

Centre for High Technology

(Ministry of Petroleum & Natural Gas)

NOIDA

ED/CHT/2680

3rd February, 2021

Sub: Lok Sabha UQ No. 736 on 'Pollution from Diesel Vehicles' to be answered on 05.02.2021 - reg.

CHT has obtained input from ARAI, Pune and IOC (R&D), Faridabad (Annexure-1) and based on their input, the suggested reply to PQ 736 is as follows:

a) Whether any study has been conducted to ascertain that diesel vehicles are causing more pollution in comparison with petrol and CNG vehicles; and

Reply: There is no comprehensive study available comparing all fuels for all pollutants and CO₂ emission. However, some of the studies that have been conducted in India and abroad are (copies attached for ready reference);

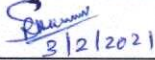


1. Gasoline vs. Diesel, comparing CO₂ emission levels of a modern medium size car model under laboratory and on-road testing conditions, May,2019 by The International council on clean Transportation (iict), Europe
2. CNG and diesel urban buses in India: A life-cycle cost comparison, International Journal of Sustainable Transportation, April 2019
3. A Systematic Study on the Analysis of the Emission of CO, CO₂ and HC for Four-Wheelers and Its Impact on the Sustainable Ecosystem, Sustainability 2020, 12, 6707; doi:10.3390/su12176707 (www.mdpi.com/journal/sustainability)
4. Fleets Run on Natural Gas by NGV America

b) if so. the details thereof?

In India BS-VI vehicular emission norms have been implemented country wide from 1st April,2020. As per the notification by MoRT&H dated 16.09.2016 (Table 1, Page 29), all BS VI heavy duty vehicular emission limits are same irrespective of fuel used and hence, they are fuel-neutral. Further, the emission limits for compression ignition (CI) – diesel vehicles and positive ignition (PI) – Petrol/CNG vehicles are given vide Table 1, Page 25 of the notification. As far as passenger cars are concerned, permissible emissions limits for NO_x (Oxides of nitrogen) are slightly higher in case of CI engine and the limits of CO (carbon monoxide) are significantly lower with PI engines.

In general, CNG and Petrol vehicles produce lesser PM and Smoke emissions compared to diesel vehicles. As per study by iict, referred above, diesel cars tend to have lower volumetric fuel consumption than comparable gasoline vehicles. However, the benefit in terms of CO₂ emissions is significantly lower, as the combustion of diesel

fuel releases ~13% more CO₂ than for the same volume of gasoline fuel. Diesel engines also require fuel-intensive NOx reduction technologies.

Prepared by		Approved by		Seen by	
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From: BHARDWAJ, S.K. (भारद्वाज, एस.के.) <bhardwajs2@INDIANOIL.IN>

Sent: 02 February 2021 19:31

To: K K JAIN <ed.cht@cht.gov.in>

Cc: chughs@INDIANOIL.IN

Subject: Lok Sabha UQ No. 736 on 'Pollution From Diesel Vehicles' to be answered on 05.02.2021 - reg.

Sir,

Please find below the point-wise reply :

a) Whether any study has been conducted to ascertain that diesel vehicles are causing more pollution in comparison with petrol and CNG vehicles; and

- IOC R&D has not conducted any study on BS VI diesel vs CNG, so far
- As per the notification by MoRT&H dated 16.09.2016 (Table 1, Page 29), all BS VI heavy duty vehicular emission limits are same irrespective of fuel used and hence, they are fuel-neutral.
- As far as passenger cars are concerned, NO_x (Oxides of nitrogen) permissible emissions limits are slightly higher with significantly low CO (carbon monoxide) limits in case of compression ignition (CI) – diesel vehicles compared to positive ignition (SI) – Petrol/CNG vehicles (Table 1, Page 25).

(b) if so. the details thereof?

- Not applicable.

Regards,

S.K.Bhardwaj
ES to Director (R&D),
IOCL, Corporate Office

From: thipse.edl@araiindia.com <thipse.edl@araiindia.com>

Sent: 01 February 2021 20:17

To: K K JAIN <ed.cht@cht.gov.in>

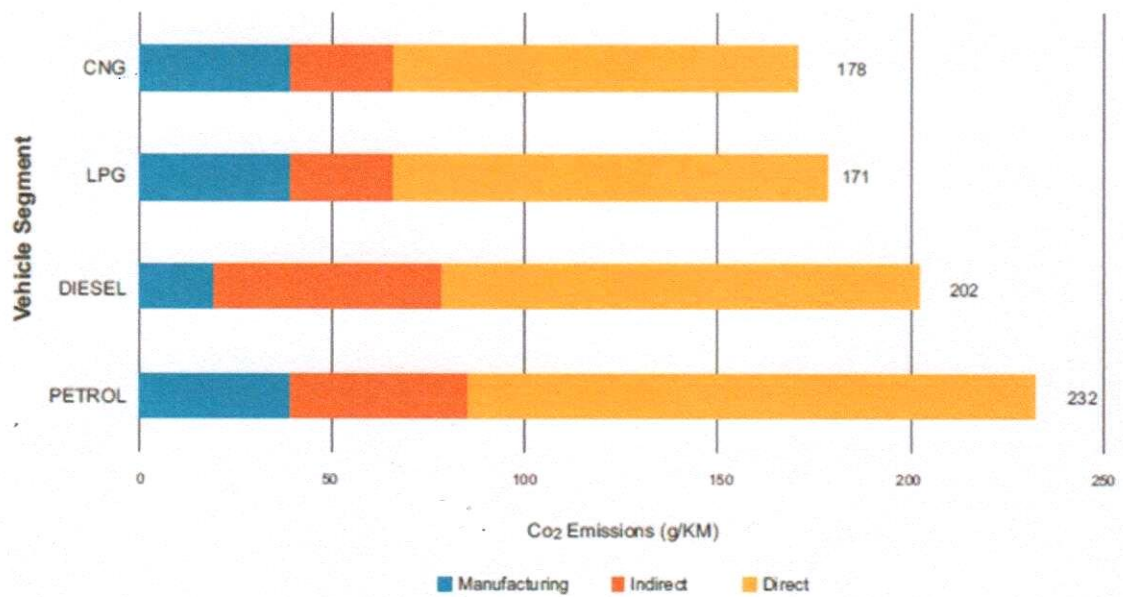
Cc: BRIJESH KUMAR <kumarbrijesh@cht.gov.in>

Subject: Fwd: Lok Sabha UQ No. 736 on 'Pollution From Diesel Vehicles' to be answered on 05.02.2021 - reg.

Dear Sir,

The responses to PQ 736 is as follows:

1. Several studies have been conducted in India and Abroad comparing diesel and CNG emissions.
2. CNG and Petrol pollute less as compared to diesel as they do not produce PM and Smoke emissions.
3. CPCB conducted well to wheel CO₂ emissions study for various fuels in 2010. The results show that CNG is cleaner than petrol and diesel vehicles.



4. NGV America conducted a comparative study for emissions of Diesel and CNG vehicles. CNG is the cleaner fuel when compared with diesel as it produces 27 % lower CO2 emissions

5. ICCT compared diesel vs gasoline cars and found that emissions from diesel were 13 % higher than CNG.

Supporting documents are attached.

Regards,

Dr.Thipse