

REGULATORY MEASURES ON CLIMATE CHANGE

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“The less we do to address climate change now, the more regulation we will have in the future.”

- Bill Nye

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Climate Change

-An Introduction



Climate Change: An Introduction

What is Climate Change

- Climate change is the significant variation of average weather conditions over several decades or longer naturally or a result of human activities
- It is the longer-term trend that differentiates climate change from natural weather variability

Causes of Climate Change

- Fossil Fuel sourced,
- Deforestation,
- Using fossil fuel-based transportation,
- Powering buildings
- Excessive Consumption
- Increased livestock farming

Effects of climate change:

- **Hotter temperatures-** Planet has warmed 1.1 degrees Celsius in past 250 years ago. Which is estimated to touch 4 degrees by 2100
- **Rising sea level-** Global sea level has risen about 8 inches (0.2 meters). Estimated to another 0.3 meters by 2100
- **Loss of species-** More than 500,000 species have insufficient habitat for long-term survival
- **Impact on Human beings-** At a 2-degree Celsius rise in global average temperature, an estimated one billion people will face heat stress risk. Leads to anxiety, stress powerlessness among humans

Source: United Nations, NASA

India's Climate Change Targets

As per India's commitment at COP'26, on 1st November, 2021 India came forward with Panchamrita (five nectars of immortality):

- Increase in non fossil electricity generation capacity to 500 GW by 2030.

- Meet 50 percent of its energy requirements from renewable energy by 2030.

- Reduce the total projected carbon emissions by one billion metric tons from now (presumably 2022) through 2030.

- Reduce the carbon intensity of its economy by at least 45 percent by 2030 compared to 2005 levels.

- Achieve the target of net zero by 2070.

Need for Regulatory Measures

-State of existing laws



01

**No independent regulatory body
for environment governance-
looked after by MoEF**

02

**Lack of political will
and public awareness**

03

Human centric laws

04


**Existing laws follow Command and
control structure**

05

**Lack of strong penalty
measures**

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Regulatory Measures on Climate Change in India



Types of regulatory measures by GOI


Corporate Responsibility – imposing moral responsibilities on corporates

Incentives

Obligatory
-BRSR
-CSR

Regulatory-
Green Bonds, Green Deposits, ECBC, Carbon credit, Green credit program

In the form of the subsidies, tax sops etc.



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Corporate Responsibility -Obligatory

BRSR
CSR



01

**Business Responsibility
and Sustainability
Reporting**

1. Business Responsibility and Sustainability Reporting (1/2)

About BRSR

- BRSR is a framework designed by SEBI based on NGRBC to encourage companies to integrate sustainable and responsible business practices into their operations.
- Voluntary for top 1000 listed entities from 2021-22 and Mandatory from 2022-23
- BRSR prescribes 9 principles for entities to report upon out of which 2 are Environment Specific

Environment Principles of BRSR

- **PRINCIPLE 2 – Business should provide goods and services in a manner that is sustainable and safe**
 - Policy to monitor, replace machines causing pollution
 - Sustainable sourcing
- **PRINCIPLE 6: Businesses should respect and make efforts to protect and restore the environment.**
 - Implement environment management system
 - Use of renewable energy for operations
 - Environment Impact Assessment

1. Business Responsibility and Sustainability Reporting (2/2)

- BRSR is less on directly impacting climate change but rather on making people aware of activities and steps taken top listed companies in controlling environmental degradation
- Shifting towards more nonfinancial disclosure
- Over the past few years multiple global and domestic nonfinancial reporting frameworks and standard have been developed considering the BRSR regulations such as Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB) and the Task Force on Climate-Related Financial Disclosures (TCFD).
- ICAI has developed 'Sustainability Reporting Maturity Model (SRMM) Version 1.0' based on the BRSR scoring mechanism.
 - Assess position vis a vis sustainability reporting maturity levels
 - Achieve vision of having sustainable business
 - Allow rating agencies to compare sustainable nature of Indian Companies with international ones



02

**Corporate
Social
Responsibility**

Corporate Social Responsibility

As per Section 135 of The Companies Act, 2013 companies meeting a prescribed criteria are required to fulfill their CSR obligation. Companies can select activities as prescribed under *Schedule 7*. Amongst this schedule the environment specific activity is

(iv) ensuring environmental sustainability, ecological balance, protection of flora and fauna, animal welfare, agroforestry, conservation of natural resources and maintaining quality of soil, air and water including contribution to the Clean Ganga Fund set-up by the Central Government for rejuvenation of river Ganga

- Creating Oxygen Hubs- Cummins India Ltd.
 - Project Implementation by: Pune Municipal Corporation, Defense Department in Pune and various NGOs
 - Amount spent: INR 1.112 Cr
 - Location: Pune, Maharashtra
 - Estimated Impact: Under this activity Cummins planted more than 35000 trees and looked after their sustainability.





