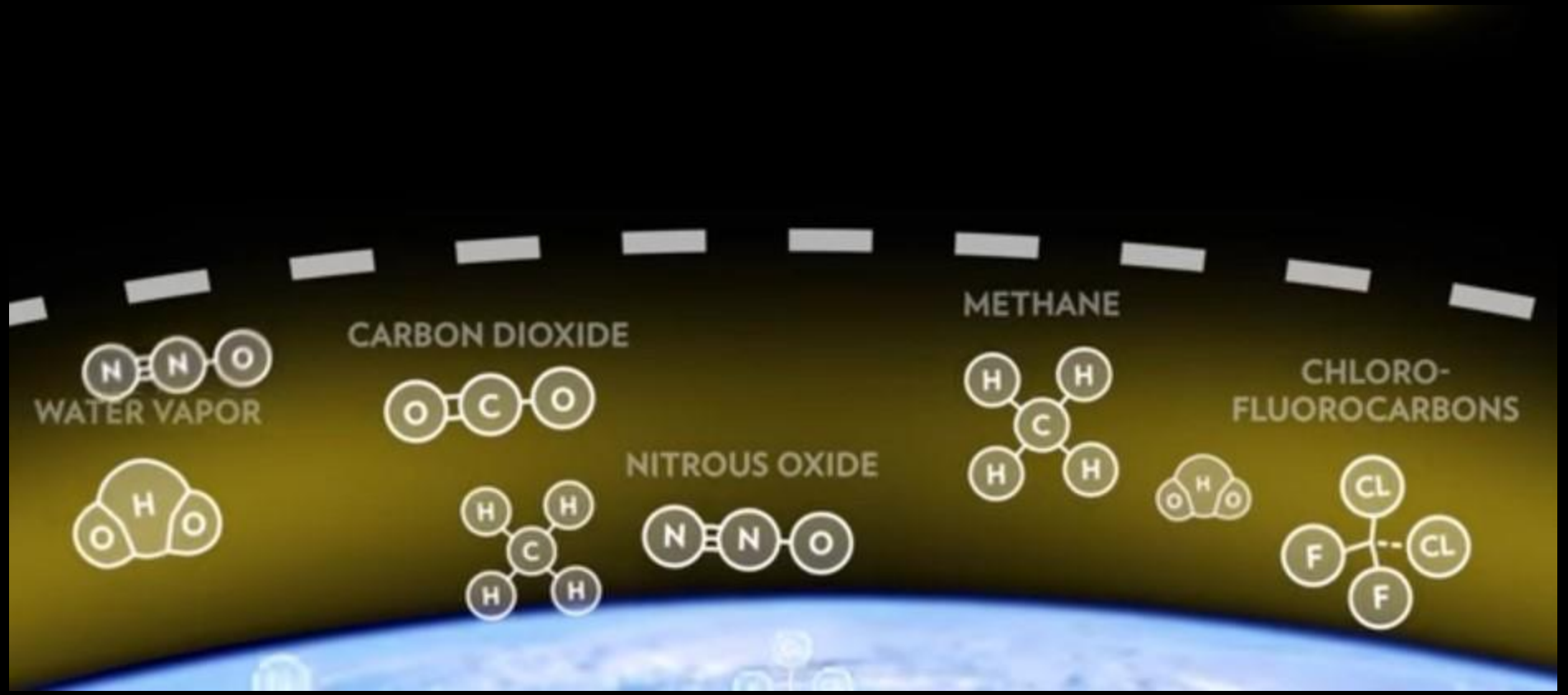
LANDSCAPE OF CLIMATE CHANGE AND CLIMATE ACTION

Megha Nath, *Senior Project Associate, WRI India*

THE GREENHOUSE EFFECT

Source: NASA-JPL/Caltech; Fourth Assessment Report (Intergovernmental Panel on Climate Change IPCC, 2007).

WHAT IS CAUSING GLOBAL WARMING?

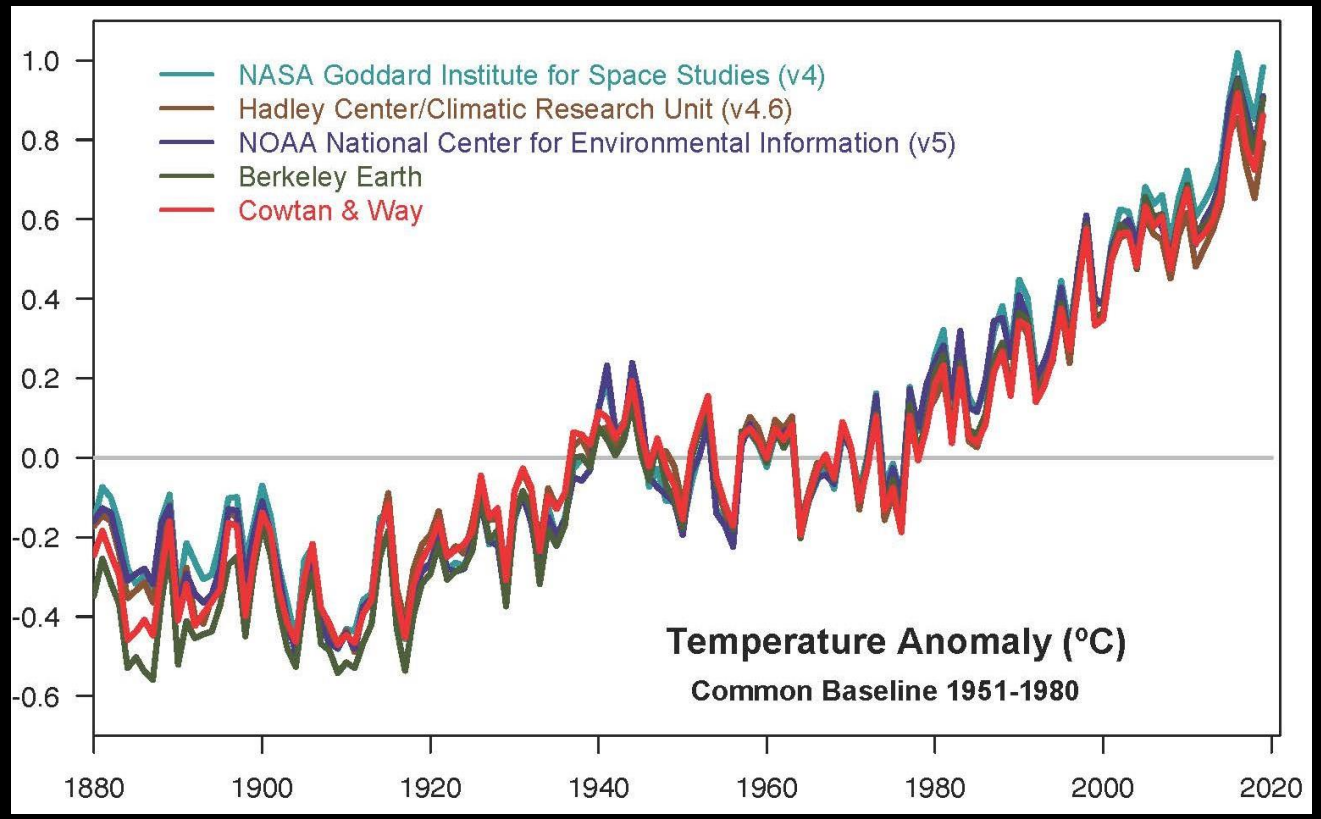


Source: NASA-JPL/Caltech; Fourth Assessment Report (Intergovernmental Panel on Climate Change IPCC, 2007). Photo Credit: National Geographic

WHAT IS GLOBAL WARMING & CLIMATE CHANGE?

- Long term heating
- Long-term change in the average weather patterns

SCIENTIFIC CONSENSUS: EARTH'S CLIMATE IS WARMING



Credit: NASA/NOAA.

