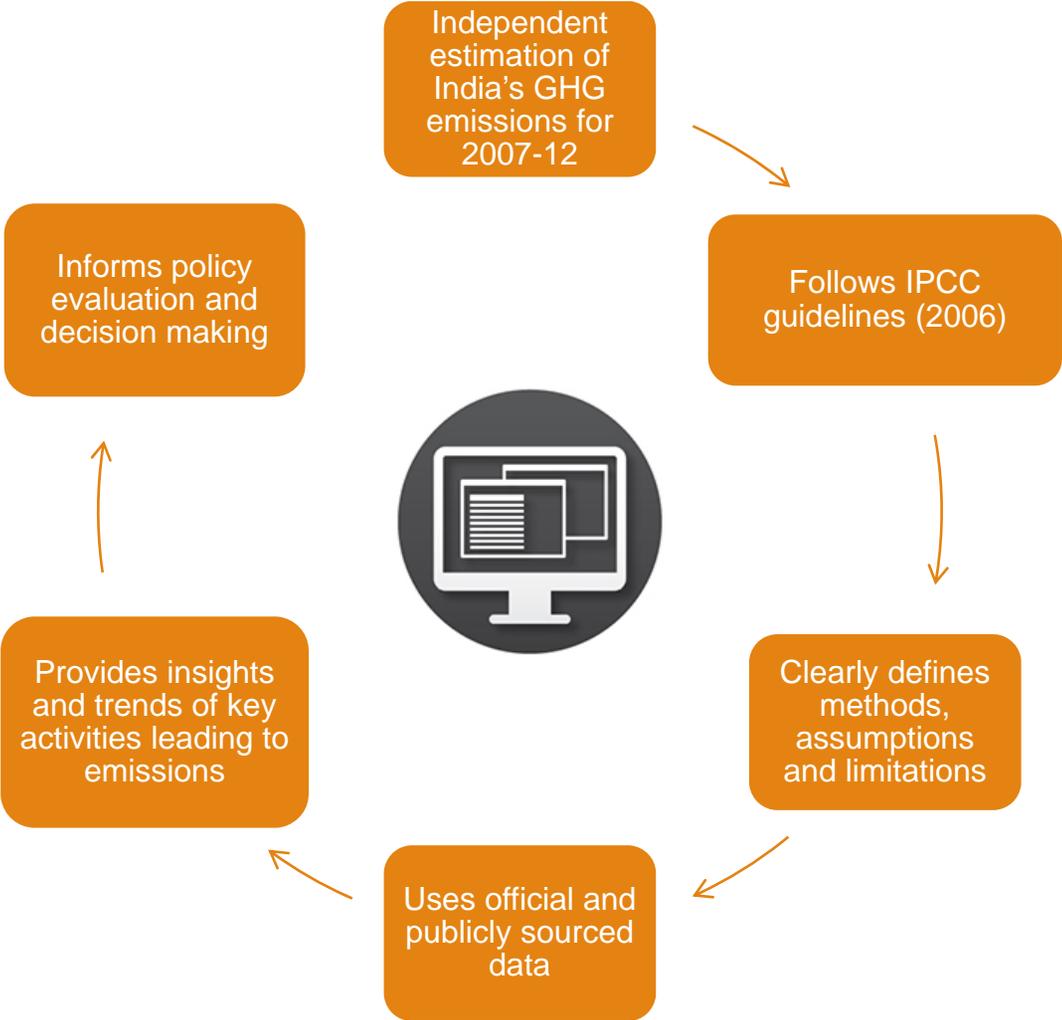


India's GHG emissions estimates from 2007 to 2012



*Thursday, 10th November 2016
COP 22 Climate Conference, Marrakech*

GHG Platform INDIA – An Indian civil society initiative



Coverage of the database

- Emissions in form of CO₂, CH₄ and N₂O gases are only considered
- The key sectors covered:



Energy

- Tier I/II estimates
- electricity generation
- fuel use in transport
- energy use in other sectors (RESCOM, agriculture and fugitive emissions)



