

# Urban homes emit more greenhouse gases than industry

[Vinayashree Jagadeesh](#), TNN | Mar 23, 2015, 02.16AM IST



A recently published study found that the domestic sector was one of the highest contributing factors to greenhouse gases in seven cities.

CHENNAI: The industrial sector has been taking the flak for emitting high levels of hazardous gases over the years but it might ultimately be our homes that are responsible for the highest emission of greenhouse gases.

A recently published study conducted by the Centre for Ecological Sciences of the Indian Institute of Science, Bengaluru, found that the [domestic sector was one of the highest contributing factors to greenhouse gases in seven cities.](#)

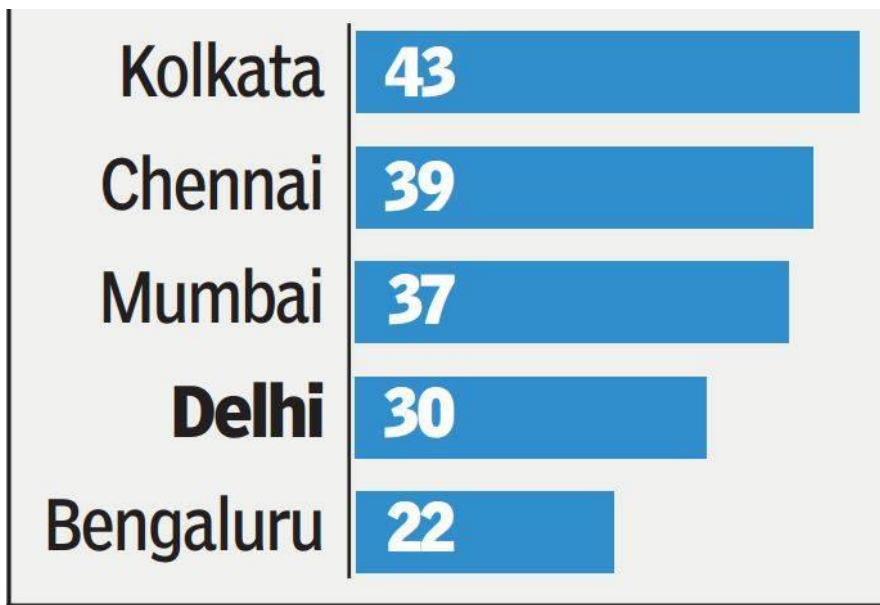
When the cities were considered individually, the domestic sector was the highest contributor in Chennai, Ahmedabad, Kolkata and Mumbai, and second highest contributor in Delhi, Hyderabad and Bengaluru, where transport sector emissions dominated.

The study revealed that the major sources of energy consumption in the domestic sector were electricity for lighting and household appliances and fuel for cooking. The fuels considered during the study were liquefied petroleum gas, piped natural gas and kerosene.

When the seven cities were compared with one another in the domestic sector, Delhi's domestic consumption accounted for the highest emissions with 26.4% of the total emissions, followed by Chennai in second place with 19.5% and Greater Mumbai with 19.1%.

# RED ALERT

**Greenhouse gas emission  
from the domestic sector in  
various cities (in %)**



The study quantified greenhouse gas (GHG) emissions after considering the following sectors: electricity generation or consumption, domestic and commercial sectors, transportation, industrial, agricultural, livestock and waste.

The study also analysed the GHG footprint - total amount of greenhouse gases emitted directly or indirectly and expressed in equivalent tonnes of carbon dioxide - in each of the seven cities.

The study's findings were based on data gathered during 2009-10. T V Ramachandra of Energy and Wetlands Research Group, Centre for Ecological Sciences, who headed the study, believes that the situation has only become worse over the years.

In Bengaluru, he says, electricity consumption in the domestic sector has increased. "Poor architecture with an increasing number of high-rise and glass buildings across cities has led to increased energy consumption - about 14,000 units per person per year," he says.

Environmentalists point out that buildings must be designed to minimise use of artificial cooling and heating. Another reason for increased consumption could be utilising electricity for bathing purposes, they say, pointing out that solar energy must be the first option for citizens.

India contributes more than 5% of the total global emission of greenhouse gases. "While Beijing may be the big brother, the cities here could be smaller brothers," says Ramachandra. Though he says the scale of urbanization is bigger in cities like Beijing, he believes that it is more important for us to set our affairs in order so that the situation doesn't worsen in India.

According to the study, Delhi has the highest GHG footprint with 39 million tonnes of carbon dioxide equivalent emissions, while the least emissions are in Ahmedabad with nine million tonnes. Greater Mumbai (23 million tonnes) and Chennai (22 million tonnes) are ranked second and third respectively.

The transport sector is another major contributor to these high emission levels. Delhi ranks the highest when it comes to transport, perhaps due to the large number of vehicles in the city. The capital is followed by Bengaluru and Hyderabad respectively.

Ramachandra places the blame on increasing urbanization leading to high vehicle numbers and collapsing public transport. Due to high transport emissions, Delhi and Bengaluru have also seen an increase in respiratory disorders due to the particulate matter, he says.

Centre for Science and Environment deputy director of research and advocacy, Anumita Roychowdhury, says that a major problem in our cities is the lack of good urban planning and transportation. "More than 80% of transportation investment in our cities is for car-centric infrastructure which has increased the dependency on private vehicles. We must work on more people-centric infrastructure for pedestrians and cyclists. We need to facilitate mass movement as the per capita consumption of public transport is lower and more economical," she said.

# MISSION CLEAN GANGA

Total amount of sewage generated in 118 towns, located in Ganga river basin states |

**3,636.50**  
million litres per day  
(MLD)

Number of existing STPs  
**55**

**1,027.46**  
MLD

Existing capacity of these STPs

Amount of untreated sewage discharged into the river

**2,609.04**  
MLD

## State-wise report of sewage generation and existing capacity of STPs:

(amount in MLD - approximate)

West Bengal



Uttar Pradesh



Bihar



Uttarakhand



Jharkhand



■ Sewage generated  
■ Existing capacity of STPs