IMPACT OF CLIMATE CHANGE

Hurricanes Will Become Stronger and More Intense

More Droughts & Heat Waves

Sea Level Will Rise by 1-8 ft by 2100

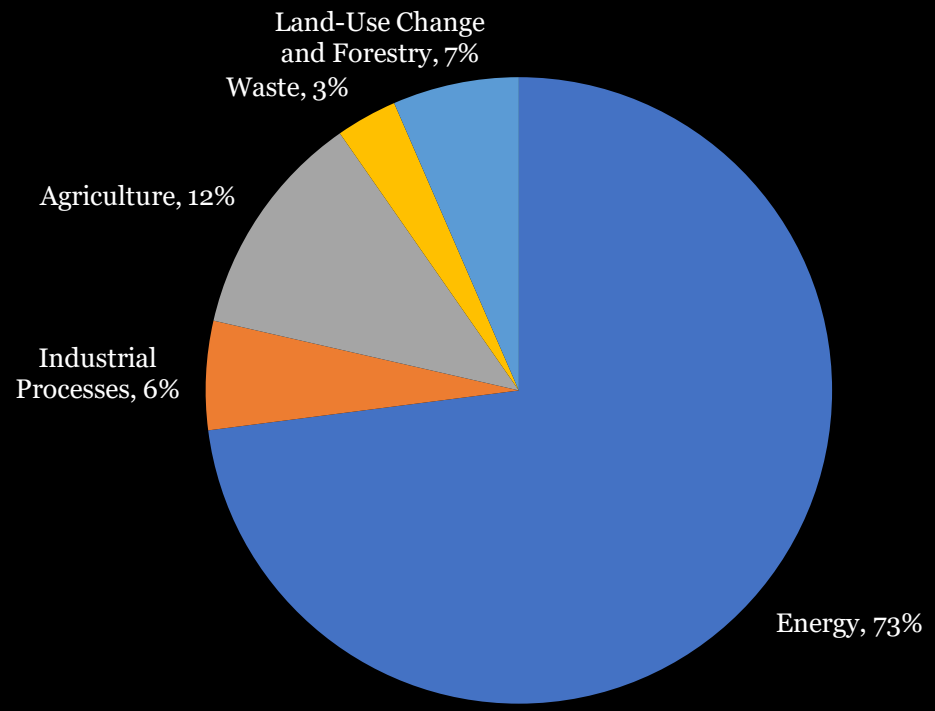
Arctic Likely to Become Ice-Free

Temperatures will continue to rise

Unfit living conditions for flora & fauna

Photo Credits: WWF|NASA|UN| The Gaurdian

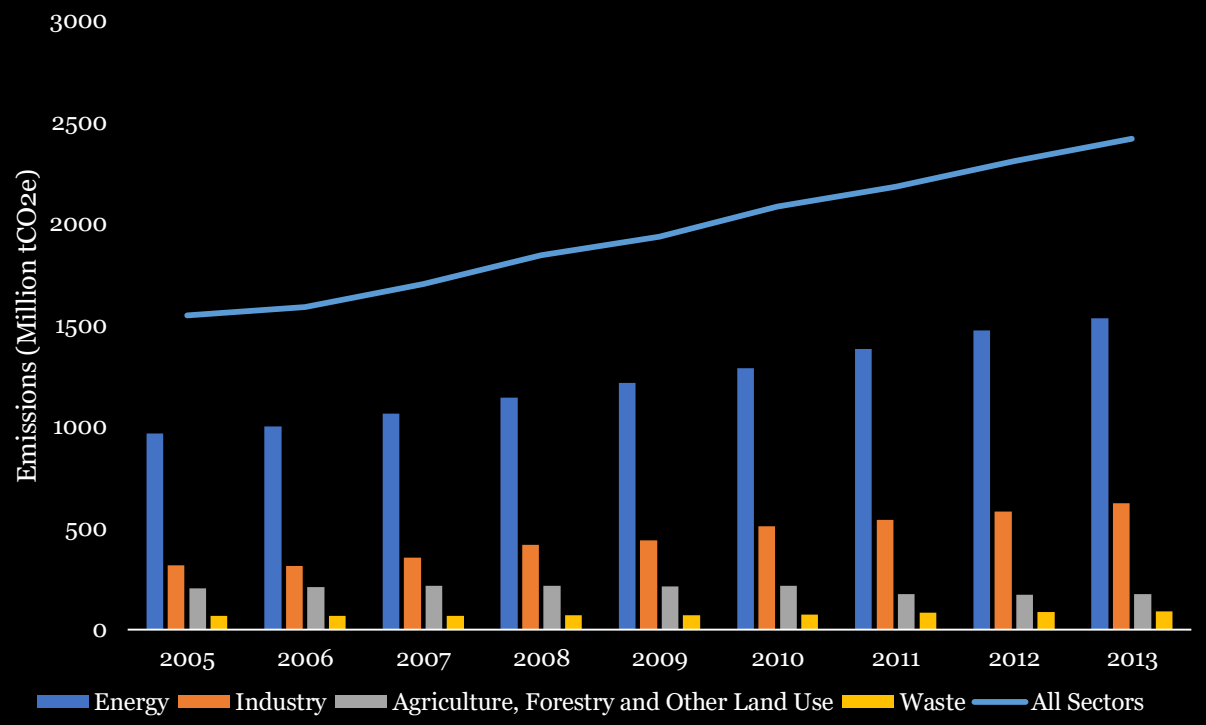
GHG EMISSIONS: TRENDS & DISTRIBUTION



WORLDWIDE SECTORAL DISTRIBUTION OF GHG EMISSIONS (MT C02E), 2016

Source: Climate Watch, WRI

SECTOR WISE GROWTH RATE OF EMISSIONS (MT C02E) IN INDIA FROM 2005-2013



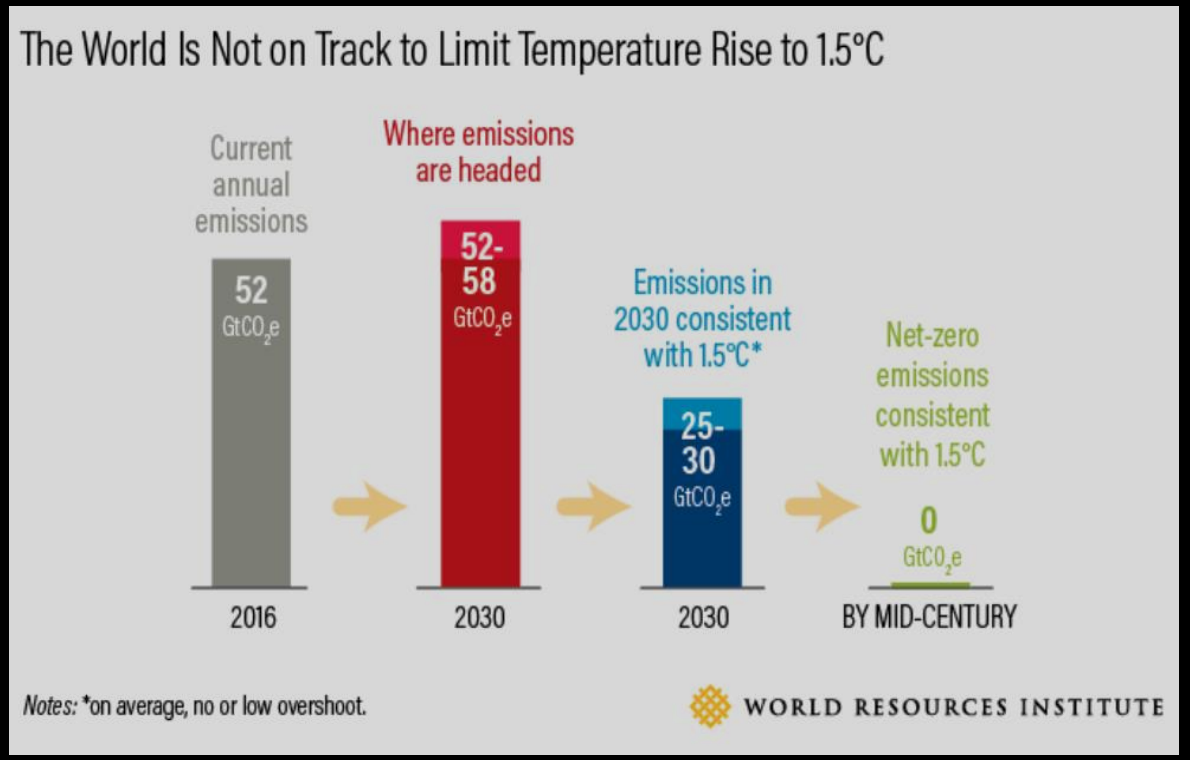
Source: GHG India Platform, WRI

AVOIDING OR MITIGATING IMPACTS OF CLIMATE CHANGE

WHAT IS THE REMAINING CARBON BUDGET IF WE'RE TO LIMIT GLOBAL WARMING TO 1.5°C?

By 2017, the world had already emitted three-fourths of this budget.

