



Addressing Urban Air Quality: the Case of Industry in India

12 December 2019

9:00-10:30

Chile Pavilion

Urban Air Quality Case Study Series



Case Studies in Improving Urban Air Quality

2019

BERLIN



95% SO_x,
83% PM



1990-2012 share of natural gas in city's primary energy grew from 17% to 41% resulting in reductions in SO_x, NO_x, and PM10 by 95%, 76%, and 83% from 1989 levels.

Severe pollution problem existed in the 1980's due to coal use. Increased use of natural gas (75% of residential demand) resulted in 80-90% reduction in

ISTANBUL



98% SO₂



Banning lignite coal and gradually replacing it with natural gas for residential heating resulted in reduction of PM concentration levels by 50% and SO₂ by 98% (from 220 µg/m³ to 5) in under a decade.

MORBI, INDIA



LONDON, UK



BOGOTÁ, COLOMBIA

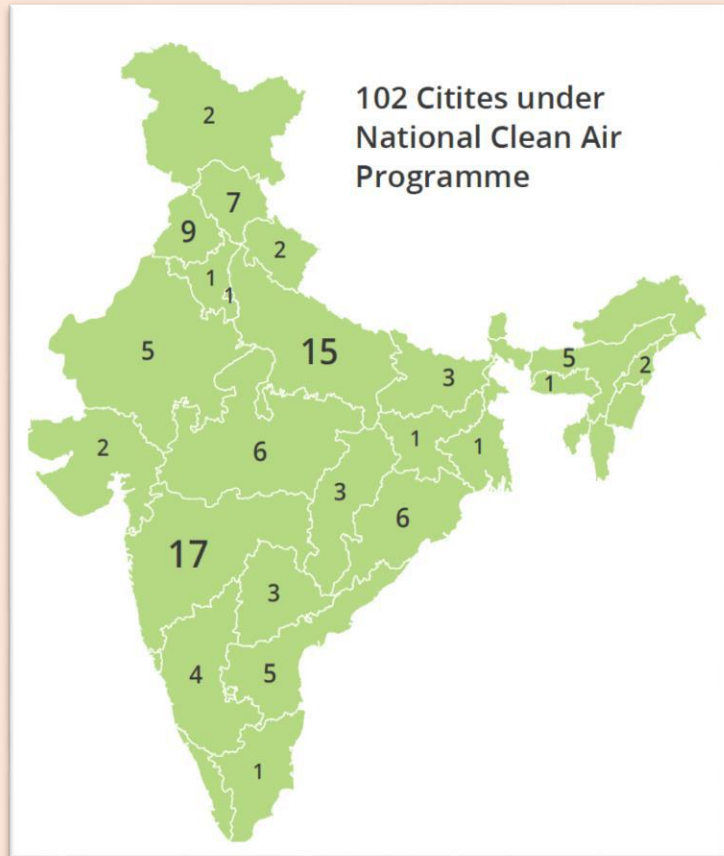




2.1 *CASE STUDY:* **MORBI**

**Moving Industry from Coal to Gas to
Rapidly Improve Air Quality**

India's War on Pollution



1.24 million people died from air pollution in India in 2017

= **12.5%** of all deaths that year

War Against Pollution: declared by the government in January, 2019

National Clean Air Program: plans to reduce PM10 and PM2.5 by 20-30 % from 2017 levels in 102 cities, by 2024

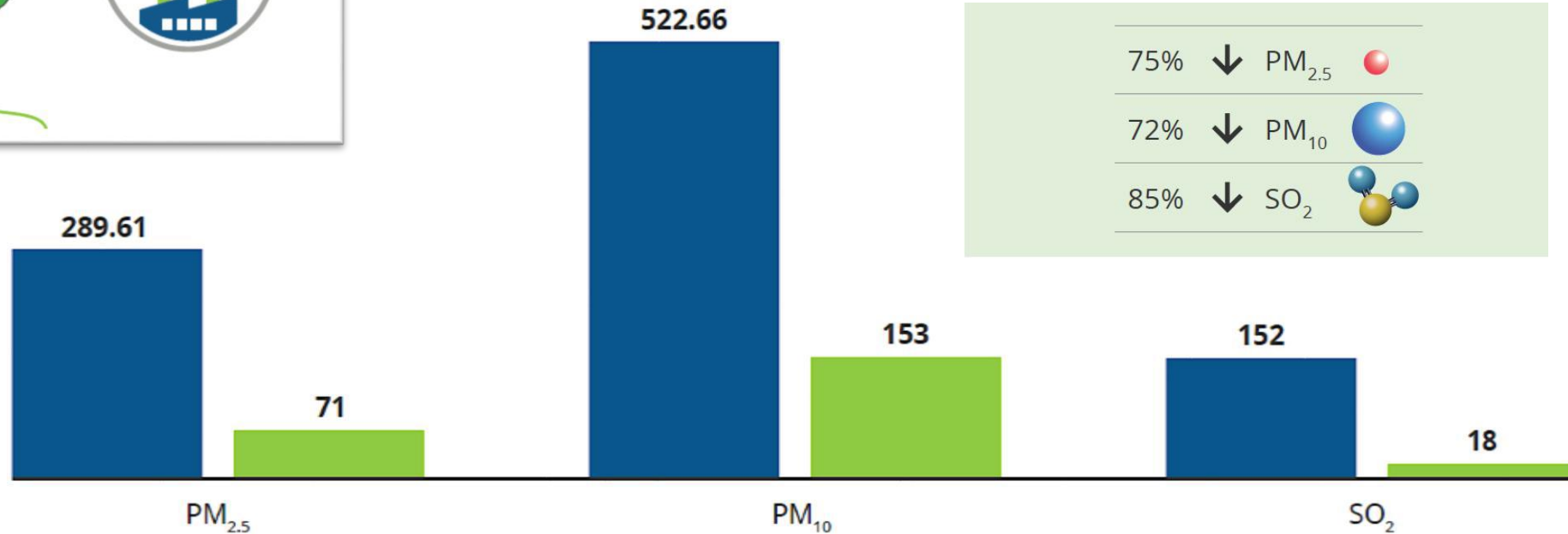
A Gas-Based Economy: commitment to more than double the share of natural gas in energy mix - from 6% to 15% by 2022