Industry

- Tier I/II estimates
- fuel use in industries
- industrial processes and product use (IPPU)



Agriculture, forestry, and other land use (AFOLU) activities

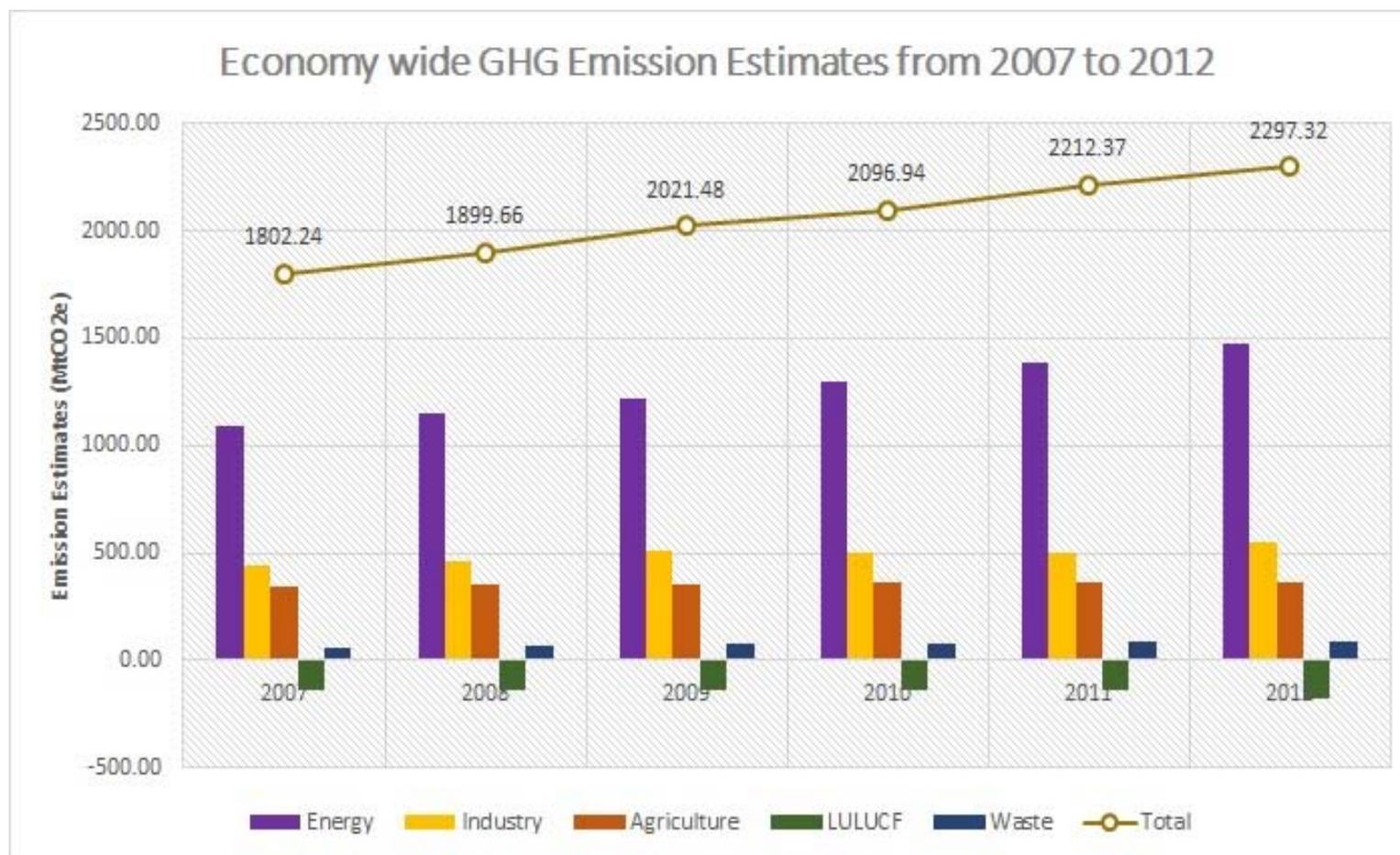
- Tier II/III estimates
- rice cultivation
- manure management
- crop burning
- agriculture soils
- LULUCF