To avoid breaching the 1.5°C mark, the world can emit only 420-580 GT till century-end

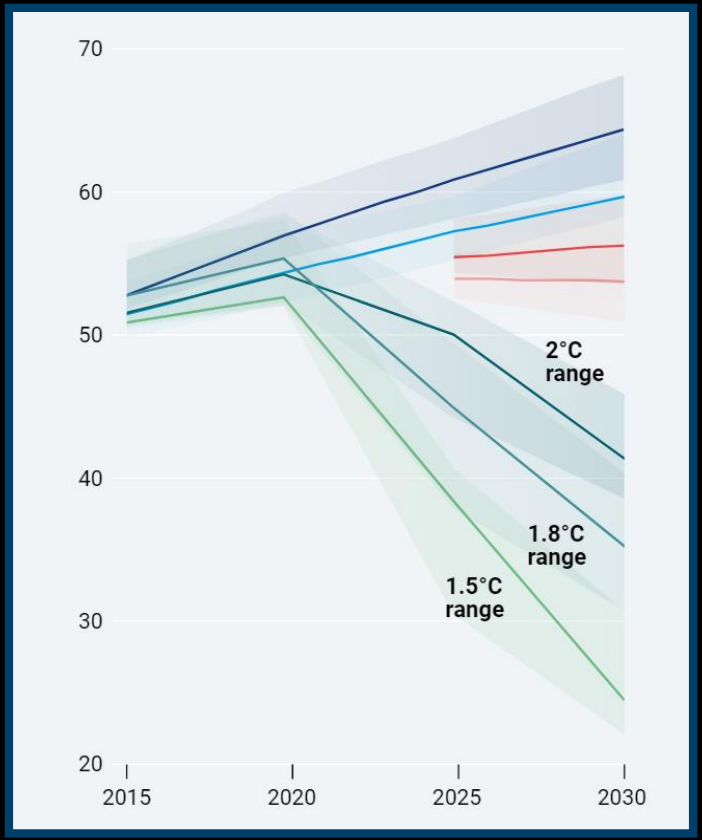


Source: IPCC, 2018: Summary for Policymakers. In: Global warming of 1.5°C

WHAT IS THE WORLD DOING?

184
countries

making up 96% of global emissions
submitted commitments
under the Paris Agreement in 2015



Source: Trajectories in the UNEP Emissions Gap Report 2019

BAU | Current Policies | Unconditional NDCs | Conditional NDCs

104
countries

Have stated their intention to
enhance ambition by 2020
(15.1 % global emissions)

Source: UNFCCC and Climate watch NDC tracker)

INDIA'S CONTRIBUTION TO FIGHTING CLIMATE CHANGE

GLOBAL COMMITMENTS

By 2030:
33-35% below 2005 emissions intensity of GDP

Non-fossil share of power generation capacity at 40%

RENEWABLES

175 GW by 2022 and up to 450 GW

ENERGY EFFICIENCY

Cycle 2 Savings: 12.84 MToe, Emission Reduction:44.97 MT CO_2

National Cooling Action Plan

TAXATION

Cess on coal production/ GST Compensation
INR 400 per tonne

INDUSTRIAL DECARBONIZATION

Zero-emission technologies

Economy-wide green industrialization

100 per cent new sales of zero-emission electric cars

MARKET BASED MECHANISM IN SOLID WASTE AND MSMEs

$8 million grant from World Bank's Partnership for Market Readiness

Develop meta- registry

Image Source: https://www.flickr.com/photos/143447993@N07/34558687962/

ROLE OF INDUSTRY

242 companies

100% renewable

182 companies

Carbon neutrality

274 companies

Net zero emissions

90 companies

Energy Efficiency

1400+ companies

Internal carbon price

972 companies

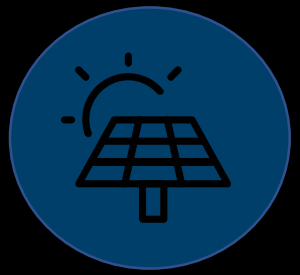
Scientific carbon reduction targets

INDIAN COMPANIES AND CLIMATE ACTION

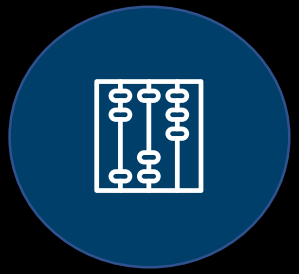
10 companies have announced to become net-zero emitters

51 companies already price carbon or plan to do so

47 companies committed Science Based Targets



23 companies have renewables target



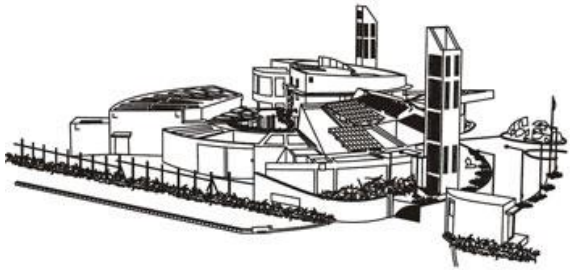
6 energy-smart companies committed to using energy more productively

>21 companies are participating in a Carbon Market Simulation

QUESTIONS

CHALLENGES & OPPORTUNITIES FOR MSMES

Akshay Koul, *Associate Councellor, CII-GBC*



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MSME Driving Climate Action Agenda – Challenges and Opportunities

3 September, 2020

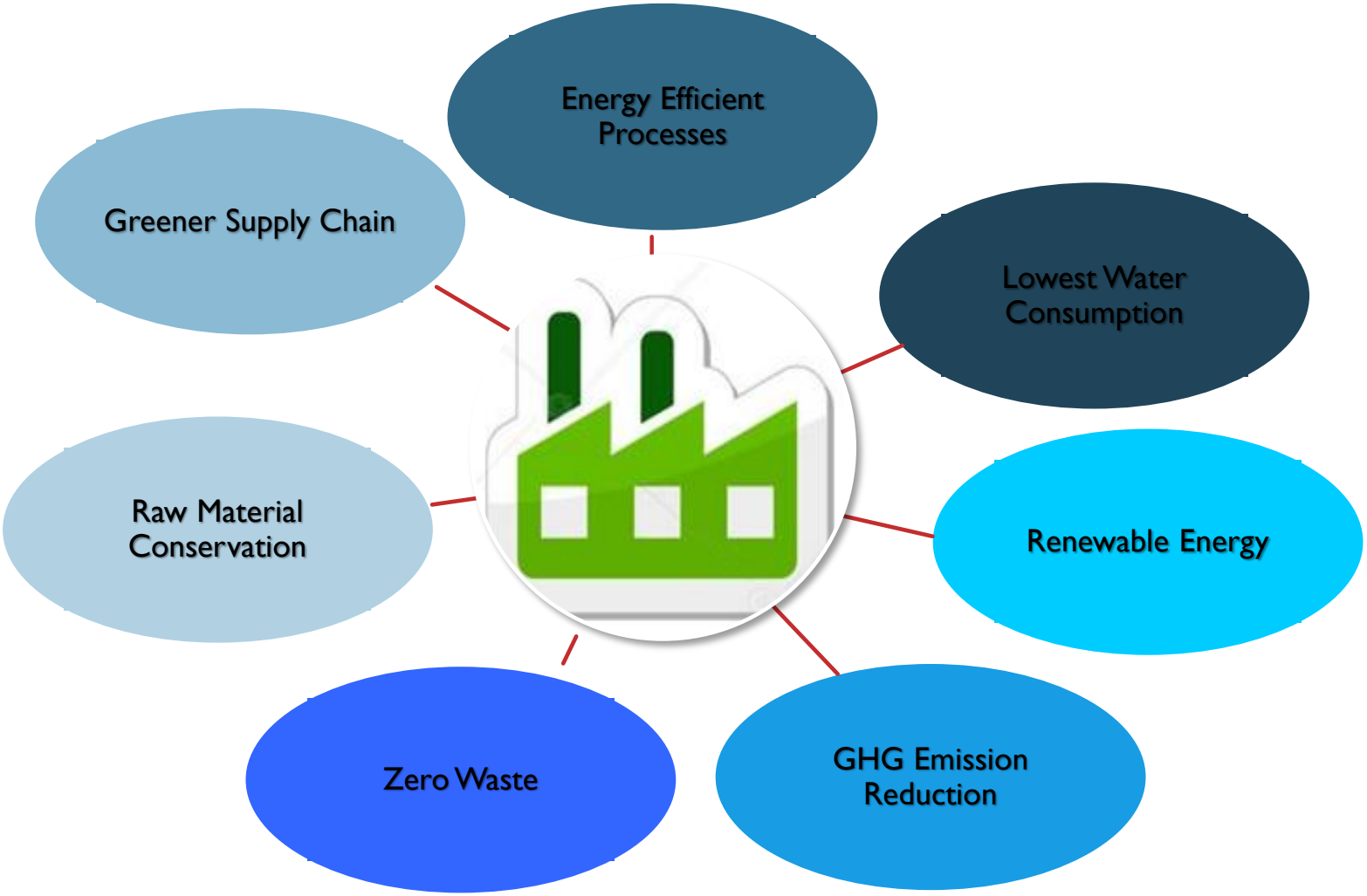





Three Dimensions of Climate Action

- **Better economic performance** through improved productive use of resources
- **Environmental protection** by conserving resources and minimizing industry's impact on the natural environment,
- **Social enhancement** by providing jobs and protecting the wellbeing of workers and local communities.

