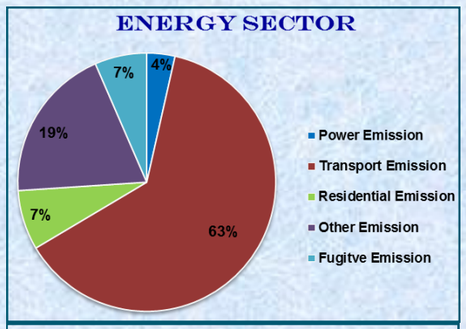
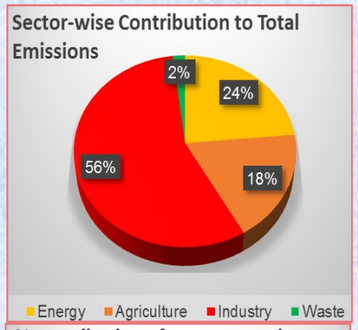
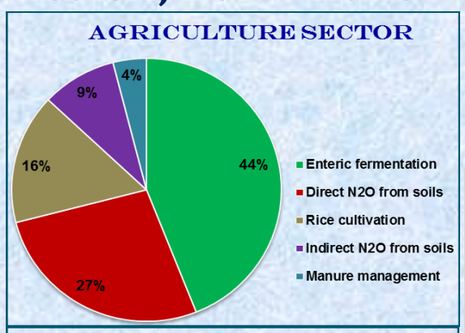
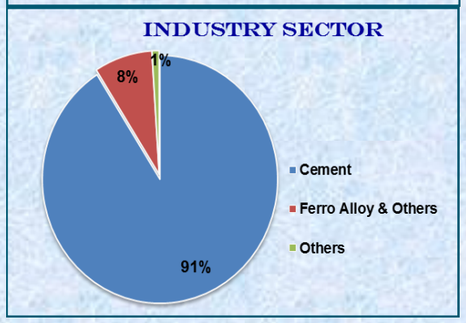
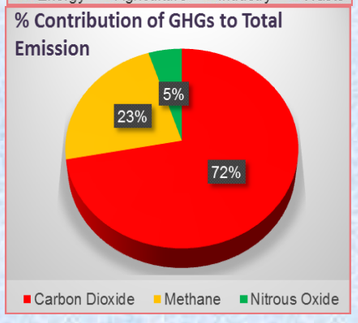
Sector-wise Inventorisation of GHG Emission, 2012-2013

