Emissions Trading Scheme for Particulate Matter

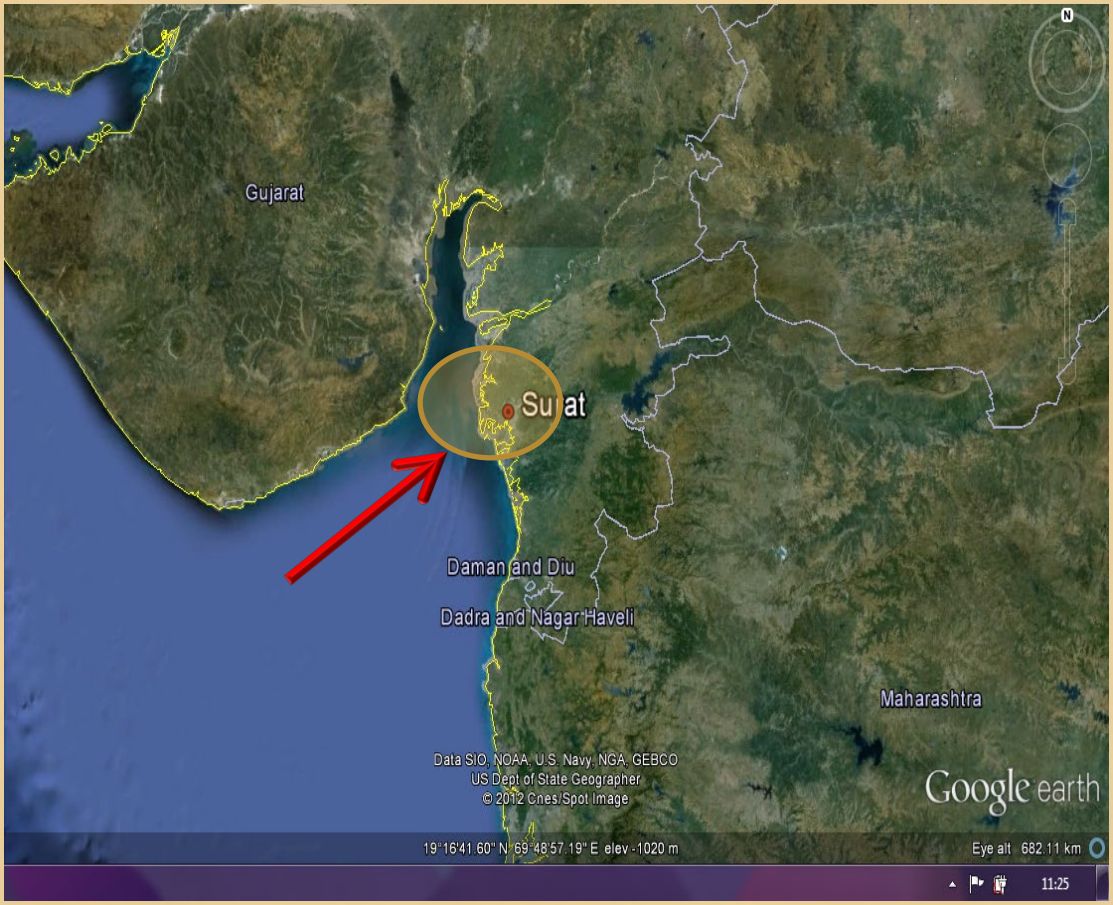
The Gujarat Experience

Chirag Bhimani

Gujarat Pollution Control Board

Location

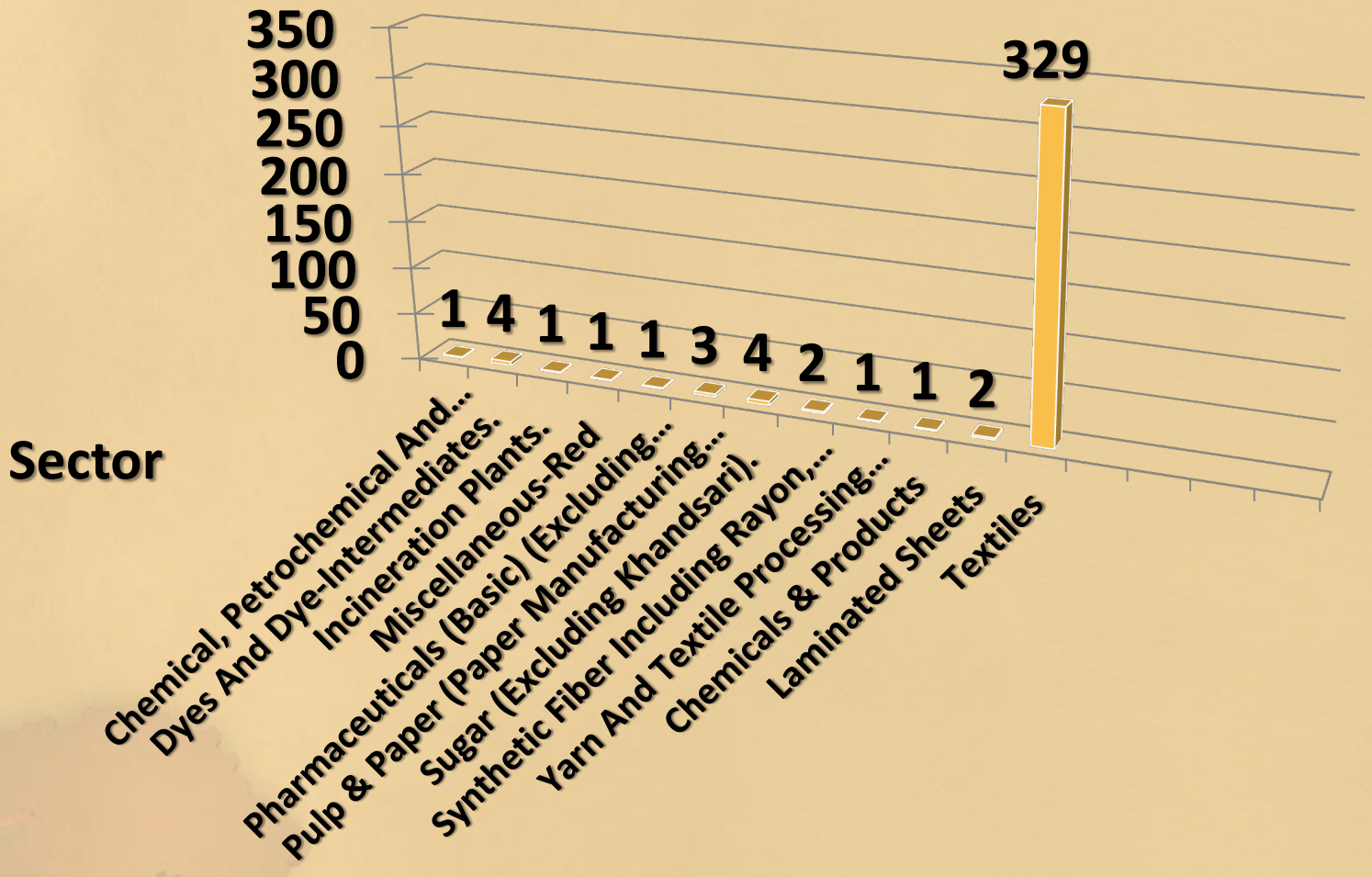
- All participating industries located in Surat
- Cluster selected so that effect on ambient air quality can also be ascertained.
- 350 industries (760 stacks) selected