Climate Action – Intervention areas



Broad Challenges

3

Lack of government support platforms/ incentives

4

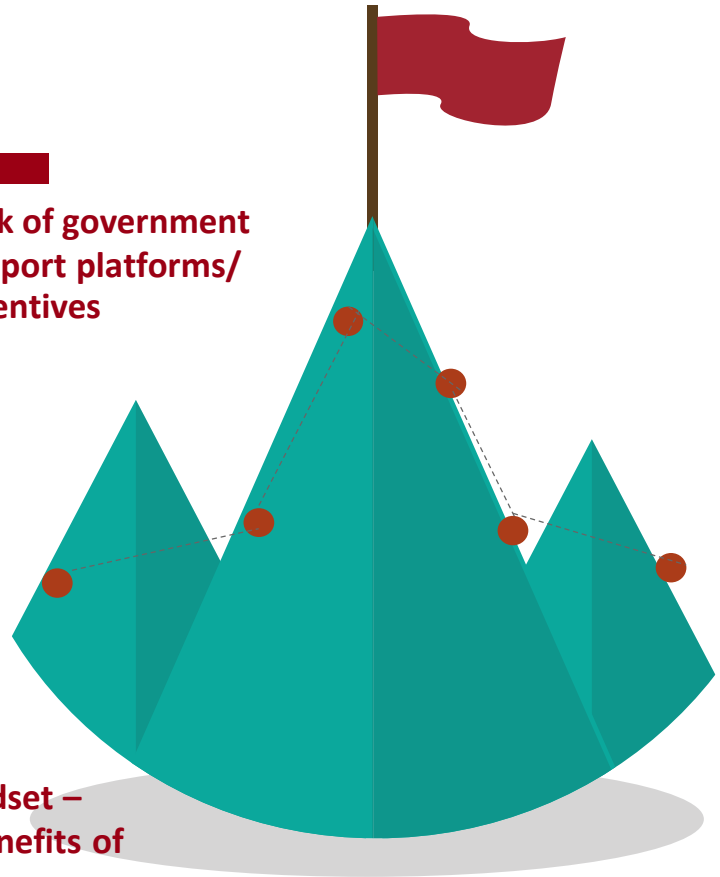
Access to affordable clean technology

2

Sustainability is never primary concern

5

Need for easy finance/ Lack of cleantech finance instrument



1

Awareness & mindset – regulatory risk/benefits of cleantech

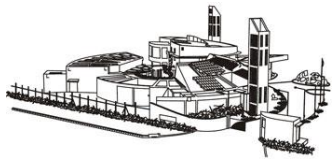
6

Less focus on promotion/ WOM as business strategy

MSME - Single man show

Challenge or Opportunity ?

Green MSMEs – Setting the examples



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Energy management systems - Automation

- Helps in identifying losses – leakage/idle
- 2-5% reduction in energy consumption

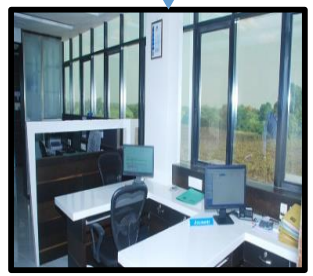
14 Energy Meters

Cooling tower

Injection Moulding (8)

Hot Stamping Shop and Tool Room

Air Compressor



Office

Grinding

100% capture of total electrical energy consumption

Energy scorecard – at operator level

ENERGY EFFICIENCY

ATHARVA

ENERGY SCORE CARD - SM 1000 (Month- Apr 17)

	Parameters	Resp.	Target	Actual
1	Energy Consumed (Kwh) :-	Ravi	–	2645
2	RM Processed (MT) :-	Prashant	–	13·18
3	Kwh/ MT :-	7/–	400	200
4	Rejection Kgs/MT :-	7/–	50	443
5	No.of Mold change (Hrs) :-	7/–	–	2
6	Machine Break down (Hrs):-	Ravi	0	1
7	Mold Break down (Hrs):-	Bipsen	0	0
8	Overall Equipment Efficency (%):-	Prashant	86	75

Recycling waste water in the process

WATER & WASTE WATER

Fresh Water ~~(900 Ltrs)~~

Fresh Water (88.2 ltrs) 10 – 15%

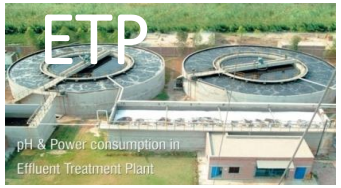
Total Recovered Water (**811.8** ltrs) = 99% of Effluent

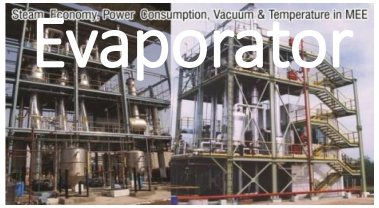
Effluent (820 ltrs)

Power & Membrane

RO Recovery (738 ltrs) 90% of RO Feed

Evaporator Recovery (73.8 ltrs) 90% of Evaporator Feed





Power & Chemical

Effluent (820 ltrs)

Effluent to Evaporator (82 ltrs) (10%)

Power & Steam

Effluent to Solar (8.2 ltrs) 1% of Effluent

Aiming Net Zero Energy – RE installation

- Wind Power – onsite & offsite
  - **6.3 MW**
- Solar Power
  - **5.69 MW**

% substitution with RE power >100%

Excess is fed into the grid

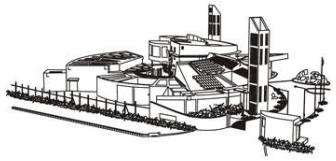
Waste Management & Control Area

WASTE & RECYCLING

- Better accounting
- Easier sorting and recovery
- Effective disposal

Journey from “Scrap Yard” to Waste Management & Control Area.

External Change Agents



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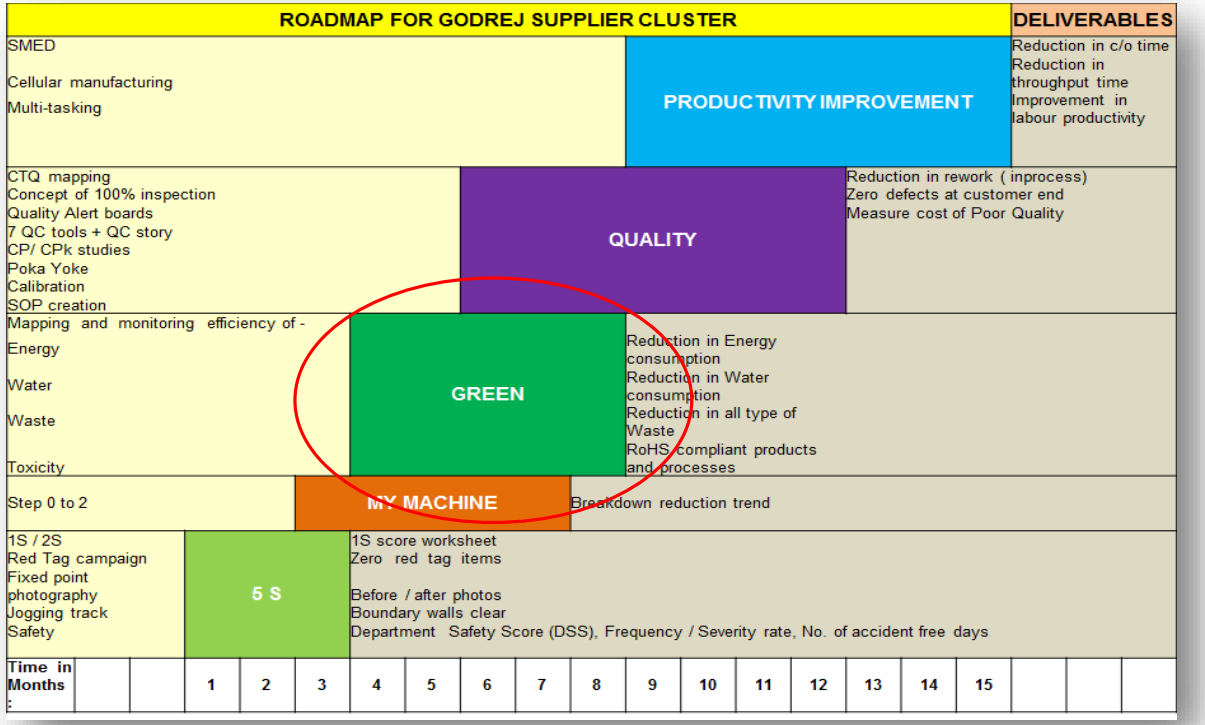
Godrej Supplier Cluster Program – OEM approach

The Guiding Principles…..

