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How new CAFE pollution check rules will benefit small cars, introduces emissions 'pooling'

The proposed rules introduce some new concepts, such as allowing multiple carmakers to 'pool' their emissions to meet targets, and by offering emissions discounts to carmakers that also sell electric vehicles.

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Beyond the efficiency target benefits that manufacturers can enjoy from having a lighter average vehicle fleet, the CAFE 3 norms have also proposed to offer additional exemptions to smaller cars. (Pixabay)

India has proposed to significantly revamp its key vehicle emissions rules, called the Corporate average fuel efficiency (CAFE) norms, and has introduced a draft of the third iteration of the key standards. The proposed CAFE 3 norms propose to address a long standing demand by some carmakers in the country, that is to offer emissions' relaxation to small, light-weight cars, a metric that is already followed in some countries globally.

The **draft norms, issued by the Bureau of Energy Efficiency (BEE)** for public consultation, would be applicable to all M1 category vehicles, which are passenger cars with a seating capacity of nine people including the driver and a maximum weight of 3,500 kilogram. Every car maker would have to meet the specified targets under the proposed rules, failing which they would be penalised.

The proposed rules introduce some new concepts, such as allowing multiple carmakers to 'pool' their emissions to meet targets, and by offering emissions discounts to carmakers that also sell electric vehicles. Here's a breakdown.

The new efficiency targets under proposed CAFE 3 norms

Under CAFE 3, the efficiency formula is: [0.002 x (W – 1170) + c]. It is measured in petrol-equivalent litres per 100 kilometre.

Here, W is the average fleet weight, 1,170kg is the fixed constant for weight, 0.002 is a fixed constant multiplier, and 'c' is a constant that changes every year. Since 'c' continues to decrease from FY28 to FY32, the rules will become stricter over time. This constant starts at 3.7264 in FY28, then subsequently drops to 3.0139 in FY32.

So, for instance, for a company whose average fleet weight is 1,500 kilograms in FY28, its efficiency target would be: 0.002 x (1500 – 1170) + 3.7264, which is 4.386 litres/100km, and for a company whose average fleet weight is 1,300 kilogram, their efficiency target would be 3.986 litres/100km. This clearly shows that having lighter cars could make a big difference in ease of compliance for manufacturers.

Further boost to small cars

Beyond the efficiency target benefits that manufacturers can enjoy from having a lighter average vehicle fleet, the CAFE 3 norms have also proposed to offer additional exemptions to smaller

cars. In India, companies such as market leader Maruti Suzuki have been lobbying in favour of relaxed emission norms for smaller hatchback cars, a segment that is seeing declining sales.

Considering the limited potential for efficiency improvements in petrol vehicle models with an unladen mass up to 909 kg, engine capacity not exceeding 1200 cc and length not exceeding 4000 mm, these cars will be able to claim a further reduction of 3.0 g CO_2/km, with a cap of 9.0 g/km of CO_2 in any reporting period, the draft norms said.

"Importantly, the new norms are designed to revive the small car segment, which has seen a 71% decline in sales over six years. In response, the government has rolled out GST 2.0 reforms, reducing the GST rate on small cars from 28% to 18%, making them more accessible to consumers," said Saket Mehra, Partner, Auto & EV Industry Leader, Grant Thornton Bharat.

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In a research note earlier this year, Nomura had said that India must "reform" its CAFE framework to align with global best practices by incorporating protection mechanisms for small cars. The study had drawn up comparisons with markets like the USA, China, European Union and Japan, where smaller, lightweight cars have relaxed emissions norms.

Nomura researchers said that under India's emissions calculation system, the CAFE framework gives heavier vehicles more relaxed absolute CO_2 limits. A large SUV or premium car is allowed a much higher CO_2 target whereas smaller cars get a much more stringent target.

EVs to have big gains

Companies like Tata Motors and Mahindra that sell electric vehicles, could potentially obtain relaxation in their overall efficiency target as the CAFE 3 norms propose to offer companies "super credits" based on the type of vehicle they sell.

Each EV sold will be counted three times while calculating a company's average, thanks. Range-extender hybrid EVs also get the same treatment. Plug-in hybrids will be counted 2.5 times, and strong hybrids twice. Flex-fuel ethanol cars are given a smaller multiplier of 1.5.

The draft also proposes to introduce something called a carbon neutrality factor (CNF), which offers further relaxation on the targets based on the type of fuel used in a car: For Petrol vehicles

(E20 to E30) 8% CNF on tailpipe CO2; for flex fuel ethanol vehicles and strong hybrid electric vehicles 22.3% CNF on tailpipe CO2; for CNG vehicles CNF of 5% or CBG (compressed biogas) blending percentage notified by the Ministry of Petroleum & Natural Gas, whichever is higher.

Emissions pooling

The proposed CAFE 3 norms also introduce a concept called emissions pooling, under which three carmakers can come together to meet targets jointly.

For the purpose of meeting their Annual Average Fuel Consumption Standard, manufacturers (not more than 3) of said motor vehicles may decide to conclude a pool. A pool shall be considered as 'one manufacturer,' the draft norms said.

"This enables strategic partnerships where manufacturers can balance fleet emissions, reduce compliance costs, and jointly meet regulatory targets. The designated Pool Manager will be legally accountable for any penalties under the Energy Conservation Act, 2001, adding a layer of governance and responsibility," Mehta said.

India's current CAFE norms

The Bureau of Energy Efficiency introduced the CAFE norms in 2017 to regulate fuel consumption and carbon emissions from passenger vehicles. These norms apply to vehicles running on petrol, diesel, liquefied petroleum gas (LPG), compressed natural gas (CNG), hybrids, and electric vehicles (EVs) weighing less than 3,500 kg. The norms were tightened in the beginning of financial year 2022-23, with increased penalties for non-compliance.

Designed to reduce oil dependency and curb air pollution, the CAFE norms push automakers to lower carbon dioxide emissions while incentivising the production of EVs, hybrids, and CNG vehicles, which are less carbon-intensive than cars that run on fossil fuels.

For 2022-23, the BEE, under the Union Ministry of Power, required car companies of all units sold during the year to achieve India's Corporate Average Fuel Efficiency (CAFE) norms. This meant a fuel consumption of not more than 4.78 litres per 100 km and carbon dioxide emissions of not more than 113 grams per km (since it has a direct correlation with the amount of fuel consumed).

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