- Approx. 36% of participating industries in Surat cluster



Selection Process

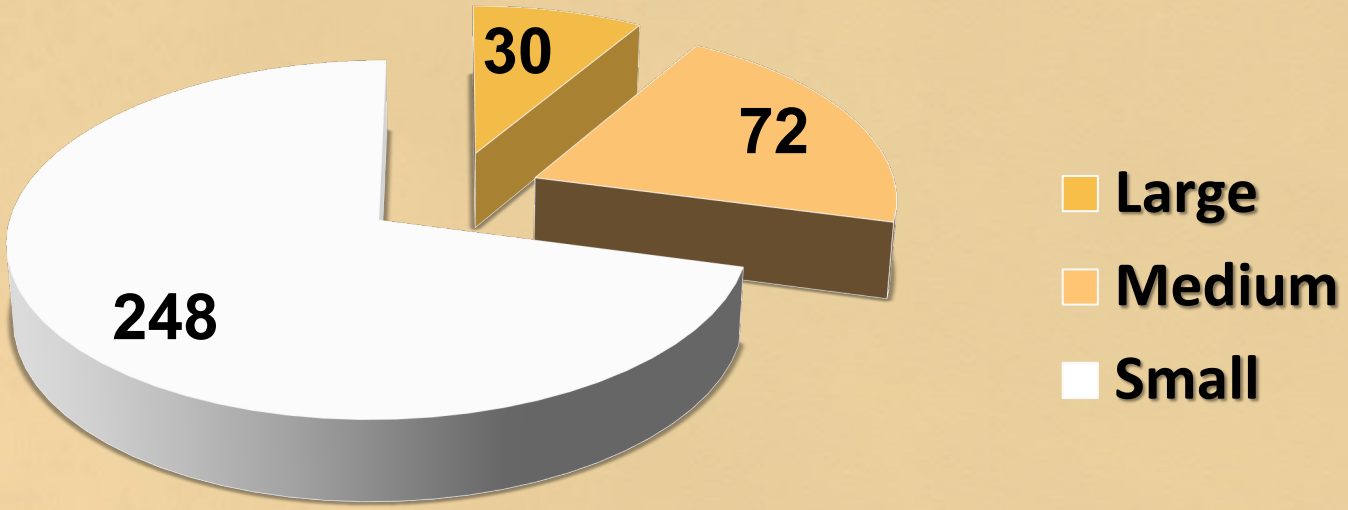
- **Red Category**
  - **Higher Pollution Potential**
- **Solid/Liquid Fuel**
  - **Gaseous fuel produces little to no PM**
- **Polluting Potential**
  - **Boilers have continuous emission and higher potential than DG Sets**
- **Stack characteristics**
  - **Suitable for CEMS**