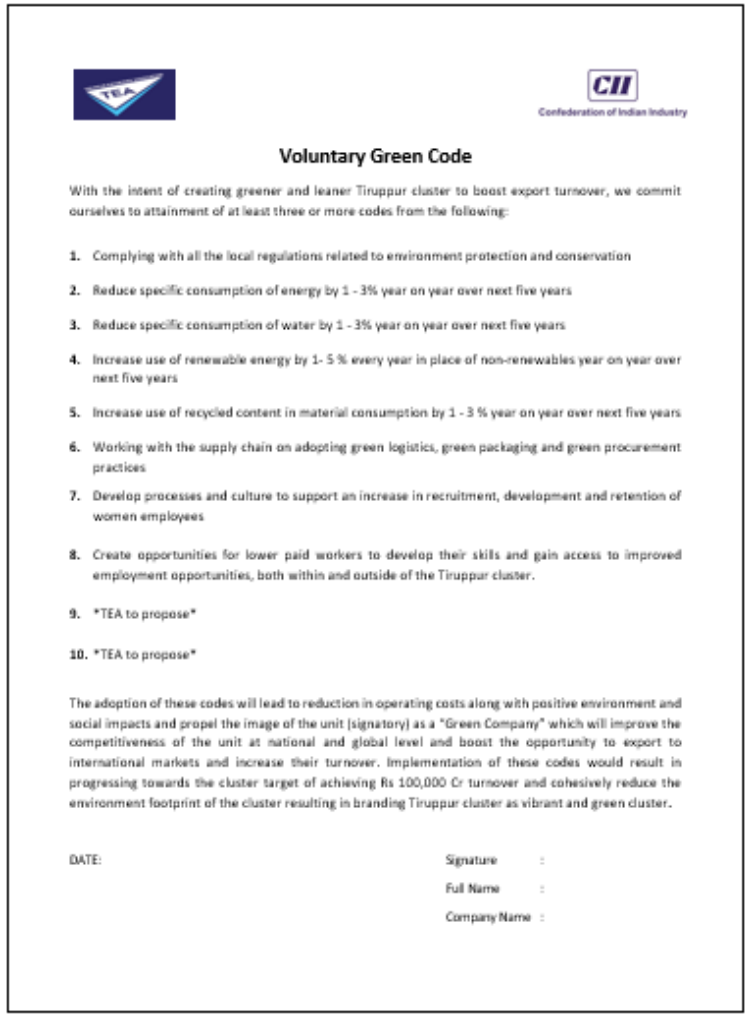
- Treat suppliers as:-
  - Extension of own manufacturing facilities
  - Own employees
- Use cluster approach with a philosophy of
  - Coming Together
  - Learning Together
  - Practicing Together
  - Progressing Together

The Roadmap…..



Green Cluster Development – Industry Association

- Develop a Low Carbon Roadmap for the cluster
- Objective
  - To reduce the impact from overall production of garments and boost exports by promoting green growth
- Code to address all major environmental aspects
  - Energy efficiency; Renewable energy; Waste management; Water management



Voluntary Green Code

With the intent of creating greener and leaner Tiruppur cluster to boost export turnover, we commit ourselves to attainment of at least three or more codes from the following:

1. Complying with all the local regulations related to environment protection and conservation
2. Reduce specific consumption of energy by 1 - 3% year on year over next five years
3. Reduce specific consumption of water by 1 - 3% year on year over next five years
4. Increase use of renewable energy by 1- 5 % every year in place of non-renewables year on year over next five years
5. Increase use of recycled content in material consumption by 1 - 3 % year on year over next five years
6. Working with the supply chain on adopting green logistics, green packaging and green procurement practices
7. Develop processes and culture to support an increase in recruitment, development and retention of women employees
8. Create opportunities for lower paid workers to develop their skills and gain access to improved employment opportunities, both within and outside of the Tiruppur cluster.
9. *TEA to propose*
10. *TEA to propose*

The adoption of these codes will lead to reduction in operating costs along with positive environment and social impacts and propel the image of the unit (signatory) as a "Green Company" which will improve the competitiveness of the unit at national and global level and boost the opportunity to export to international markets and increase their turnover. Implementation of these codes would result in progressing towards the cluster target of achieving Rs 100,000 Cr turnover and cohesively reduce the environment footprint of the cluster resulting in branding Tiruppur cluster as vibrant and green cluster.

DATE:

Signature :
Full Name :
Company Name :

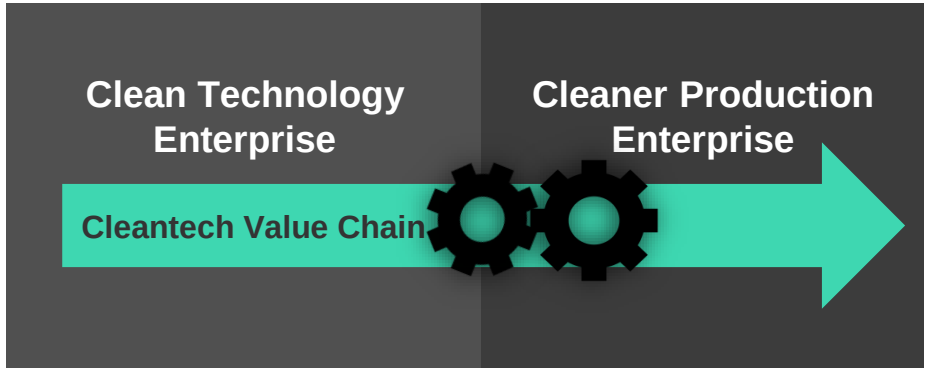
MoU signed between CII & TEA on 26 February 2018

Green MSME – Transformation journey

Focus areas as way forward..

- Grading of MSMEs based on their env. performance
- Develop ETL mapped per cluster with high impact
- Financial instruments like Interest Subsidy, CLCSS

Institutional support



Forging Partnership for Climate innovation

Drive towards Service Based Economy

ESCO Implementation

Demand Aggregation (packaged solution)

Innovative implementation models/schemes

ISO 50001 ENERGY MANAGEMENT ISO 50001

GreenCo

ZED ZERO DEFECT · ZERO EFFECT

RE 100

EP 100

Systems & Recognition

Contact:
Akshay Koul
CII - Godrej Green Business Centre, India
akshay.koul@cii.in
+91 9550253830

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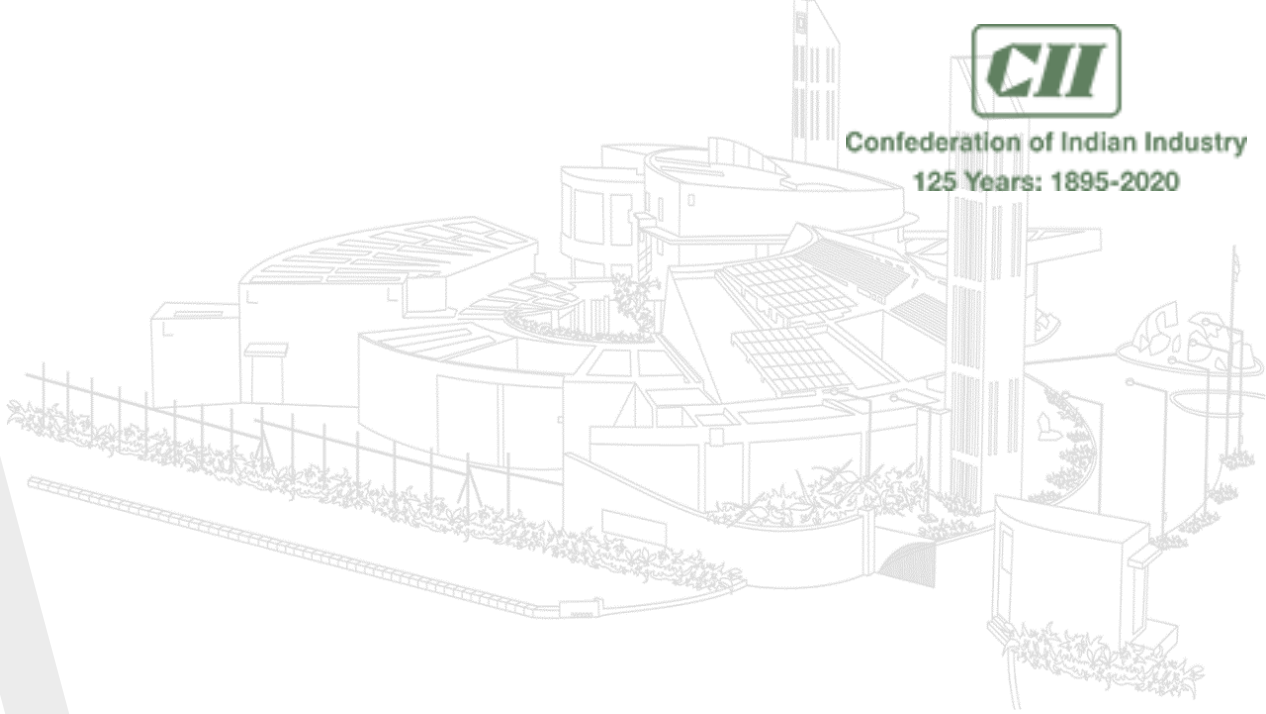

THANK YOU!

For any queries related to energy efficiency log in @

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QUESTIONS

GHG ACCOUNTING AND MANAGEMENT

Varun Agarwal, *Project Associate, WRI India*

INTRODUCTION

GHG Accounting

Measurement or calculation of GHG emissions from direct or indirect business activity.

