

{ REAL-WORLD IMPACT }

# ‘Even BS VI emissions higher than on paper’

Jayashree Nandi and Snehil Sinha

letters@hindustantimes.com

**NEW DELHI:** A new study has found that real-world emissions from vehicles in Delhi and Gurugram, even those complying with the latest Bharat Stage VI (BS VI) emission standards, are significantly higher than what they are meant to be on paper.

The findings — including readings that were a whopping 5 to 14.2 times for some types of goods vehicles and at least four times higher for taxis — appear to suggest the emissions certifications system and its enforcement is woefully inadequate and that pollution control obligations may have remained only on paper.

Even CNG-fuelled cars, which were previously considered a cleaner alternative, on average emitted 1.5 times higher pollution than they were meant to conform to. CNG light goods vehicles were found to be the biggest emitter of NOx (nitrous oxide), CO (carbon monoxide), hydrocarbon (HC), and particulate matter (PM) within BS VI fleet in Delhi. Across all segments, BS IV CNG buses were the top pollutant.

The study by the International Council on Clean Transportation (ICCT) was conducted in collaboration with the Delhi Transport department and Gurugram Deputy Commissioner’s office using remote sensing technology. Sensors were placed at 20 locations — 15 in Delhi and five in Gurugram — with which the team studied real-world tailpipe emissions.

Of particular concern appeared to be NOx pollutants, which are a key cause of smog and the ultra-fine PM2.5 particles, even in the latest BS VI vehicle, but in particular commercial vehicles.

“The top pollutant in Delhi and most of northern India is usually particulate matter (PM), which also receives more attention in various studies. However, we are seeing that NOx emissions need to be monitored very effectively from the transport sector because NOx contributes to secondary particu-

## Pollution norms only on paper

Study finds higher real-world emissions than prescribed limits

### SMOG-CAUSING NOX EMISSIONS

- BS VI diesel private cars: **2.9x over limit**
- BS VI CNG taxis: **4.0x**
- BS VI petrol taxis: **4.8x**
- BS VI CNG light goods vehicles (Class II): **14.2x**



### CNG NOT SO CLEAN

- BS IV CNG light goods vehicles (Class III): NOx emissions **25.6x**
- BS IV CNG buses: NOx emissions: **3.2x**

Data collection period: Dec 2022- April 2023

### LOCATIONS STUDIED

**DELHI-** IGIA T3 toll plaza, Dhaula Kuan Enclave 1, Dhaula Kuan, DND toll booth, MG road toll plaza, Mudrika Marg to Wazirpur flyover, Sir Ganga Ram hospital, Faiz road in Karol Bagh, Sri Aurobindo Marg to Mahatma Gandhi Marg, V Marg to MG Marg, MG Marg to RRK Marg, Anand Vihar ISBT

**GURUGRAM-** Kherki Daula toll plaza, Golf Course Road, Ch Bakhtawar Singh Road near Medicity, MCD toll plaza near Ambience mall

late matter and in turn high pollution levels in Delhi NCR,” said Amit Bhatt, India managing director, ICCT, on Friday.

Bhatt explained that “real-world emissions of BS VI vehicles are found to be higher compared to the lab values mainly because of loading, road conditions, maintenance etc”. The current PUC regime does not capture particulate matter and NOx emissions for petrol and CNG, while for diesel it is basically capturing none of the criteria pollutant — which makes the testing system in need of a complete revamp.

To be sure, the report found that progression in emission standards generally led to significant reductions in emissions across all vehicles and pollutant types. But while BS VI vehicles showed substantial improvements over BS IV, many still exceeded limits certified for, especially for NOx.

It also found that the current PUC test is not reflective of real-world driving emissions.

Bhatt stated, “It is evident that real-world emissions from transport vehicles differ significantly from their laboratory values... Therefore, it’s time to reimagine

our emissions testing regime and aggressively push for the adoption of zero-emission vehicles.”

The results suggest a need for combined benefits of stricter emission standards and an accelerated shift to zero-emission vehicles (ZEVs), at least in the commercial vehicle category, ICCT recommended. Agencies like the Commission for Air Quality Management in NCR could implement policies such as a ZEV sales mandate and a combustion engine phaseout programme targeted at highly polluting vehicle segments.

Sheila Watson, deputy director of the Foundation for the Automobile and Society, said: “This clearly shows India and the rest of the world that compressed natural gas is not the clean alternative fuel which was promised... For health and for the climate, the solutions to dirty air are to switch to walking, cycling, and shared electric mobility.”

The study’s findings are particularly significant given Delhi’s history with CNG. In 1998, the Supreme Court ordered all public vehicles in Delhi running on diesel to switch to CNG by 2001, including buses, 3-wheelers, and taxis.



## 'HPCL Plans ₹75k cr Capex in 5 Years'

**Kalpana Pathak**

**Mumbai:** State-run Hindustan Petroleum Corporation has earmarked ₹75,000 crore towards capital expenditure over the next five years, said Pushp Kumar Joshi, chairman and managing director, on Friday. "The projects aim to expand the presence in existing and emerging business areas while ensuring energy access, affordability, and sustainability," Joshi told shareholders at HPCL's annual general meeting. He added that the company is focused on strengthening the core business of refining and marketing by expanding refining capacities, supply chain capabilities, and customer reach.

# On-road pollution by city vehicles exceeds emission limits: Study

**Priyangi.Agarwal**  
@timesofindia.com

**New Delhi:** Your vehicle, despite passing PUC tests, is likely emitting more pollutants than the emission standard while running on the road, reveals a new study.