Characteristics of Selected Units



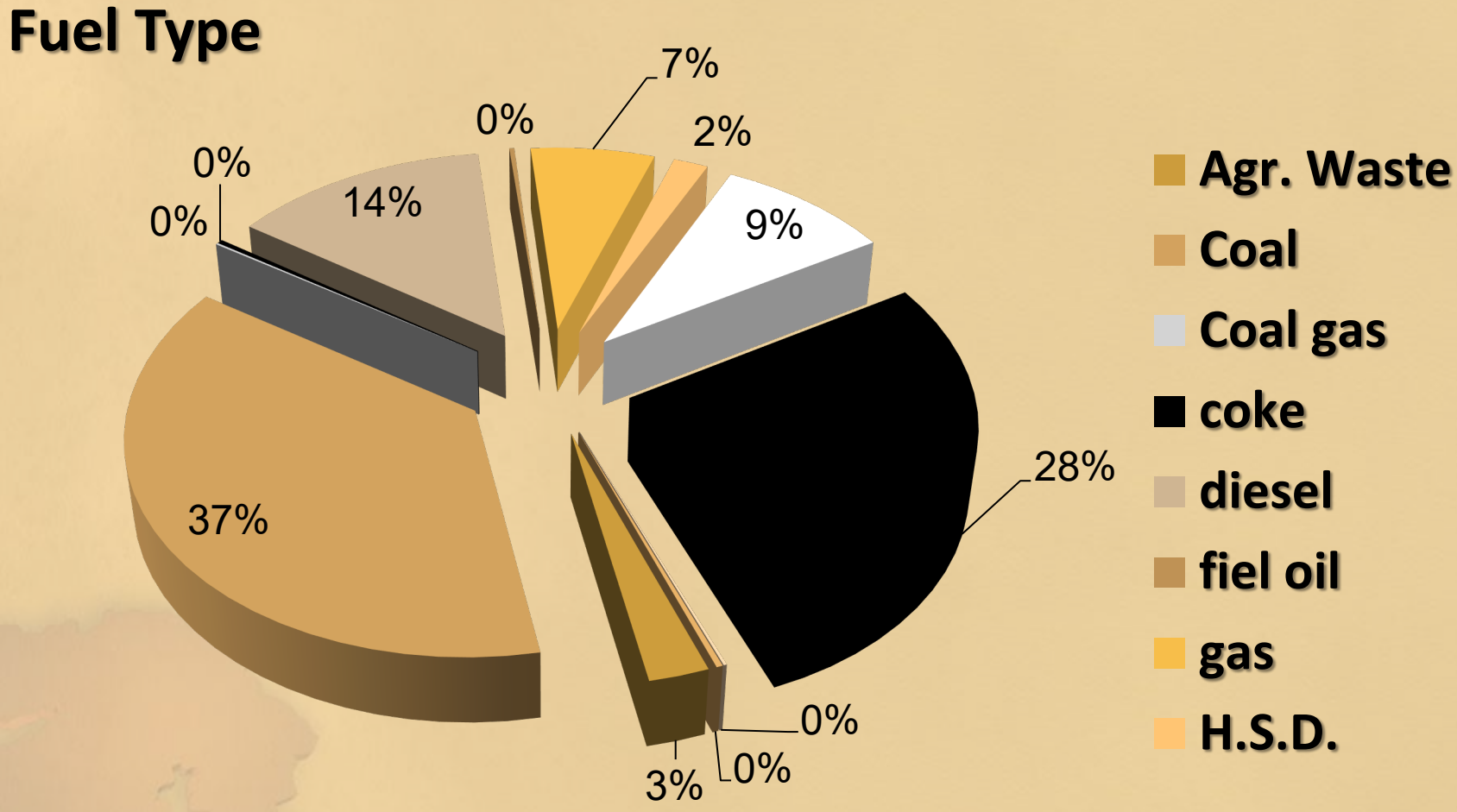
Almost all industries in textile sector

Characteristics of Selected Units



Most industries are small-scale

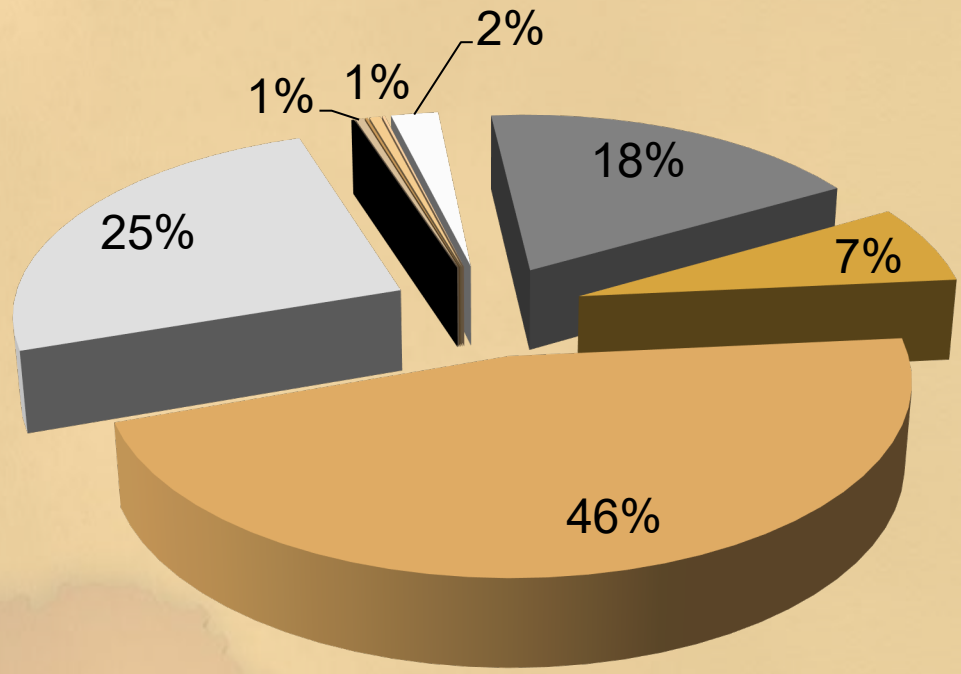
Characteristics of Selected Units