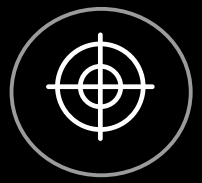
Typically follows a process defined in a relevant corporate standard- GHG Protocol or ISO 14064.

The resulting list of quantified GHG emission sources is the organization's GHG inventory.

GHG Management

Monitoring and reporting emissions over time.

Identification of reduction opportunities across the organization's GHG emission sources.



Planning and setting emission reduction targets.

BUSINESS VALUE

Reduce Costs

- Cost-efficient GHG reduction opportunities, e.g. energy efficiency.
- Government support, e.g. green finance schemes for MSMEs.

Build Preparedness

- Meeting green procurement requirements of corporate buyers.
- Impacts from potential Government regulations on GHG emissions.

Participate in Markets

- Voluntary offset schemes e.g. NCCF's upcoming Carbon Registry-India.
- Carbon Markets e.g. Proposed pilot for the MSME sector under the MoEFCC-World Bank PMR project.

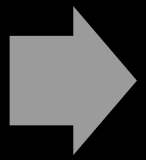
GHG ACCOUNTING: AN OVERVIEW

Greenhouse Gases (GHGs)

Carbon Dioxide (CO_2) | Methane (CH_4) | Nitrous Oxide (N_2O) | Nitrogen Trifluoride (NF_3)
Sulphur Hexafluoride (SF_6) | Hydrofluorocarbons (HFCs) | Perfluorocarbons (PFCs).

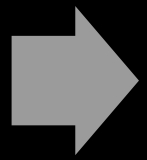
Identify Relevant GHG Emission Sources for the Organization

- Direct
- Indirect



Calculate Emissions from Identified Sources

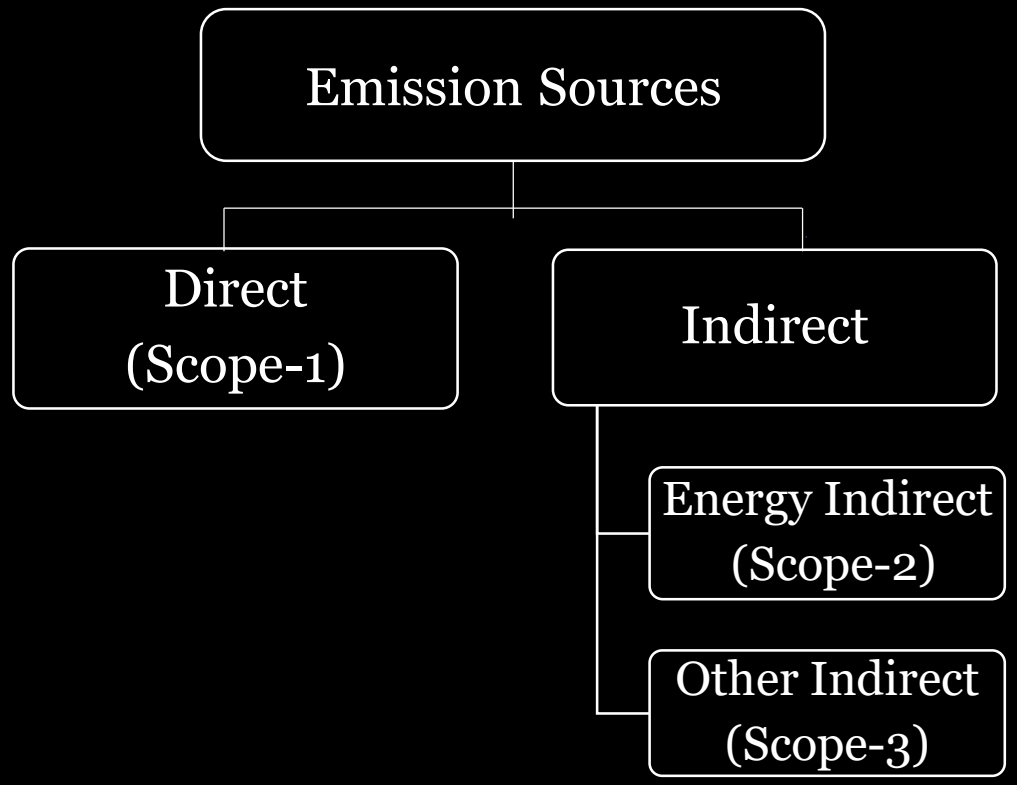
- Activity Data
- Emission Factors



Express Emissions of all Gases in a Common Unit (tCO_2e)

- Global Warming Potential

EMISSION SOURCES



1

Scope 1: Emissions from sources owned or controlled by the company,

Fuel combustion in company boilers, furnaces, DG sets

2

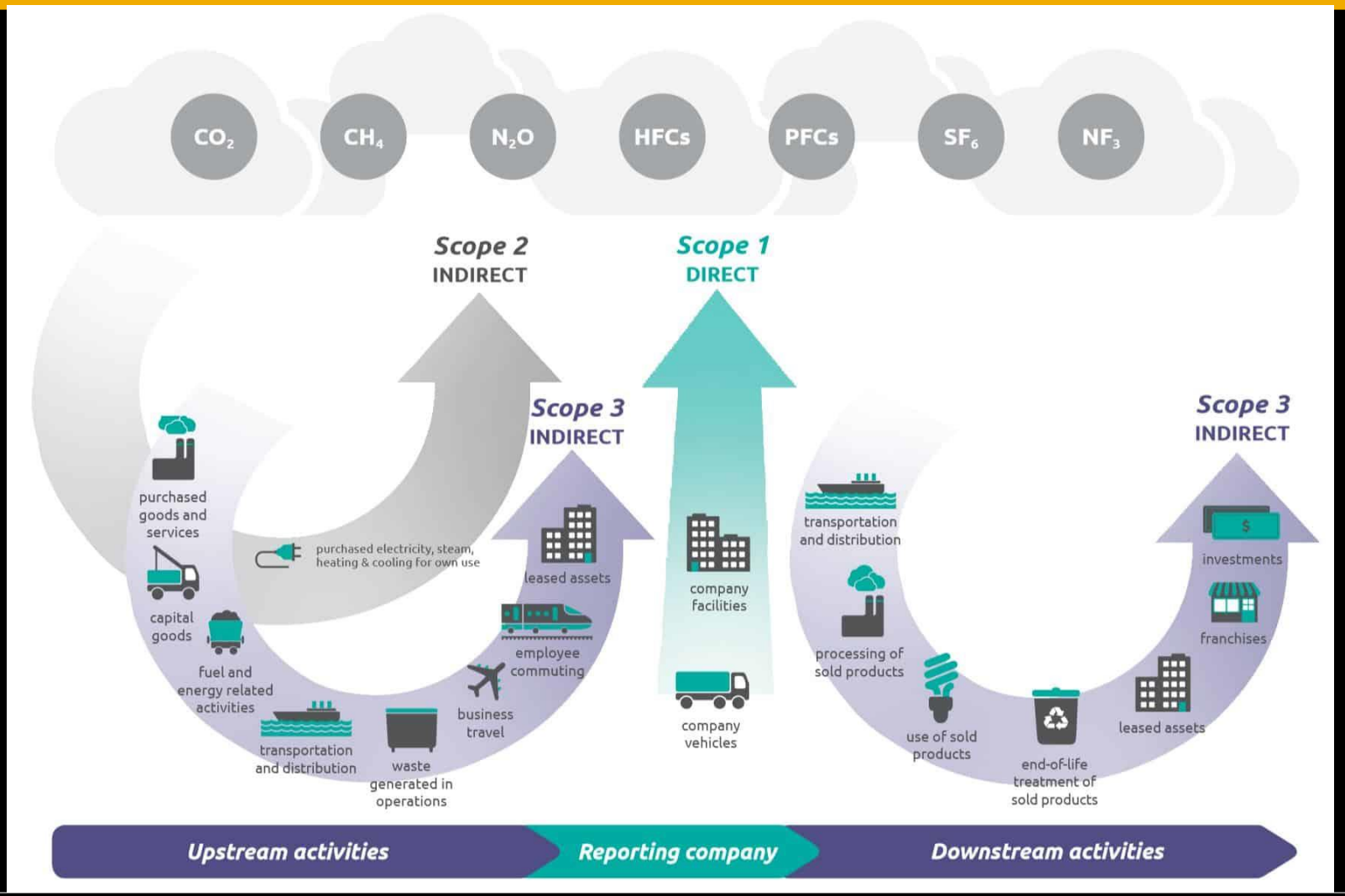
Scope 2: Emissions from purchased electricity, heat or steam.

3

Scope 3 (Optional): Emissions from all other indirect sources, e.g.

