

Gujarat Pollution Control Board

Emissions Trading Scheme

A pathbreaking regulatory initiative

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Piloting India's first ETS

- GPCB has partnered with researchers from world's top academic institutions to develop the Scheme.
- World's first Cap-and-Trade Market for PM
- Launched in Surat on 15th July 2019
- Represents a paradigm shift in how to regulate environmental pollution



Why ETS ?

Command & Control

- Conventional approach that focus on concentration - only a proxy for load which matters for pollution
- Doesn't provide flexibility.
- Limited data through manual sampling
- No incentive
- Implementation challenges due to manpower crunch

Cap and Trade

- Innovative approach that directly targets pollution load and limits total emission. better targeted system
- Provides flexibility to industries.
- Wealth of data through CEMS.
- Incentive to industries to overperform.
- Implementation is effective by use of technology that overcomes manpower crunch issues.

ETS - Industry Selection Criteria

342 units in Surat selected [155 in live trading]

- 1 Within 30 km radius from Surat
- 2 Units belonging to "Red" category

³ Average Boiler Capacity - 5 TPH

4 Units using Solid Fuels

Stack dia. >24 cm for CEMS installation



Elements of ETS

1. CEMS Framework

>Install CEMS

- >Ensure calibration & functional test
- >Ensure AMC with Vendors
- >Ensure bi-annual calibrations

2. Trading Platform

- > Developed by NeML
- > Uniform Price Auctions every Tuesday: 3-5 pm

> Continuous Auctions: 2-5 pm rest of the days 3. Market Ov ersight Com mittee

- >MOC-18 Member
- > Decide Cap, takes decisions related to market design.
- >Ensures robust functioning of Market.

Surat's Cap-and-Trade Program



Result: Surat ETS Has Gradually Reduced Pollution



- Pollution Cap was gradually decreased over time in consultation with industry.
- The x-axis in the figure represents compliance periods. It is evident from the figure that in every Compliance Period, Industries successfully met the pollution cap.
- Emission has reduced by @ 24%
- Industries that were able to sell permits by reducing pollution, made higher net profits.

Use of CEMS data for Regulatory Action



Web portal & Mobile App developed to enable:

 GPCB to easily identify and quickly react to offending units

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- Industries to understand daily/monthly trends in their emissions and lower them
- Device vendors to check
 device performance
 and schedule
 maintenance visits with
 industries accordingly.

Key Takeaways



High Data Availability

Wealth of accurate real time emission data of each unit can be used for effective regulation.



PM emission data now on fingertips of GPCB officers, using the *Live Website and phone App.*– Easy to identify offenders



Promoting Abatement

Due to market rewards, units gets encouraged to:

- Improve O&M practices
- Upgrade their APCD
- Increase combustion efficiency
- Switch over to cleaner fuels.



Thank you..!!