

DEVIL IN THE DIESEL: SC PUTS BRAKES ON AUTOMOBILE INDUSTRY?

Driven by green concerns, the Supreme Court in a series of orders has made diesel a pariah and put the brakes on the India's automobile industry. Can adopting the latest clean energy norms save the day?

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ABSTRACT

It was a double whammy last year for Jaswant Singh, 53, a taxi driver in New Delhi. In April 2015, when in a move to curb pollution, environment watchdog National Green Tribunal (NGT) banned all diesel vehicles older than 10 years from Delhi's roads, Singh had to sell his taxi for a song. He then borrowed money, bought a used Tata Indigo diesel car and joined a fleet taxi service. Bad luck almost struck again when the NGT proposed a ban on all diesel cars in the national capital. Later, the Supreme Court (SC) modified the ban to include diesel cars above 2,000 cc capacity only, mostly in the luxury segment, and ordered all taxis to convert to compressed natural gas (CNG), a cleaner fuel, before March 2016. But installing a CNG kit in a car costs anywhere between Rs 65,000-70,000, an expensive business for Singh, who earns less than Rs 1,000 a day.



Singh's dilemma illustrates how finding alternatives to the highly polluting diesel, though inevitable, can be a costly proposition. The Supreme Court's (SC) orders are widely seen as an end game for cars driven by diesel, at least in the major metros where smog, air pollution and

lung diseases have resulted in a new sentiment against the fuel (use of the fuel in India had risen over 16 per cent in October 2015 to 6.34 million tonnes (mt) from 5.45 mt a year ago, the most since August 2005).

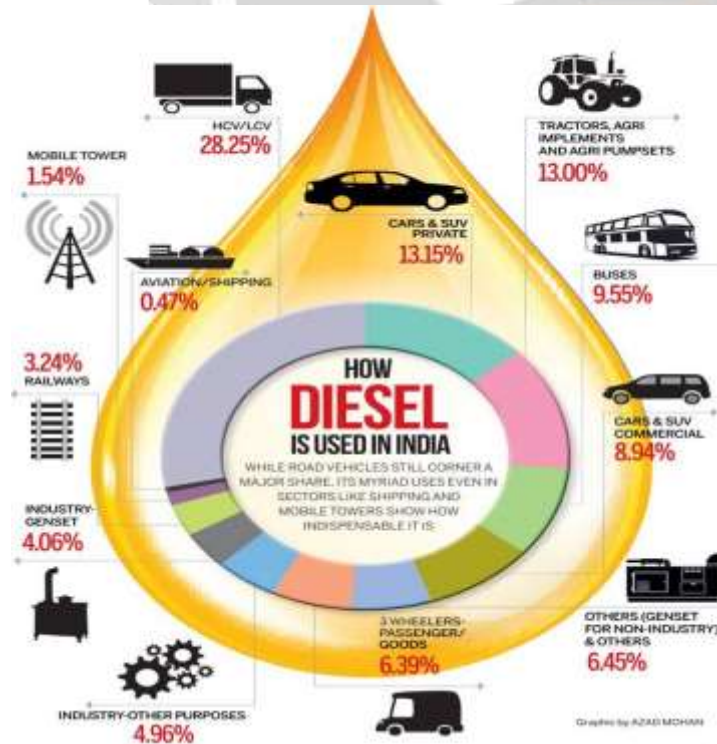
There are some 50,000 diesel taxis plying on Delhi roads on any given day, burning 10 lakh litres of diesel, and a ban will throw the lives of so many families, such as that of Singh, out of gear. Add to that another 5.2 lakh (0.52 million) private diesel cars, and the scale of the issue becomes evident. On January 5, the SC refused relief to auto-makers who challenged its order, and upheld the ban on new luxury diesel cars. Going a step ahead, the court questioned the need for the government to use diesel cars over five years old, setting the stage to retire them. Although these are orders specific to Delhi, the day is not far when other states will resort to drastic measures to curb diesel pollution. The future of diesel, a fuel that comprised 42 per cent of India's petroleum basket in 2014-15 (at 70 mt), seems enveloped in smog.

KEYWORDS: diesel, National Green Tribunal, Supreme Court, Delhi,

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The fall from grace

The Supreme Court verdict was the culmination of a buzz that has been building against the use of diesel for over a decade. According to multiple surveys ranging from the World Health Organisation (WHO) to the Indian Institutes



of Technology in Delhi, Kanpur and Mumbai, Delhi is the most polluted city in the world. A Delhi resident is exposed annually to an average of 153 micrograms per cubic metre of PM 2.5, the smallest and most harmful of all measurable particulate material. This is 15 times higher than WHO's recommended annual average, causing respiratory disorders in vulnerable sections, especially during winter.