- ✓ *Extraction and production of purchased raw materials.*
- ✓ *Processing, use and disposal of products sold.*
- ✓ *Material transport; business-related travel of employees*

EMISSION SOURCES



Source: GHG Protocol Corporate Accounting & Reporting Standard

EMISSION QUANTIFICATION

Activity Data **X** Emission Factor **X** Global Warming Potential **=** Emissions (in CO_2e)

Quantitative measure of an activity resulting in GHG emissions. e.g.:

- *Kilograms of fuel consumed.*
- *Kilowatt-hours of electricity consumed.*
- *Kilograms of product produced.*

Average quantity of a GHG released per unit activity, e.g.:

- *Kg CO_2 emitted per Kg fuel consumed.*
- *Kg CO_2 emitted per KWh electricity.*
- *Kg SF6 emitted per Kg product .*

Radiative forcing impact of one unit of GHG relative to one unit of CO2:

- *CO2: 1*
- *CH4: 28*
- *N20: 265*
- *NF3: 16100*
- *SF6: 22800*

GHG MANAGEMENT

PERIODICALLY QUANTIFY & REPORT EMISSIONS

- Choose a base year.
- Report changes in emissions annually with respect to base year.

IDENTIFY GHG REDUCTION OPPORTUNITIES

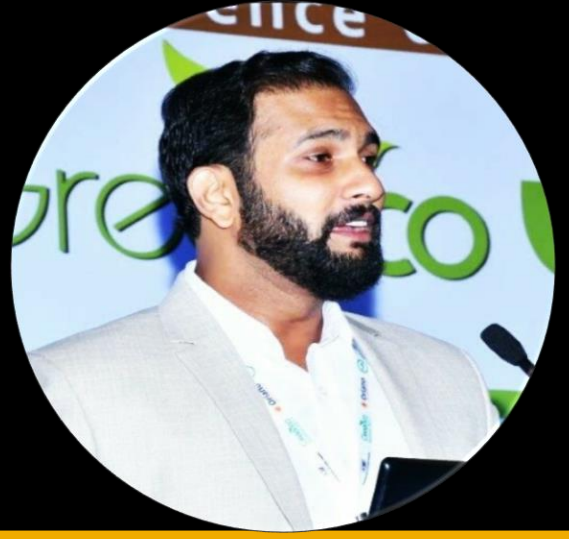
For each GHG source, assess:

- Level/trend of emissions,
- Organizational influence,
- Options for reduction- short, medium and long-term.

SET GHG REDUCTION TARGETS

- Target type- absolute or emissions intensity
- Emissions coverage- scope 1, (scope-2, scope-3)
- Timeframe for achievement

QUESTIONS



EXPERIENCE FROM LEADING INDIAN MSME

Aditya Agarwal, Director, Shree Ashtavinayak Glass Pvt Ltd

QUESTIONS

INTRODUCTION TO CARBON MARKETS

Shubhangi Gupta, *Consultant, WRI India*

CONTEXT: PUTTING A PRICE ON CARBON

Photo Credit: tutor2.net

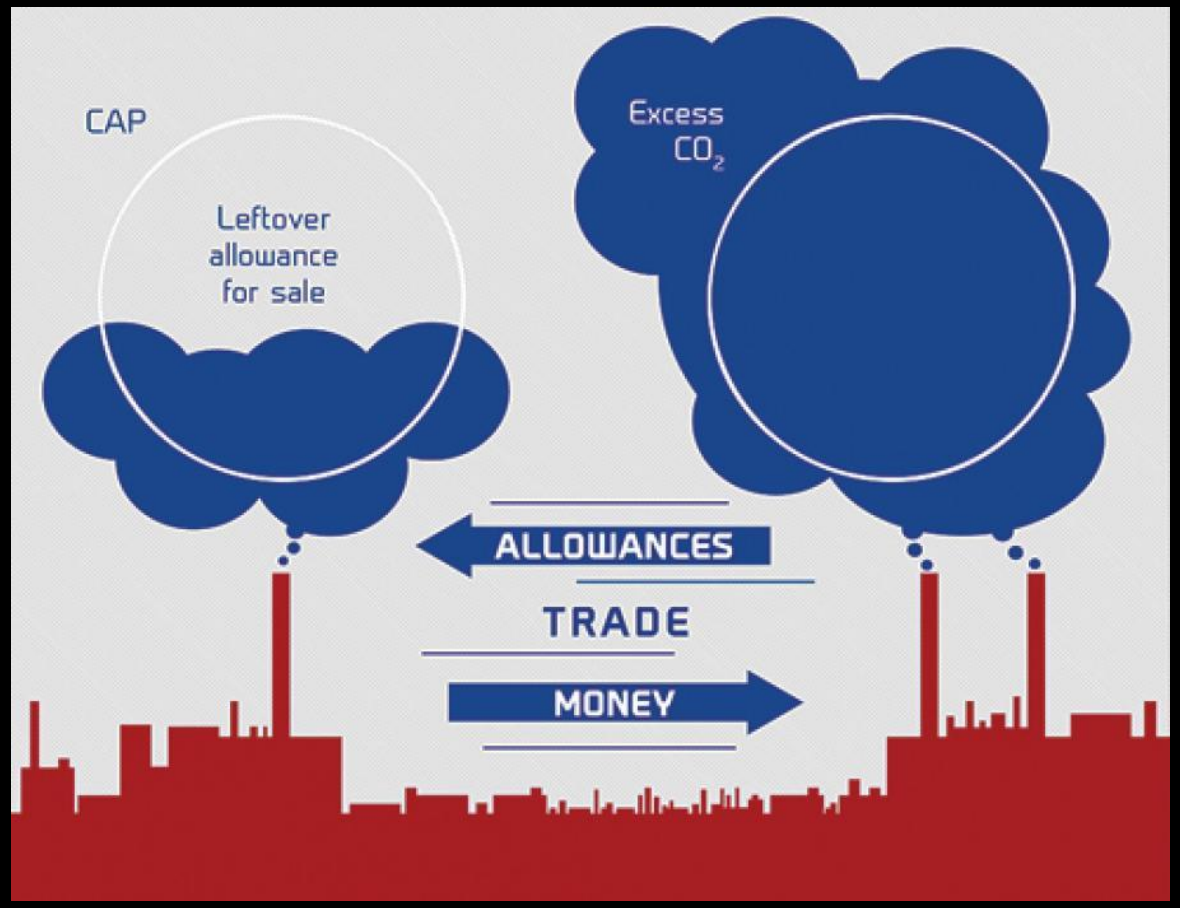
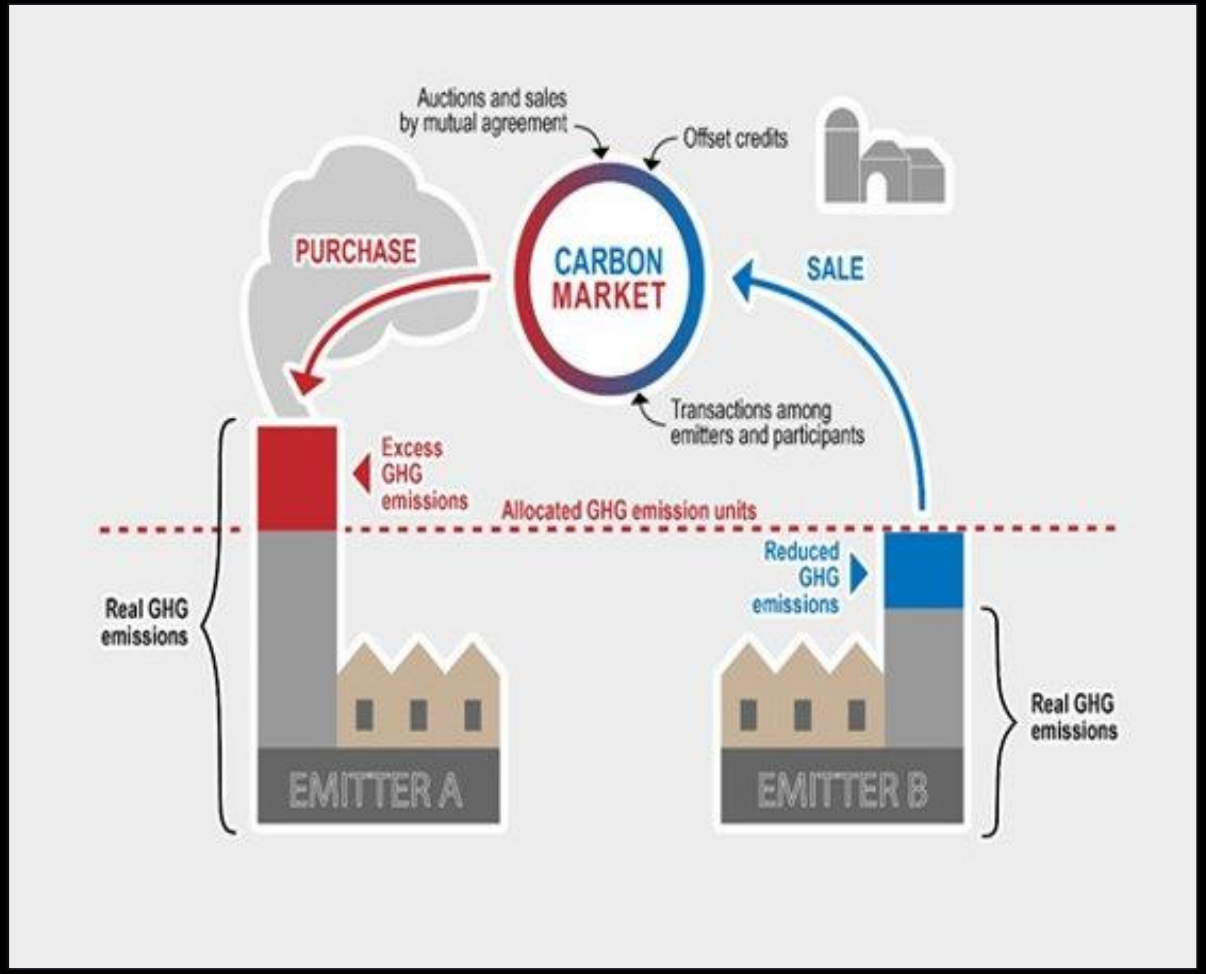


Photo Credit: Europost

WHAT ARE CARBON MARKETS?