Corporate Responsibility -Regulatory

Green Deposits

Green Bonds

Carbon Credits

ECBC

Energy Conservation Code



01

Green Deposits

Green Deposits

- Financial that enable individuals and organizations to deposit their funds with banks and NBFCs, specifically to finance environmental-friendly activities and projects usually at a lower interest rate.

In India, RBI came out with a framework on April 11, 2023, applicable from June 1, 2023

- Deploy for green finance
- Third party assessment for use of proceeds
- Impact assessment
- Green deposits and utilization disclosure

Recent Green Deposits Scheme offered by the Indian Financial Sector are

- Federal Bank has a green deposit scheme of 2,222 days where it offers up to 6.6% interest
- HDFC Limited's Green and Sustainable Deposit(Upto Rs. 2 crore)
 - Tenure of 61 to 120 months- 7.2%
 - Tenure of 36 to 60 months- 7.3%.
 - Extra 0.25% for senior citizens
- Central Bank of India- CENT Scheme
 - Tenor ranges from 1111 days to 3333 days and
 - Interest ranges from 5.7% to 5.85%



Bank/FI	INTEREST RATES			
	Highest slab (%)	1-year tenure (%)	3-year tenure (%)	5-year tenure (%)
Union Bank of India		5.50 for 1111 days		
Federal Bank		5.75 for 2222 days		
HDFC Ltd.	6.60	N/A	6.10	6.40
IndusInd Bank	6.50	6.00	6.50	6.50

FD rates as on April 1, 2022

Source: Paisabazaar.com



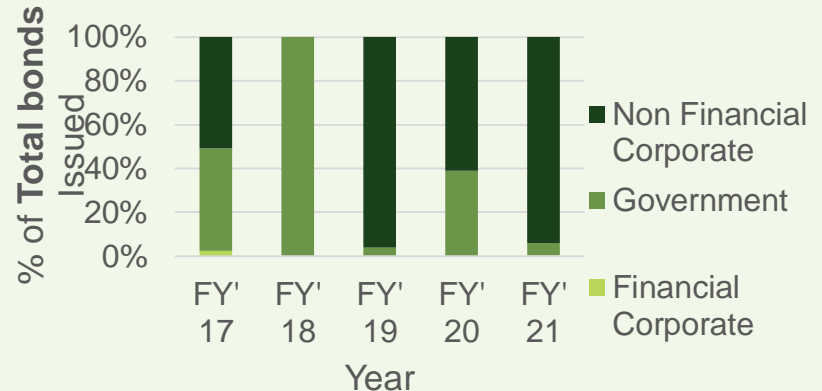
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Green Bonds

Green Bonds

- A type of fixed-income instrument that is specifically earmarked to raise money for climate and environmental projects.
- India needs climate finance to meet its targets
- Governing Regulations
 - Corporate- Under Chapter IX of Operational Circular issued on August 10, 2021
 - Sovereign- Framework for Sovereign Green Bonds issued by issued by the Ministry of Finance and Corporate affairs on 9th November 2022.
- Between January 2014 to March 2023 80% of green bonds were issued by Domestic power producers (Greenko, ReNew and Continuum being the top issuer.)
- Funding of hydro, solar and wind power projects though proceeds
- On January 25, 2023, India issued the first tranche of its first sovereign green bond worth INR 80 billion and another 80 billion on February 9, 2023. Green bond issuance accounts for 1.1 per cent of the government's gross market borrowing

Pattern of Bonds issuance



Source: S&P Global Intelligence



03

**Energy
Conservation
Building Code**

Energy Conservation Building Code

- Building sector in India consumes over 30% of total electricity in the country in a year and second largest emitter of GHGs
- ECBC 2017 applies to all commercial buildings with connected load of 100 kW or contract demand of 120 kVA and higher

Features

- Passive design features
- Renewable energy systems
- Efficient design of buildings
- Near Zero energy buildings

Potential Impact

- 50% energy savings by 2030
- 15 GW of peak demand reduction
- 250 Mt carbon dioxide of GHG emission
- INR 35000 cr of monetary savings