Waste discharge and treatment

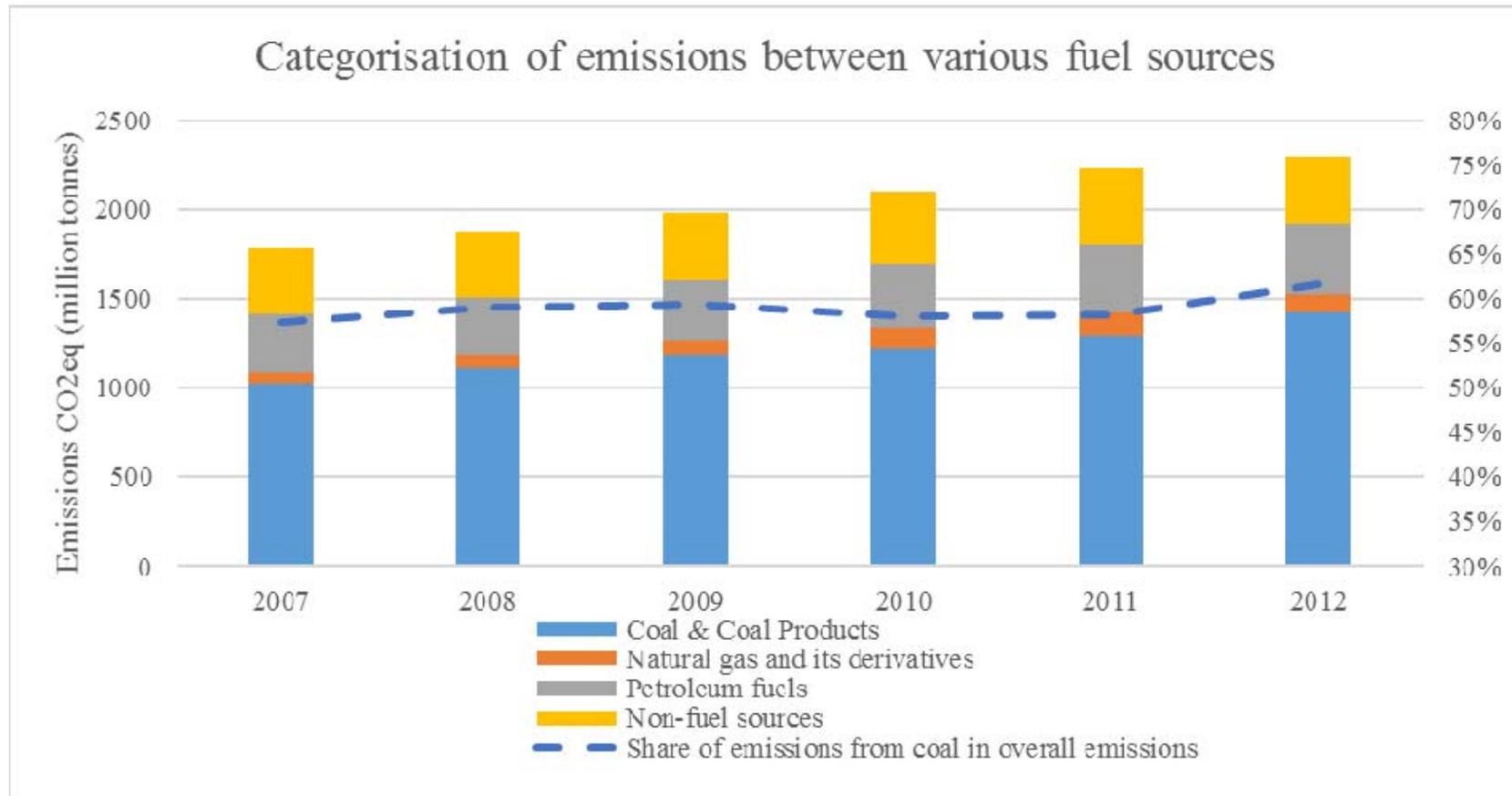
- Tier I/II estimates
- solid waste disposal
- treatment and discharge of domestic waste water
- treatment and discharge of industrial waste water