Most industries burn coal and lignite

Characteristics of Selected Units

Combustion Sources



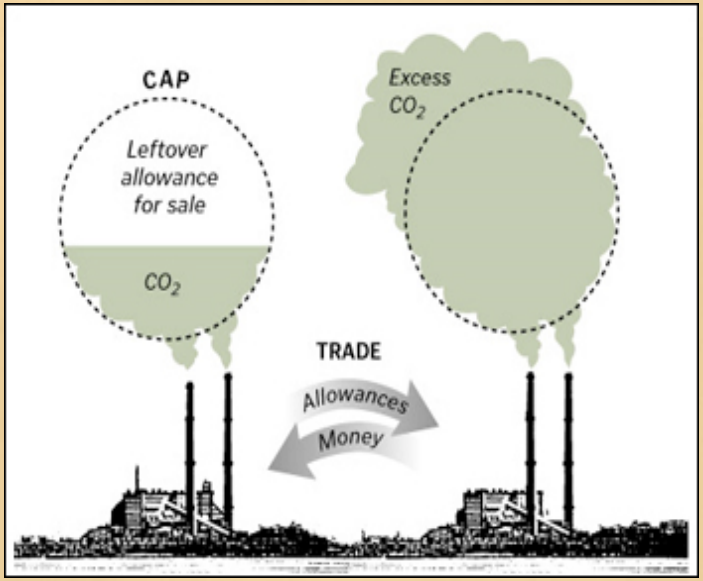
- Boiler and Heater
- Boiler
- DG Set
- Furnace
- HAG
- HWG
- Incinerator
- MLE
- Other
- TFH