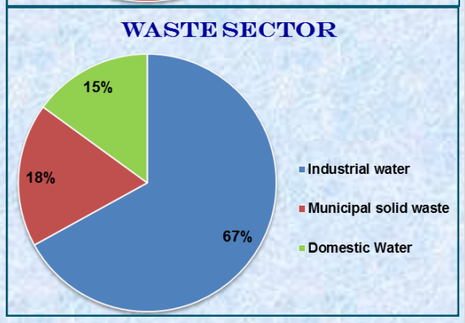


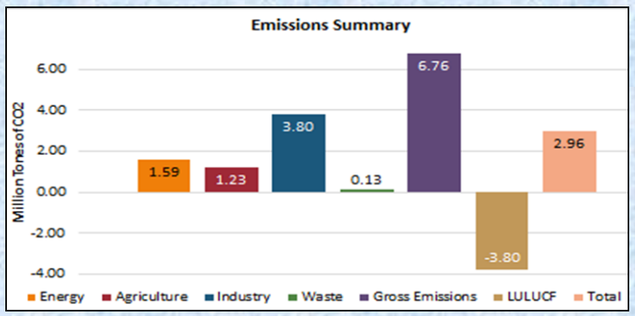


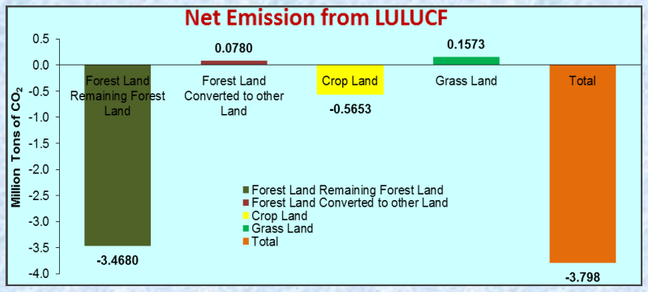










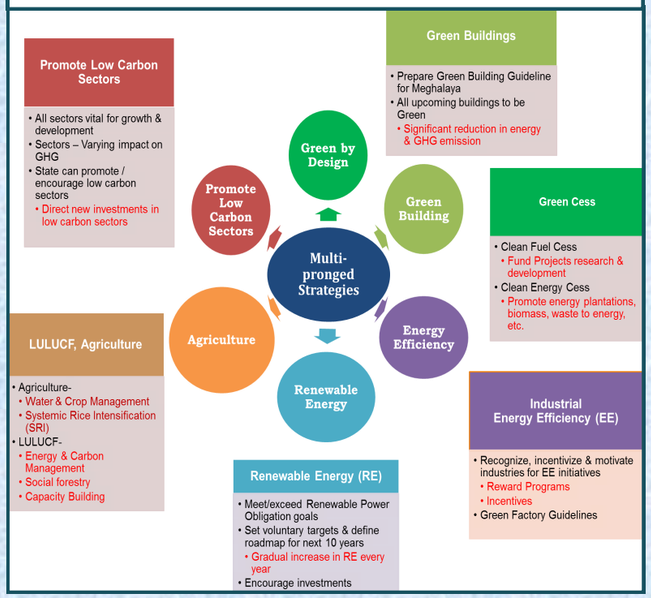


SUMMARY

- **Per capita emission** in 2012-13 was estimated to be 0.99 tons of CO_2 while the **Total GHG emissions** from the State was 2.96 million tCO_2 eq.
- **Industry sector** is the largest contributor of GHG emissions in the State followed by the **Energy sector** contributing 56% & 24% to the total emission, respectively
- Emission from **Agriculture sector** accounts for 18% of the total emission
- **Emissions from Waste sector** amounted to 0.12 million tCO_2 eq. The largest contributor was waste generated by industries (66% of the total waste emissions); while Domestic waste water contributed 14% & municipal solid waste's share was 18% of the total emissions from waste.
- **Land Use Land Use Change and Forestry (LULUCF)** by estimation of carbon stock changes, CO_2 emissions and removals and Non-CO_2 GHG emission was estimated to be about **3.79 million tCO_2** sequestrated.
- **Total emission sequestered** was- Forest Land : 3.38 million tCO2; Crop Land : 0.56 million tCO2; Grass Land : 0.15 million tCO2
- **Net emission was 2.96 million tCO_2 eq.**

Emission Reduction Strategy

Objective– To reduce the State's GHG Emission Intensity per unit GDP by **30-33%** by 2030 of 2005 levels.



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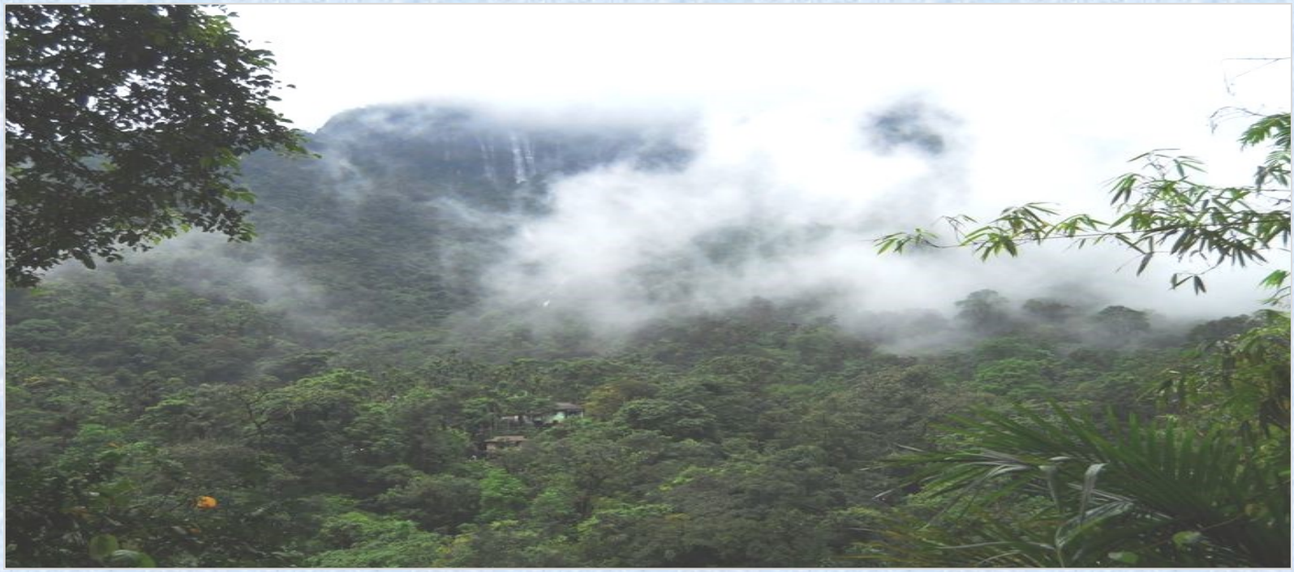


CARBON FOOTPRINT
MEGHALAYA

MEGHALAYA CLIMATE CHANGE CENTRE

IBDLP MEGHALAYA

Department of Science & Technology
Ministry of Science & Technology
Government of India

NMSHE NATIONAL MISSION FOR SUSTAINING THE HIMALAYAN ECOSYSTEM

Carbon footprint (or greenhouse gas inventory of a state) is an accounting procedure for the greenhouse gases (GHGs) emitted to (or removed from) the atmosphere as a result of the state's resources and operations (in the selected baseline year).