An overview of economy-wide GHG emissions



- Overall emissions grew at an average annual rate of ~ 5 %
- Emissions due to fuel use is a major contributor to overall emissions (~ 64%, 2012)

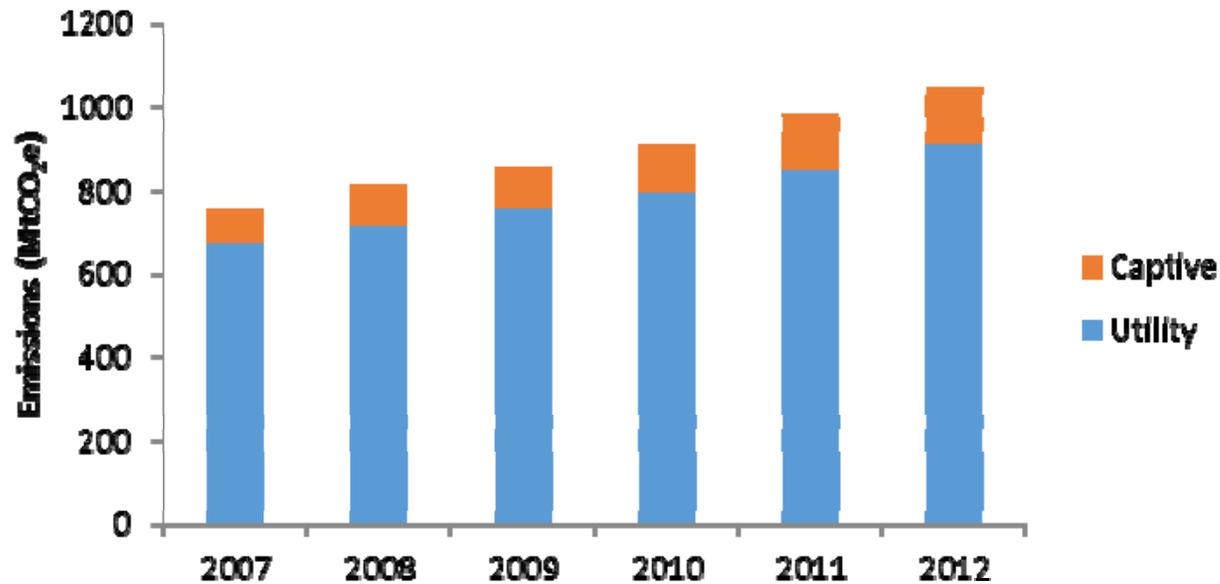
Coal is the largest contributor and has had an increasing share of overall emissions