- Market-based instrument
- Works on the idea of ‘cap and trade’
- 31 Carbon markets have been implemented/ scheduled for implementation across 5 continents.



WHY DO CARBON MARKETS WORK?

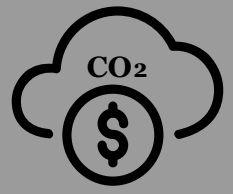
Market Based Mechanism

↓

Flexibility & Local Relevance in Reduction Options for Companies

↓

Least Cost Reduction in the Economy



Sets A Price On Carbon

↓

Long Term Predictability

↓

Shifts Investment Patterns

↓

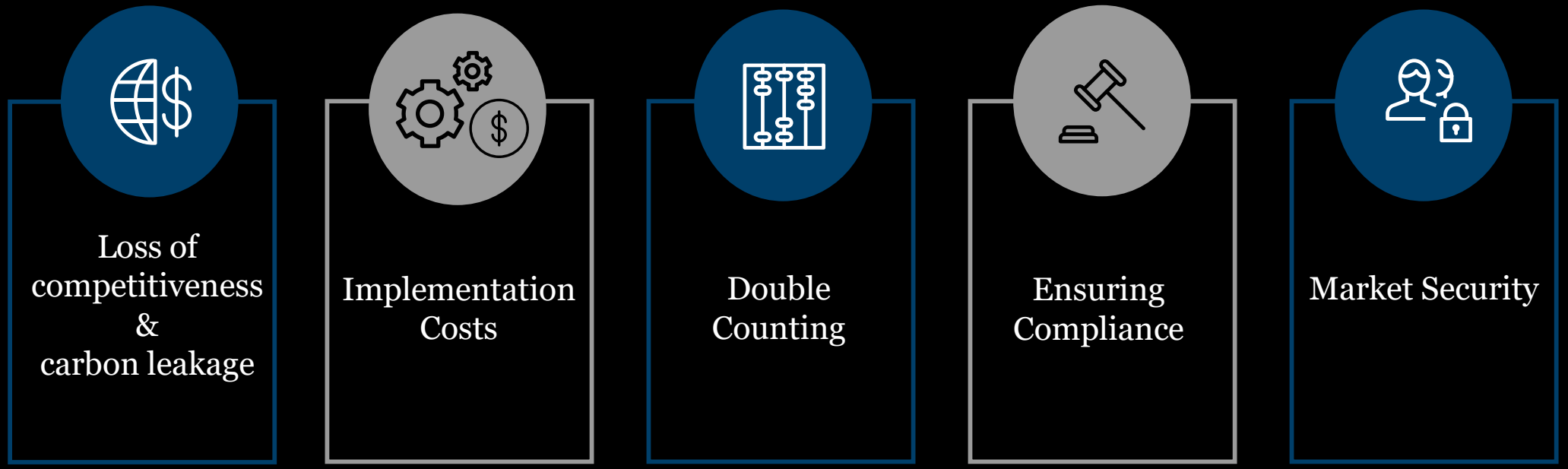
Incentivizes Innovation & Abatement

Provides Host Of Co-benefits:

↓

Reduced Air Pollution
Health
Resource Efficiency
Energy Security
Tech Innovation
Jobs

CHALLENGES OF A CARBON MARKET



WHY ARE WE TALKING ABOUT CARBON MARKETS TODAY?

CLEAN DEVELOPMENT MECHANISM

Helped mobilize financing for small & medium EE & RE projects.

India was the 2nd largest supplier of Certified Emission Reduction (CER) units at 250 million

1,376 CDM projects in India

Unrealized value of CDM credits at $5 billion — estimated at $20 / unit

ARTICLE 6 of PARIS AGREEMENT *(under development)*

Allows for the international transfer of carbon credits between countries.

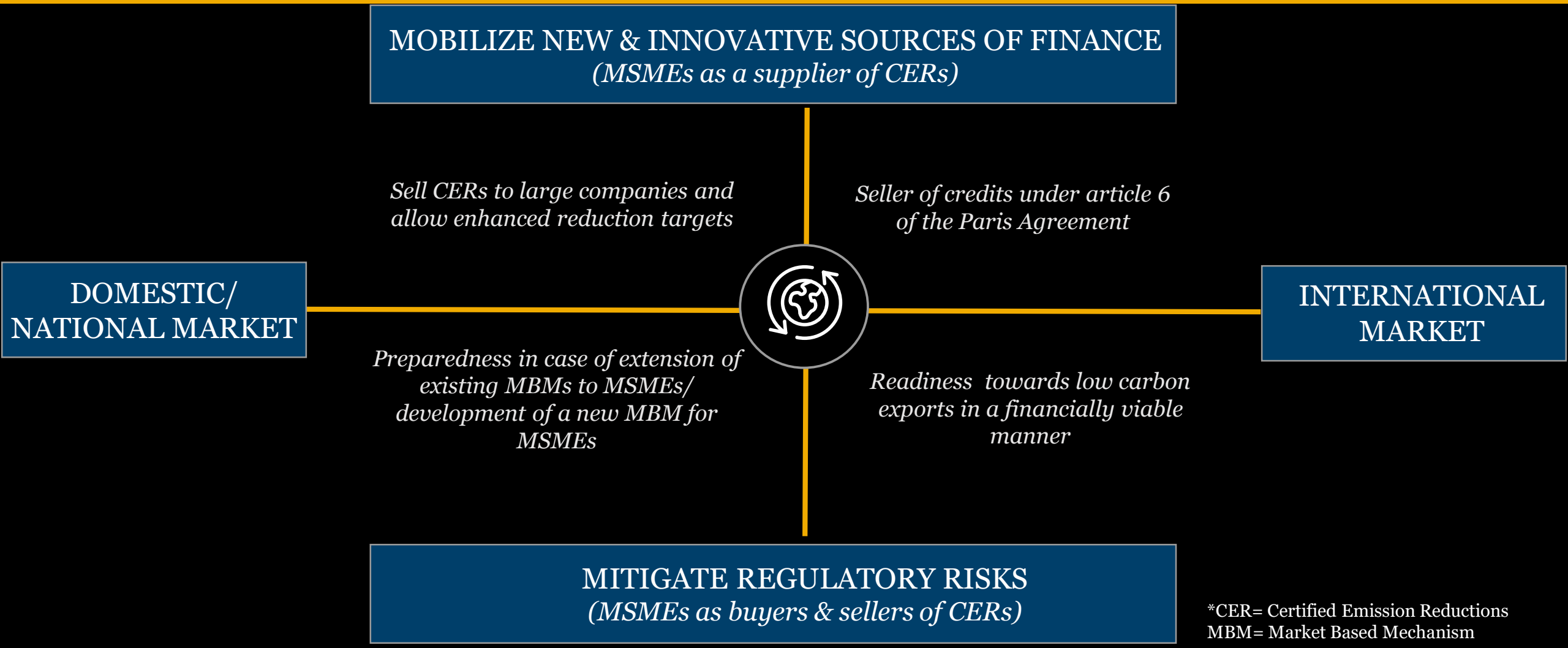
Trade credits from emissions reductions generated through specific project

PARTNERSHIP FOR MARKET READINESS (PMR)

$8 million grant

Prepare and pilot Market Based Mechanisms for solid waste management and MSMEs

LEVERAGING THE POWER OF CARBON MARKETS



*CER= Certified Emission Reductions
MBM= Market Based Mechanism

QUESTIONS

CLOSING REMARKS

Tejaswini Kulkarni, *Project Associate, WRI India*

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THANK YOU

Contact Us:

- Ashwini Hingne | Manager, WRI India | ashwini.hingne@wri.org
- Atik Sheikh | Counsellor, CII | atik.sheikh@cii.in