Vehicles, including those under the latest BS VI norms, emit much more in real-world operations as compared to type-approval (laboratory) limits, says a new study by International Council on Clean Transportation (ICCT). The non-profit agency analysed pollutants like carbon monoxide (CO), hydrocarbons (HC), nitrogen oxides (NOx), and UV smoke (particulate matter) emitted by 1.1 lakh vehicles using remote sensing technology at 20 locations in Delhi and Gurgaon.

## **PUC NOT ENOUGH**

- > **BS VI CNG taxis emit 2.4 times more NOx** on avg than pvt car counterparts fuelled by petrol, diesel or CNG
- > **BS VI CNG vehicles across segments** found emitting higher levels of NOx on roads than approval limits
- > **PUC tests miss out on key pollutants** (NOx, PM) and **don't capture real-world emissions**, need to be complemented with tech like remote-sensing

It found commercial vehicles were far more polluting than private ones. BS VI taxi (CNG) and light goods vehicles fleets emit 2.4 and 5 times more NOx than their private car counterparts fuelled by petrol, diesel and CNG.

► **Busts CNG myth, P 4**

# भास्कर Analysis • विदेशी निवेशकों ने कैपिटल गुड्स, ऑटो, टेलीकॉम, कंज्यूमर सर्विसेज में बढ़ाया निवेश विदेशी निवेशकों ने जून-जुलाई में आईटी में 11,788 करोड़, टेलीकॉम में 10,194 करोड़ लगाए, फाइनेंशियल से निकाले

सुनयना वड़दा | नई दिल्ली

पिछले एक साल में विदेशी पोर्टफोलियो निवेशकों (एफपीआई) और घरेलू संस्थागत निवेशकों (डीआईआई) ने पिछले एक वर्ष में सरकारी कंपनियों (पीएसयू) में अपनी हिस्सेदारी कम की है, हालांकि पीएसयू के मार्केट कैप में उल्लेखनीय वृद्धि हुई है, जो अब भारत के कुल मार्केट कैप का 15% है। इसके अलावा मार्केट कैप के आधार पर टॉप-200 में पीएसयू कंपनियों की संख्या बढ़कर 39 हो गई है। इनमें से 12 पिछले दो साल में शामिल हुई हैं। ब्रोकरेज फर्म यस सिक्युरिटीज के एक एनालिसिस से यह जानकारी सामने आई है।

इसके मुताबिक, आय में हिस्सेदारी में कोई उल्लेखनीय बदलाव नहीं होने के बावजूद लिस्टेड कंपनियों में पीएसयू मार्केट कैप का दबदबा है। मार्केट कैप में बढ़ोतरी मुख्य रूप से ऊंचे मूल्यांकन के कारण हुई है। जो दर्शाता है कि निवेशक पीएसयू शेयरों के लिए ज्यादा कीमत चुकाने को तैयार हैं। सरकारी उपक्रमों में इक्विटी पर बढ़ता रिटर्न (रिटर्न ऑन इन्वेस्टमेंट - आरओई) और बढ़ा हुआ पूंजी खर्च (कैपेक्स) भविष्य की ग्रोथ के लिए पॉजिटिव इंडिकेटर है। ब्रोकरेज ने अपने एनालिसिस में कहा है कि अनुमानों से संकेत मिलता है कि एनएसई 200 इंडेक्स की कंपनियों के पूंजी खर्च में पीएसयू का वर्चस्व रहेगा।

## विदेशी निवेशक घरेलू शेयर बाजार में इन सेक्टरों पर लगा रहे दांव...

### बीते 4 महीने में कैपिटल गुड्स, ऑटो, रियल्टी, कंज्यूमर सर्विसेज में निवेश बढ़ा

कैपिटल गुड्स	1.02%
ऑटो और पार्ट्स	0.57%
टेलीकॉम	0.56%
कंज्यूमर सर्विसेज	0.42%
रियल्टी	0.18%

- विदेशी निवेशकों ने इस साल जून-जुलाई में आईटी सेक्टर में 11,788 करोड़ रु. निवेश किए हैं। टेलीकॉम में 10,194 करोड़ रु. लगाए हैं।
- एफपीआई ने समान अवधि में हेल्थकेयर सेक्टर में 7,971 करोड़ रुपए और मेटल एंड माइनिंग में 7,333 करोड़ रुपए निवेश किए हैं।

### अप्रैल-जुलाई के बीच ऑयल-गैस, ईंधन, एफएमसीजी से सबसे ज्यादा निवेश घटाया

फाइनेंशियल सर्विसेज	1.51%
ऑयल-गैस, ईंधन	0.87%
कंस्ट्रक्शन	0.26%
एफएमसीजी	0.18%
अन्य	0.17%

- विदेशी निवेशकों ने जून-जुलाई में फाइनेंशियल सर्विसेज 8,130 करोड़ रुपए और पावर सेक्टर से 6,259 करोड़ रुपए की निकासी की है।
- एफपीआई ने समान अवधि में कंस्ट्रक्शन सेक्टर से 4,271 करोड़ रु. और ऑयल-गैस सेक्टर से 3,700 करोड़ रुपए निकाले हैं।

### स्मॉल-मिडकैप में निवेश बढ़ा, लार्जकैप से निकाले

विदेशी निवेशकों ने इस दौरान जेएंडके बैंक, एनएमडीसी और यूनियन बैंक में 5-5.9% ज्यादा निवेश बढ़ाया है। केनरा बैंक में 3-3.7% बीपीसीएल और हुडको में 2.4-2.5% तक निवेश बढ़ाया है। एनएचपीसी, हिंदुस्तान कॉपर, एनटीपीसी में 1.4-1.9% तक निवेश बढ़ाया है। वहीं, बीते एक साल में कॉनकार से सबसे अधिक 5.4% निवेश निकाला है। पावरग्रिड और नेशनल एल्युमीनियम से 4.4-4.5% निकासी की है।