- India **ranks 2nd in the world** for green buildings
- Case Study on impact of ECBC

- City: Ahmedabad
- Case study period: 2017 vs 2022
- Conducted by: CEPT University
- Impact
 - Commercial energy saving: 0.5x GTWH/ year
 - City level cost savings: 3 million INR/year
 - Carbon dioxide not emitted due to building energy efficiency: 0.47 Kilo Million tons of CO₂
 - Avoided MWH capacity: x0.5 G MWH
 - Peak Power demand Reduction- 4743 MW
 - Following the trend of 2017, the estimated power demand of 2022 was 17152 kWh which was reduced to 16790 kWh due to implementation of ECBC



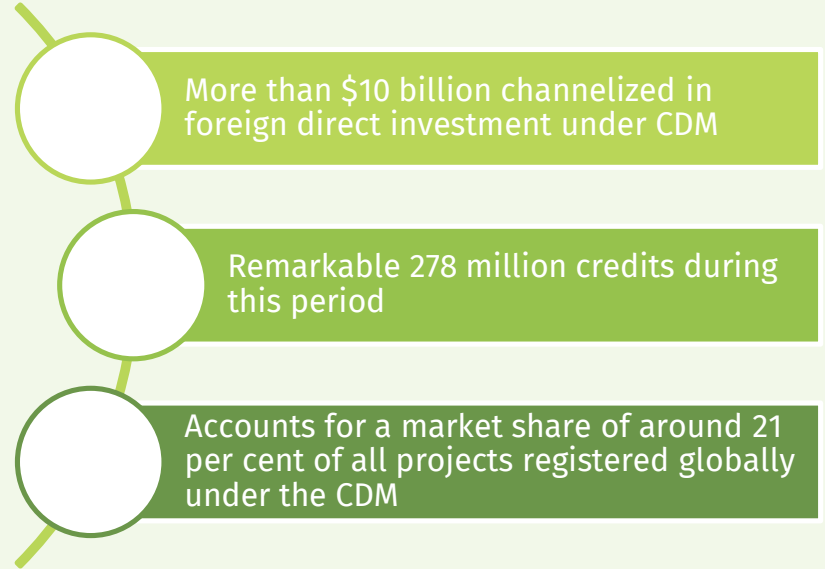
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Carbon Credits

Carbon Credits

- Mechanisms through which lower or no emissions of one player can be sold in a market to offset emissions of another who is ready to pay for it.
- At present India has no formal carbon market
- Energy Conservation (Amendment) Act, 2022; Carbon Trading Scheme, 2023 notified laid down the legislative base to create a market, the mechanism to be notified
- The existing market-based approach in India Consists of:
 - Perform Achieve and Trade mechanism
 - Renewable Energy Certificate Scheme

- Global Participation through Kyoto Protocol's Clean Development Mechanism(CDM)





05

**Green Credit
Program**

Green Credit Program

- Conceptualized by Ministry of Environment and Forests the Program is aimed at incentivizing **environmentally conscious practices and promoting a sustainable lifestyle known as 'LiFE' (Lifestyle for Environment)**.
- Plan to encourage private sector industries, companies, and other entities to fulfill their existing obligations as stipulated by other legal frameworks by undertaking activities that align with generation of Green credits
- **Activities that generate green credits may also be eligible for carbon credits**
- GCP covers wide range of activities which go beyond carbon emissions
- Draft Green Credit Program Implementation Rules have been notified. The program is to be introduced in a phased manner piloting two or three activities from specific sectors

- The identified sectors are:



Incentives

Subsidies
Tax Benefits
Certification
Sops

Incentives(1/2)

Mobility

- FAME-India (Faster Adoption and Manufacturing of (Hybrid & Electric Vehicles in India) launched in 2011 as a part of the National Mission on Electric Mobility offers subsidy upto 40% (now reduced to 15%) on locally manufactured electric vehicles. 2 phases launched and 3rd in development.

Green Construction

- LEED certifications
- Tax benefits: Developers can claim up to 100% depreciation on the cost of green building assets
- low-interest loans through the Indian Renewable Energy Development Agency (IREDA) for building projects with green certifications.
- fast-track approvals, expedited inspections and reduced building fees.