- Share of coal shows an increasing trend over this period

Electricity Generation

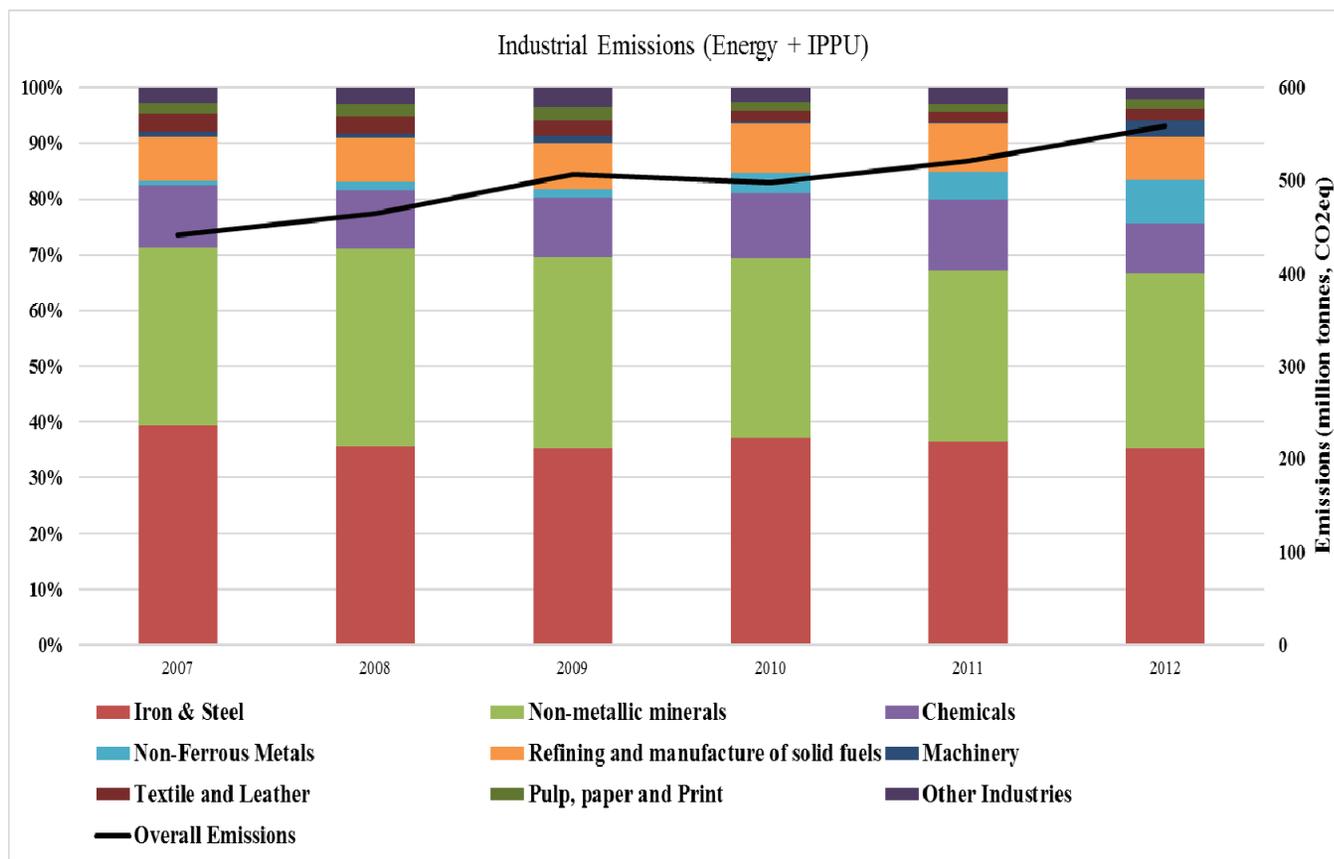
- Contributes over 70% to the energy sector and nearly 50% to overall GHG emissions
- Coal is the dominant source for electricity generation (88%) and emissions (94%)



- Overall emissions grew at 7% CAGR; utilities- 6% CAGR, captive- 10% CAGR
- RE generation grew at 34% CAGR in the same period
- However, RE expansion has not been able to slow the pace of emissions,
- Emissions intensity of net generation (kg CO₂/kWh) increased by 2% in the reference period.

