

GOVERNMENT OF INDIA
MINISTRY OF ROAD TRANSPORT AND HIGHWAYS

RAJYA SABHA
UNSTARRED QUESTION NO- 1229
ANSWERED ON-29/07/2026

IMPACT OF E20 FUEL ON MOTOR VEHICLES

1229. SHRI A. A. RAHIM:

Will the Minister of ROAD TRANSPORT AND HIGHWAYS be pleased to state:

- (a) whether the Ministry has conducted any assessment of the impact of 20 percent ethanol-blended petrol (E20) on vehicle performance, fuel efficiency, engine durability and maintenance costs and if so, the details thereof;
- (b) whether the Ministry has received complaints regarding the same and if so, the action taken thereon;
- (c) whether the Ministry consulted automobile manufacturers, component manufacturers, transport operators, consumer organisations and other stakeholders before the nationwide rollout of E20 fuel and if so, the details and recommendations thereof; and
- (d) the steps taken to address the concerns of vehicle owners to ensure better vehicle performance, safety and fuel efficiency?

ANSWER

THE MINISTER OF ROAD TRANSPORT AND HIGHWAYS

(SHRI NITIN JAIRAM GADKARI)

(a), (c) & (d) Government in the Ministry of Petroleum and Natural Gas has introduced the Ethanol Blended Petrol (EBP) Programme in consultation with stakeholders and after field trials and validation by expert agencies at each stage of blending escalation:

- i. A Study for the evaluation of effects of E20 on two-wheelers and four-wheelers was carried out jointly by Indian Oil Corporation Limited (IOCL), Indian Institute of Petroleum (IIP) Dehradun, Society of Indian Automobile Manufacturers (SIAM) and Automotive Research Association of India (ARAI). The exhaust emissions meet the respective norms (ie BS VI vehicles meet the BS VI emission norms when tested with E20). The studies have not shown any need to modify the car and two-wheeler engines. These studies confirmed that even legacy vehicles did not exhibit any significant variations in performance, nor do they show abnormal wear-and-tear when operated with E20 fuel. No issues were reported in parameters such as drivability, startability, metal compatibility, and plastic compatibility. Only in case of testing done on BS-III vehicles introduced from 1st April, 2005 and manufactured prior to 2016, some rubber parts and

gaskets may require replacement, which can be easily managed during routine servicing regime of the vehicle. With regard to the concern of vehicle mileage due to the use of E20 fuel, automobile manufacturers and vehicle/engine testing agencies have clarified that vehicle mileage is influenced by a host of factors beyond just fuel type. These include driving habits, maintenance practices such as oil changes and air filter cleanliness, tyre pressure and alignment, and even air conditioning load.

- ii. An Inter-Ministerial Committee (IMC), constituted on 26 December 2020 under NITI Aayog, comprehensively examined vehicle compatibility and mileage/efficiency aspects of ethanol blending. This assessment was supported by research conducted by Indian Oil Corporation Ltd. (IOCL), the Automotive Research Association of India (ARAI) and the Society of Indian Automobile Manufacturers (SIAM).
- iii. The Committee's "Roadmap for Ethanol Blending in India 2020-25", released in June 2021, was prepared after extensive consultation with automobile manufacturers, oil companies and agricultural experts, and examined material compatibility, engine calibration, fuel systems, drivability, durability, emissions and fuel efficiency. The Committee's report preceded the introduction of E-20 fuel.

The Ethanol Blended Petrol (EBP) Programme has been implemented through a phased, calibrated, scientifically validated and consultative approach.

It has been used globally for over a century, with countries such as Brazil operating higher ethanol blends for decades. In India, the Ethanol Blended Petrol (EBP) Programme commenced with a pilot in 2001, E5 was introduced in 2006, and although blending remained around 1.53% in 2013-14, it has since been increased progressively in a calibrated manner after creating the necessary production capacity, infrastructure and regulatory framework. Before the introduction of E20, extensive laboratory studies, durability trials and field validation were undertaken covering engine durability, material compatibility, fuel systems, corrosion resistance, drivability, emissions, fuel economy and overall vehicle performance.

As seen from the table, the progression has been gradual:

Ethanol Supply Year	Average Blending(%)
2013-14	~1.53
2020-21	~8.1
2021-22	~10
2022-23	~12
2023-24	~14.6
2024-25	~19.2
December, 2025*	20

*Ethanol Supply Year (ESY) is for 12 months duration starting 1st November of any year.

(b) As per information received from Society of Indian Automobile Manufacturers (SIAM), no widespread issues of engine failure or vehicle breakdown attributable to ethanol blending have been reported. Certain concerns relating to engine performance, mileage and vehicle wear have been raised largely through public commentary and social media discourse.