City Gas Distribution (CGD) network extension planned to connect 70% of India's population, from current ~ 20% (per 2014)

The Morbi Industry Gas Switch



Natural Gas Consumption After NGT Order



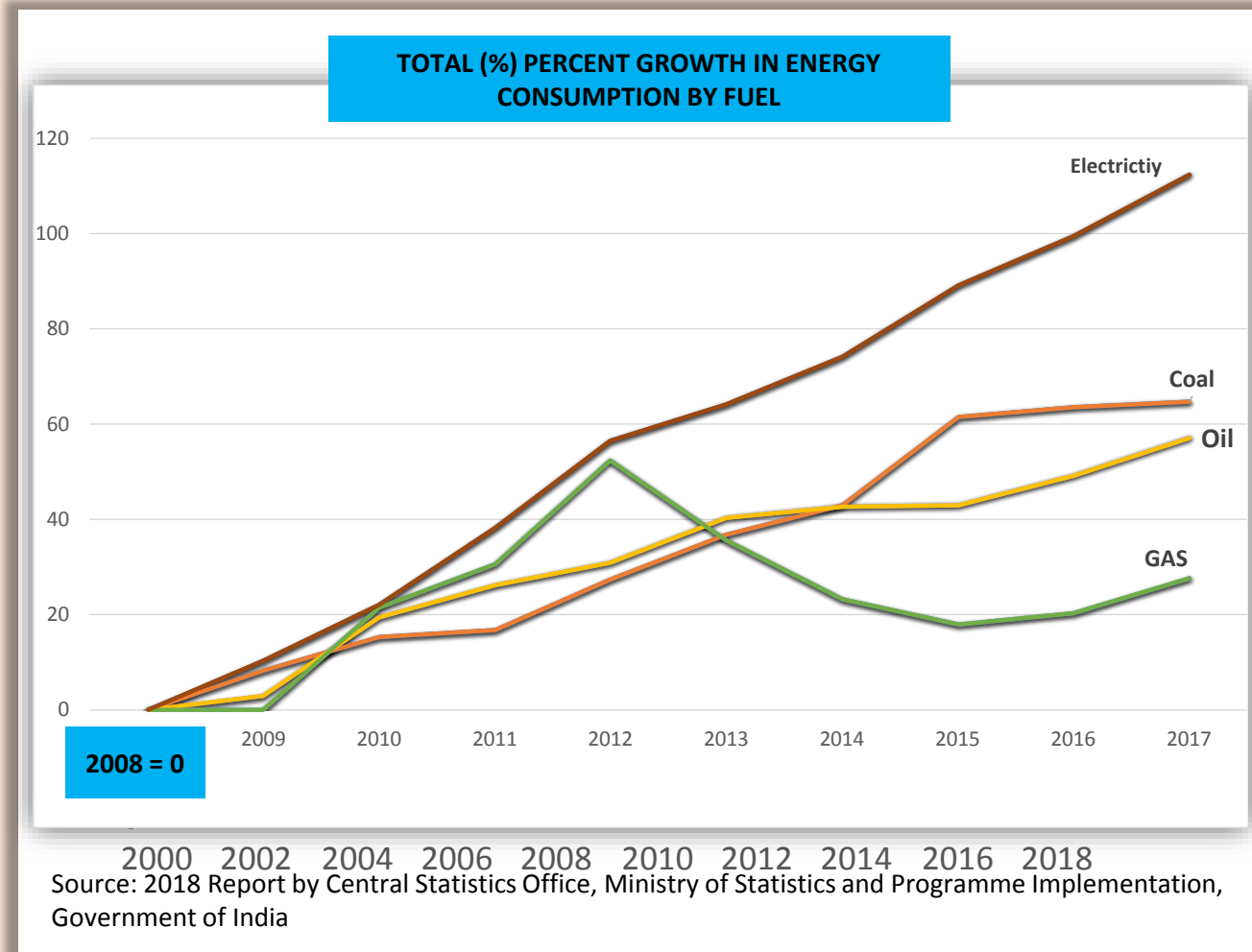
Sources: Hon. NGT Committee, "Report on technological & environmental issues related to coal gasifier in ceramic industries of Morbi-Wankaner area, Gujarat"; GPCB Monitoring Data

Other Environmental Benefits

Parameter	Total Consumption in area	Positive impacts due to use of NG as a fuel
Reduction in coal consumption	900 MT/Day	Reduced truck movement- less vehicular emission, prevention of fugitive emission due to storage and handling of the coal
Tarry waste	900 MT/Day	No generation of Tarry waste now so no transportation and disposal
Wastewater management	3150 KL/Day	No wastewater generation now due to use of NG as a fuel so no energy utilization for disposal of wastewater
Water Consumption	2250 KL/Day	Reduced Consumption of fresh water which can cater to the town of @16,000 Population
Improved public perception	Low smog conditions, improved water sources, etc	Image of the industry in the public has improved due to improved ambient air quality and cleanliness in the area.

Source: GPCB, Case Summary, 2019

Lessons: Policy Matters



Gracias!



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