Policy makers can make use of the GHG inventories to establish a baseline for tracking the emission trend, to develop enabling policies and strategies for GHG emission mitigation and to assess the progress on a regular basis.

Objective:

- Identify major sources of GHG emissions
- Understand historic emission trends
- Quantify benefits of activities that reduce emissions
- Establish basis for developing a local action plan
- Track progress in reducing emissions
- Set goals and targets for future reduction

The benefits of developing a GHG inventory are:

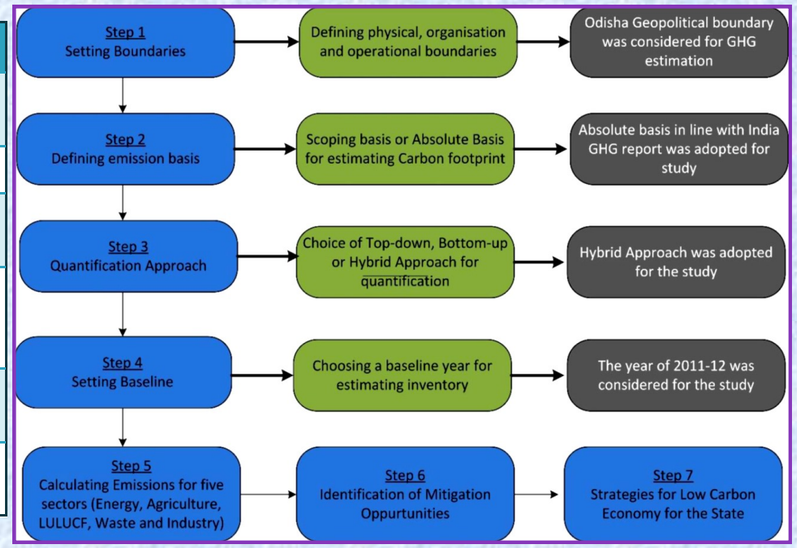
- Increasing preference from foreign investors
- Efficient risk management
- Preparedness for a carbon constrained future
- Opportunity to address inefficiencies
- Stakeholder engagement opportunities
- Direction for future investments

Emission Estimation Approach – "***Absolute Approach***" was adopted since it provides flexibility to calculate emissions from their sources without double counting. It also enables to quantify emissions through summation of the GHG inventories of all States in the country to give a comparative view. Finally, this approach aligns with methodology employed in the national inventory, "India Greenhouse Gas Emission Report 2007".

Emission Inventorisation Methodology – The GHG emission inventorisation was carried out based on the *IPCC Guidelines for National Greenhouse Gas Inventories*. This includes various sources and removal sinks which fall under the provincial boundaries.

The "India Greenhouse Gas Emissions Report 2007" has been taken as reference to define the GHG inventorisation boundaries for the State.

Approach & Methodology	
Baseline Year	2012 – 2013
Approach	Absolute Basis
GHG Data Analysis	Hybrid Approach
Emission Factors	Tiered Approach (country / state specific; default otherwise)
Reporting	In-line with India GHG Emissions, 2007
Activity Data	Primary, checked with secondary sources



For completeness of the GHG Inventory, **all 6 GHGs have been accounted separately** and emissions have been reported in metric Tons of each gas and metric tCO_2 eq.

GHGs covered under the study
Carbon Dioxide
Methane
Nitrous Oxide
Hydroflurocarbons
Perfluorocarbons
Sulphur Hexafluoride

Sector-wise contribution to total emission, 2012-2013

Sr. No.	Emission Source	T CO_2 (eq.)	% of Source	% of Overall
A	**Energy**	**1594871**	**100**	23.59
A-1	Power	56238	3.53	
A-2	Transport	1004106	62.96	
A-3	Residential	119278	7.48	
A-4	Other	311115	19.51	
A-5	Fugitive	104133	6.53	
B	**Agriculture**	**1233194**	**100**	18.25
B-1	Enteric fermentation	538913	43.70	
B-2	Manure Management	46937	3.81	
B-3	Field burning of agriculture residues	7157	0.58	
B-4	Direct N_2O emissions from agriculture soils	329994	26.76	
B-5	Indirect N_2O emissions from agriculture soils	116250	9.43	
B-6	Rice Cultivation	193942	15.73	
C	**Industry**	**3800543**	**100**	56.23
C-1	Cement Industry	3450461	90.79	
C-2	Ferro Alloys Industry	293202	7.71	
C-3	Other Industry	56879	1.50	
E	**Waste**	**129766**		1.92
E-1	Municipal Solid Waste (MSW)	23975	18.48	
E-2	Domestic Water	19103	14.72	
E-3	Industrial Water	86688	66.80	
	Gross Emissions	6758374		100.00
D	**LULUCF**	**-3798040**	-	
D-1	Forest land & Fuel Wood	-3389993	-	
D-2	Crop Land	-565335	-	
D-3	Grass Land	157289	-	
	Net Emissions	2960334		