Most industries have a boiler and DG set

Scope of Emission Trading

- High PM potential among Surat industries
- Industries vary in size, fuel type, and amount of pollution control measures / equipment (APCMs)
  - Varying costs of pollution control
- Emissions trading exploits these varying costs to bring emissions reduction at a lower overall cost
  - Units with low abatement cost emit less and sell their right to emit to others, lowering overall compliance costs

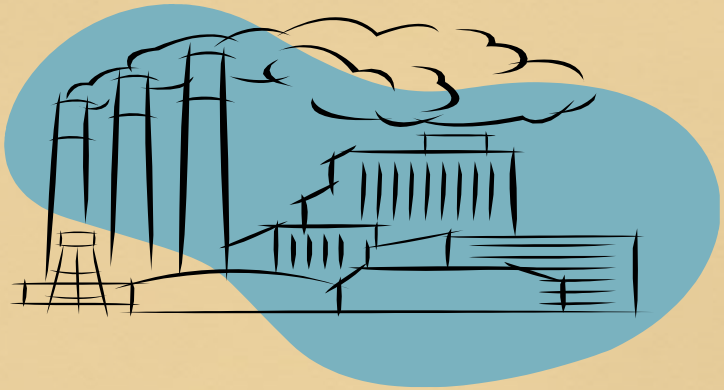
Emission Trading



- GPCB will set total emissions limit (emissions cap) but does not decide what any particular source will emit
  - Industries face price for their emissions and can buy and sell permits to emit under the cap
  - Price of emissions makes pollution costly and gives incentive to cut back
- Emissions cap set based on cost of reductions
  - E.g. If cheap to cut pollution, cap will be stringent, and vice versa
  - This information collected via a technical survey, among other important variables

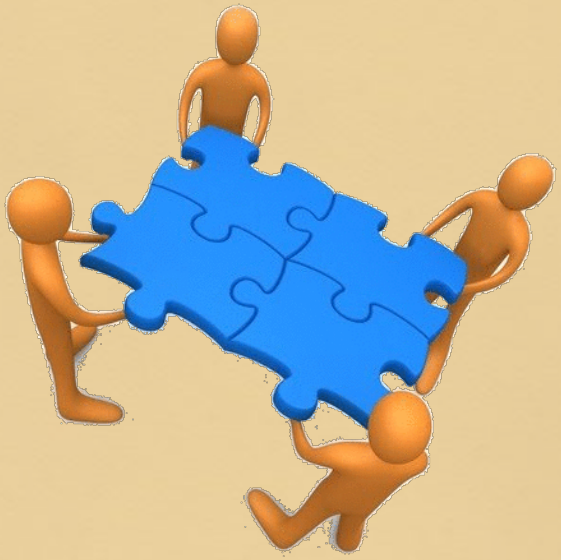
Ongoing Activities - Surveys

- A baseline survey will be conducted to assess the general situation in industries before ETS implemented
- In May 2012 a pilot survey was conducted to test out the survey instrument
  - 8 industries surveyed
  - Stack sampling
  - Modifications to survey made based on experience