Industries (fuel use and IPPU)

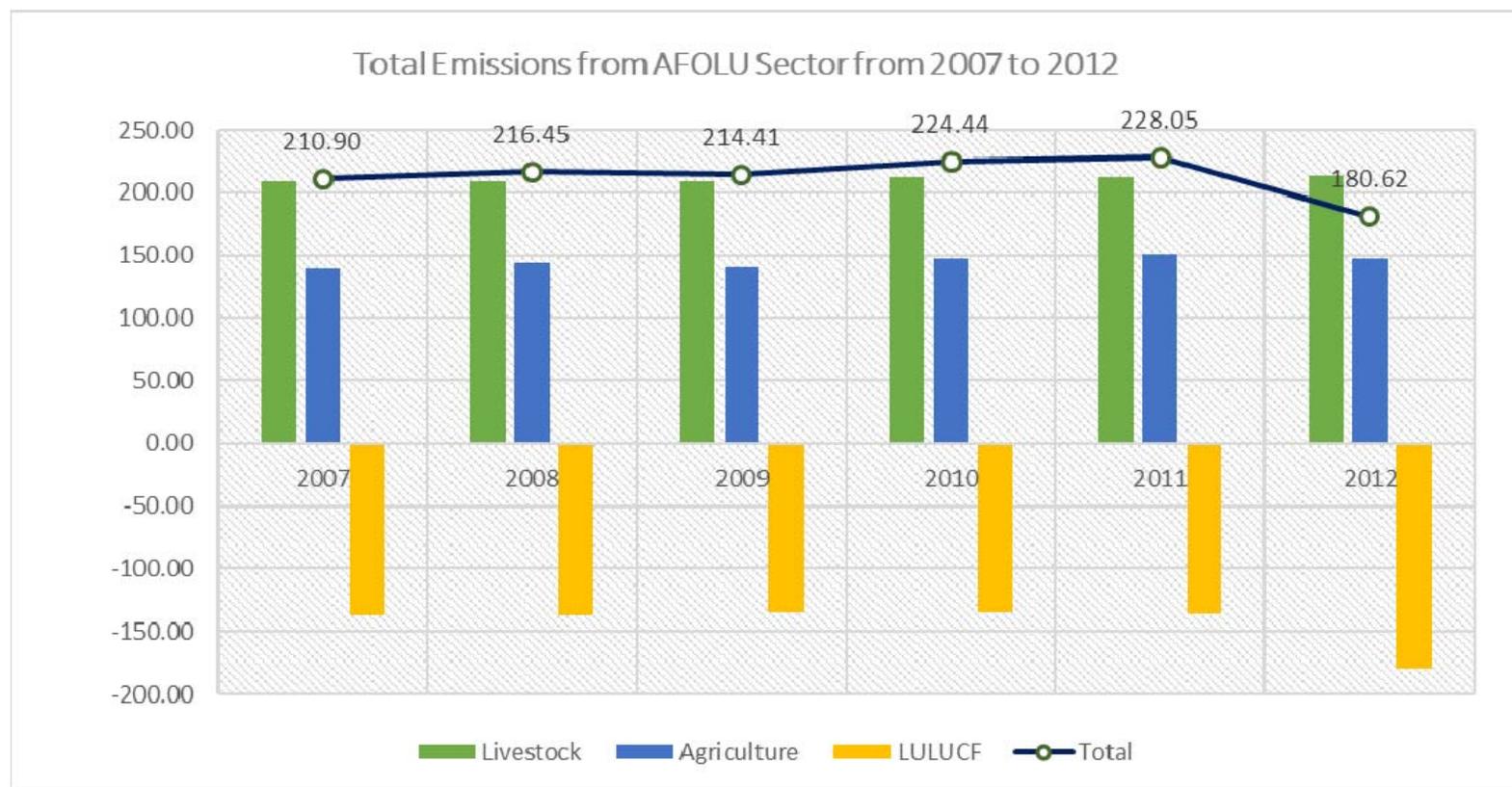
Iron & Steel and non-metallic minerals contribute to the bulk of industrial emissions (> 70%)



- More than 200,000 registered units and 80 different industrial fuels were analysed in arriving at this estimate
- Emissions due to fuel use comprises **more than 70%** of overall industrial emissions.
- The fuel mix in industry has remained virtually unchanged over the years with coal being the dominant input