Green Energy

- \$2.4 Bn National Hydrogen Mission for production of 5 MMT by 2030. \$36 Mn additional in Budget
- 4 GWh Battery Energy Storage Systems supported through Viability Gap Funding
- Atal Jyoti Yojana: Installation of solar streetlights and distribution of solar study lamps

Incentives(2/2)

Income tax Act, 1961

- **Accelerated additional Depreciation up to 40%** on solar power plants
- **10-year tax holiday for renewable energy plants.** However, the plants have to pay a minimum alternative tax at the rate of approximately 20.4 to 21.4 percent (based on the income), which can be offset over the next 10 years
- Eligible businesses can claim a tax exemption on their profits under Section 80-IA of Income Tax Act, 1961. The exemption amount is
 - 100% of profits for the first five years from the year of commencement of operations.
 - 50% of the profits for the next five years

GST Act, 2017

GST Exemption on items such as

- Batteries
- Inverters
- Wind turbines
- Solar panels
- And tax benefits for electric vehicles





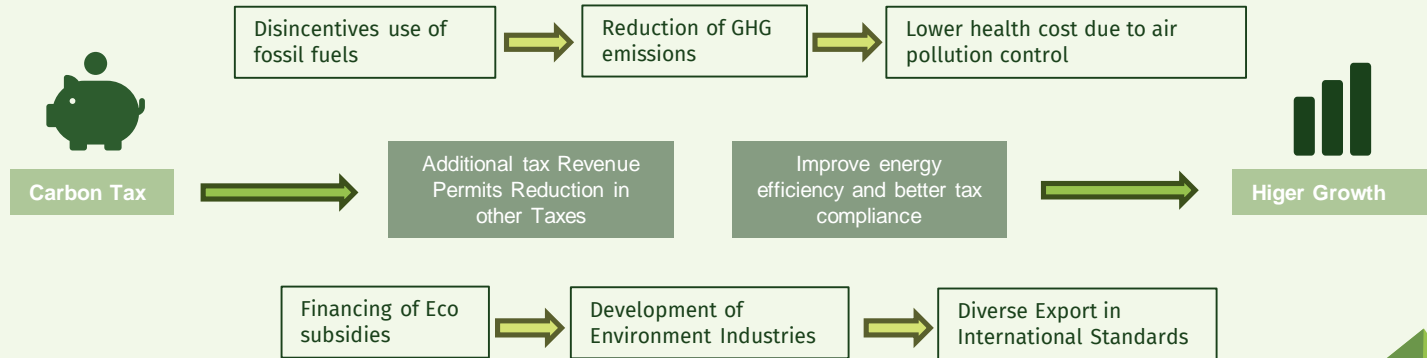
**Global Counter
part: What India
can do**

Carbon Tax (1/2)

- Carbon tax is a **penalty** that businesses must pay on excessive GHG emissions
- Approximately 27 countries have carbon tax
- Countries with the highest carbon tax include:
 - Sweden
 - Switzerland
 - Liechtenstein
 - Norway
 - Finland
 - France
- India does not have explicit **carbon pricing mechanism**
- Implicit carbon pricing mechanism in India have lenient targets and no penalties for not compliance
- **How carbon tax could benefit India:**
 - Disincentivize fossil fuel consumption
 - Rise in additional revenues for the government
 - Lower health costs
 - Economic growth
- **Challenges that India may face in carbon tax implementation:**
 - Increased cost of production for industries
 - Higher prices for consumers
 - Direct effect on electricity generation from coal
 - Complexity of tax structure: increase in compliance and administrative cost
 - Inaccurate and fragmented data: SMEs may not have resources or expertise to measure emissions

Carbon Tax (2/2)

1. Way to go about it:
 - a. Determining appropriate tax rate
 - b. Equitable tax: subsidies for low-income households to off-set increase in energy costs
 - c. Integrating carbon tax with existing tax regimes



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Conclusion

Conclusion

01 A recent survey which found that few manufactoures under FAME II failed to meet the obligation of mandatory domestic sourcing showed the need that with an ambitious plan appropriate review mechanism must be in place

02 Bias of CSR towards social activities such as education, poverty and health care. Environment has taken a backseat in CSR fund allocation. As on 2022, only about 6.84% of total amount on CSR, was spent on environment.



03 Climate change isn't a one man's job. To affect a successful climate change plan of action Regional, state, national, and global involvements are the most effective keys for India to meet its aspirations of a climate resilient planet and achieve long-term sustainable growth. Financial, political, and policy leadership lies at the bottom of all the recommendations for a thriving climate change policy for India.