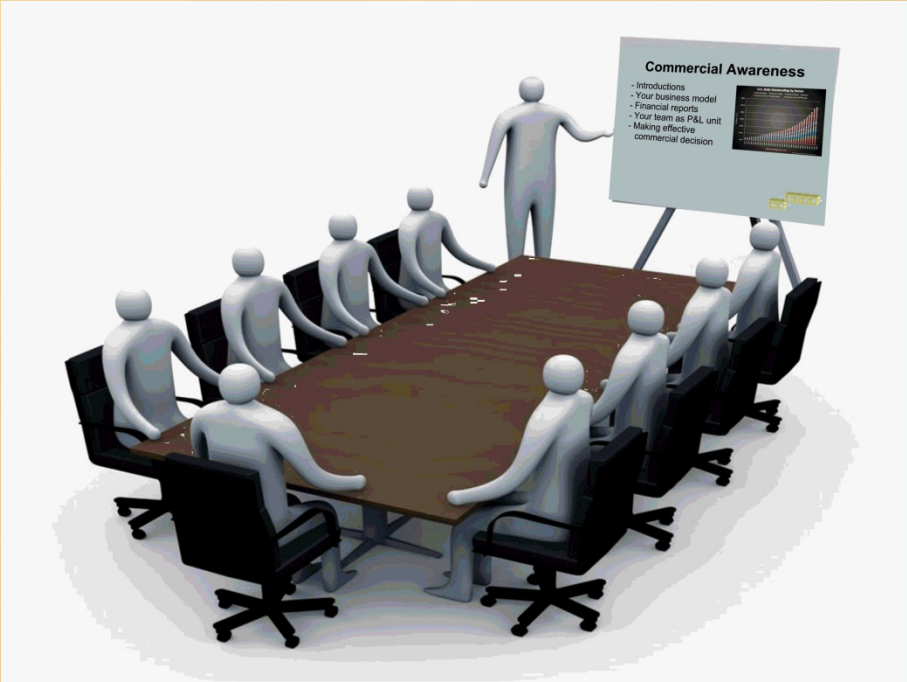


Ongoing Activities - Policy

- **GPCB is one of the participants in deciding the Data Validation Protocol for CEMS and ETS which bears significance as the data will be used for trading.**
- **GPCB also actively participating designing the market trading system which is an important component for ETS where in various challenges are faced looking to the dynamicity due to linking of economics.**



Ongoing Activities – Capacity Building



- Industry workshops held to:
  - Introduce ETS and provide broad understanding of its benefits
  - Introduce continuous monitoring, its role, and benefits
  - Give technical understanding of monitoring technology and how it works
- Next workshops will showcase transfer of data, how trading works etc.

Ongoing Activities – Capacity Building

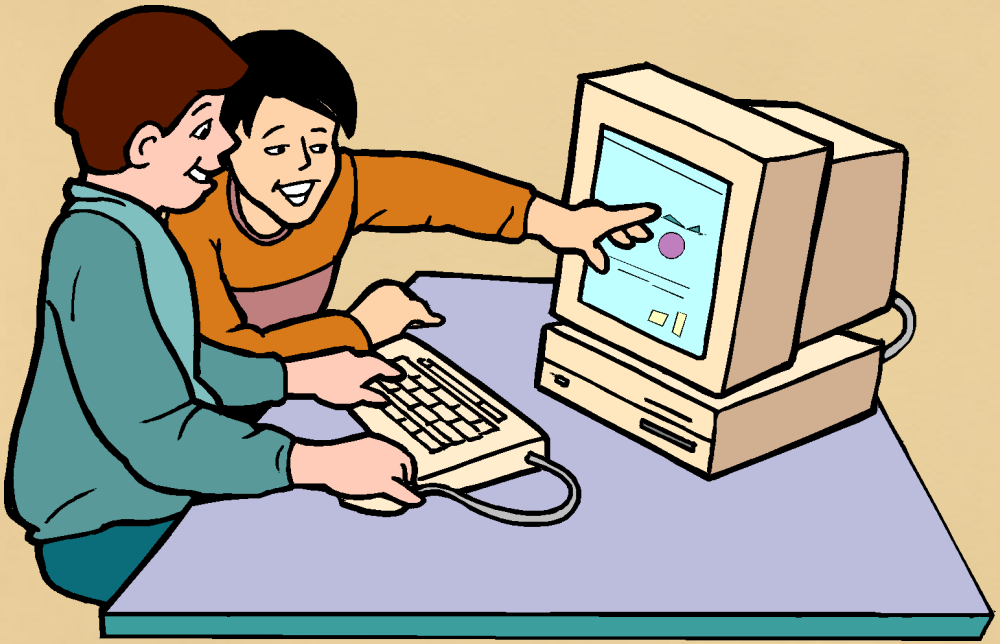
- Vendor workshops held to:
  - Introduction of ETS
  - Share knowledge on CEMS technologies
  - To discuss how data transfer can be flexible yet robust
  - To simplify operations so as to reduce price component
- Future demonstrations and exhibitions planned so that industries get exposure to various CEMS from various vendors

Ongoing Activities – Capacity Building

- Laboratory workshops held to:
  - Introduction of ETS
  - To sensitise and educate about importance of calibration of CEMS
  - To discuss on methodology and protocol of calibration to be done by laboratories
- Future deliberations to discuss issues and problems envisaged during calibration monitoring, implementation of protocol etc.

Ongoing Activities – Data Centre

- State of the Art - Data Centre within GPCB.
- Hardware Infrastructure awaited under the project.



Ongoing Activities – DAHS Trials

- Test out the software for sending emissions data from industry stack to GPCB server in real-time
  - CEMS suppliers identified to participate


Thank you!