AFOLU

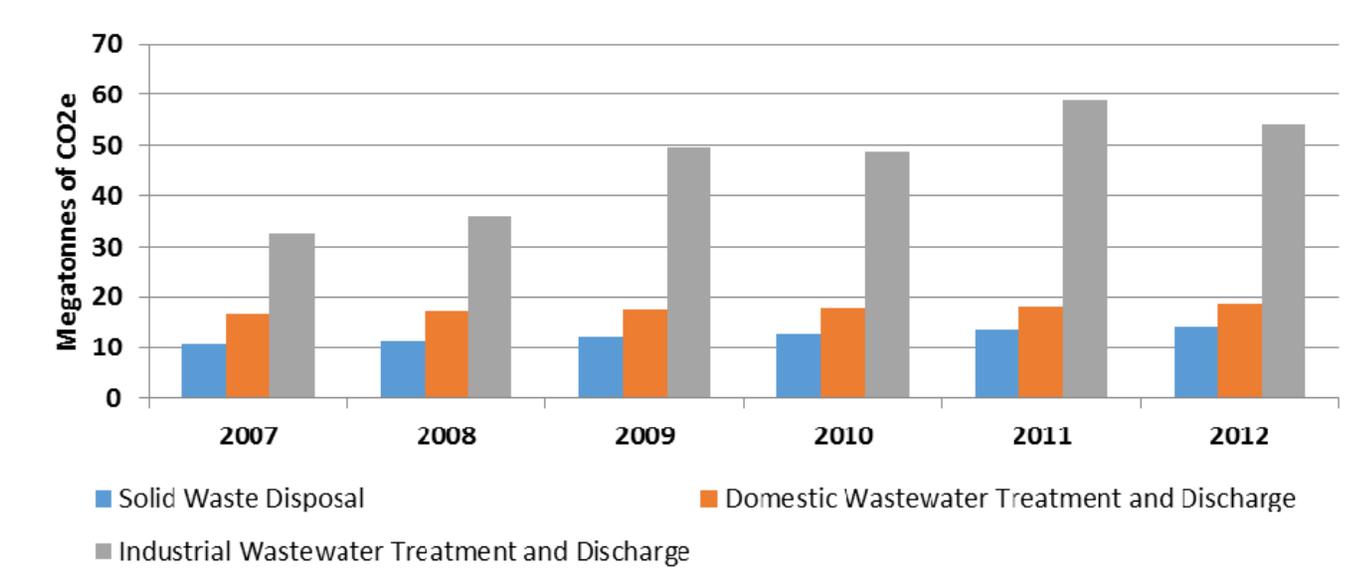
The overall the sector shows a marginal increase between 2007 to 2011 till it dropped in 2012



- Livestock and agriculture emissions have increased only marginally over the five year period
- A slow but steady increase in forested area, the carbon offset in forest sinks shows a significant increase.

Waste Sector

Treatment and discharge of industrial waste water is responsible for more than **60%** of the the waste sector



- Emissions (from wastewater generation and treatment) per unit output is notably **high in pulp & paper, coffee, soft-drink, meat processing and tanneries**
- Changing solid waste composition in Indian cities have led to a gradual increase of its specific emissions per unit volume.

Next steps for a transparent inventory assessment process

The need for a streamlined process to report and verify activity data and emissions factors

- Setting up of a national inventory management system (NIMS as GoI refers to it) will assist independent assessment of inventory
- Can help reconciling conflicting or inconsistent reporting from different sources for the same activity or sector
- Adopting some of the practices that the platform has used to report data sources and underlying data transparently, can lend more credibility to official estimates

Building technical and institutional capacity within government

- To cultivate the necessary rigour in a process driven approach to establishing reporting and verification of activity and other data
- Important to communicate the efforts undertaken by the platform and enable a better comparison between official estimates and those by independent groups - to iron out possible lapses in either estimation

Some challenges along the way

- Establishing a NIMS will require official push through executive action or legislative processes to set in place appropriate levels of coordination and reporting among various stakeholders
- An overhaul of existing data collection processes to focus more on establishing accurate energy balances and physical energy consumption statistics