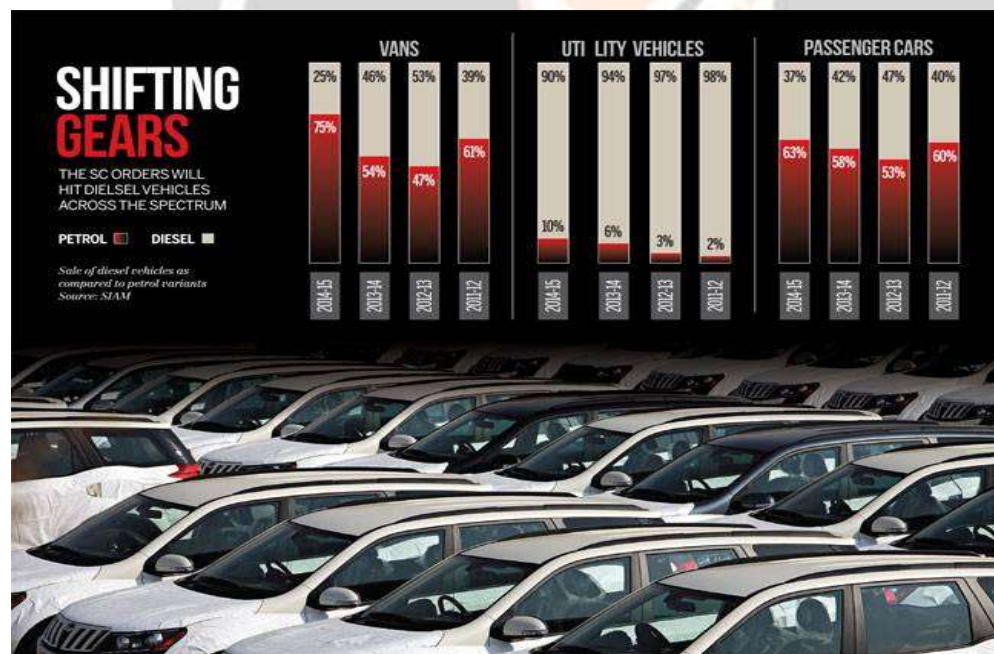
Diesel emissions are the worst among all vehicular pollutants, studies say. Diesel vehicles emit high levels of deadly particles and nitrogen dioxide, linked to asthma, bronchitis, heart attacks, strokes and growth deficiencies in babies. Recent reports say that compared to a petrol engine, diesel emits four times more

nitrogen dioxide and 22 times more harmful particulates, although it produces around 15 per cent less carbon dioxide. Moreover, the sulphur present in diesel leads to the formation of sulphur dioxide, which irritates the nose, throat and airways to cause cough, wheezing and shortness of breath.

A total of 1,15,945 diesel-driven commercial vehicles, including trucks and buses, enter and exit Delhi every day, through the 127 entry points in the national capital. However, there were no curbs on them until the apex court banned the illegal entry of trucks into the metro in its recent order. Diesel powers close to 60 per cent of Indian cars, buses, tractors and trucks. Trucks guzzled over 28 per cent of diesel sold, followed by cars and utility vehicles at over 21 per cent, tractors at 13 per cent, buses at 10 per cent, and three-wheelers at over 6 per cent. Other big users such as diesel gensets-in agriculture, homes, offices and shops-followed by the railways, aviation, shipping and mobile towers, all keep contributing to the rampant pollution.

The speedbreaker

For companies such as Mercedes Benz India, Toyota Kirloskar and Mahindra & Mahindra (M&M), which derive much of their business from diesel SUVs, the Supreme Court order comes as a devastating blow. "The absence of a fuel policy has been telling," says R.C. Bhargava, chairman, Maruti Suzuki. "Now, suppose they decide to ban all



diesel cars. It will impact all of us very badly."

According to industry experts, about 4 lakh units of diesel vehicles with 2,000 cc or higher capacity engines are sold in the country annually, of which 5-8 per cent is sold in Delhi and the NCR. Some of the worst affected car models are M&M's

TUV 300, XUV 500 and Scorpio, Maruti Suzuki's S Cross, the Hyundai Creta, Renault's Duster and Toyota's Innova. All of M&M's successful models are fuel-guzzling diesel SUVs. For German luxury carmaker Mercedes-Benz and the Tata Motors-owned JLR, their entire diesel model range is powered by engines above 2,000 cc.

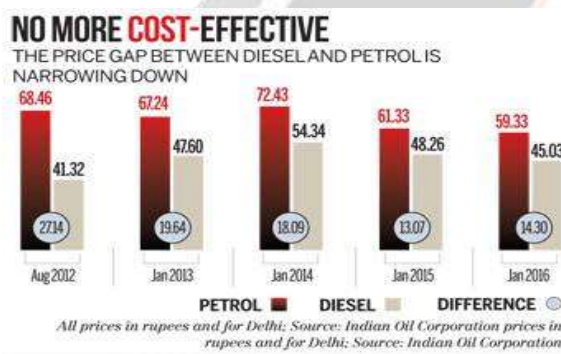
M&M chairman Anand Mahindra, for one, was quite sanguine after the SC diktat. "I have always believed that the Supreme Court is an institution that sustains our faith in social justice and democracy in India," he said. "So even if

we believe the decision on diesel vehicles isn't optimal, we'll honour it and develop vehicles that comply with their stipulations." Toyota Kirloskar Motor's vice-chair-man Vikram Kirloskar was a bit more circumspect, saying the authorities should "take a comprehensive view of various factors causing pollution" rather than just target the auto sector.

Can we discard diesel?

For an emerging country like India, also one of the fastest growing, a rise in diesel use is inevitable, especially in long distance and heavy transportation. Much of the activity in manufacturing, which is in tune with the Make in India programme, will happen away from the cities, creating new demand for transportation, and there-fore, diesel. It does not come as a surprise, then, that the government has decided to leapfrog to implementing Euro VI emission standards by April 2020, skipping the Euro V phase, so that future development is in harmony with environmental concerns.

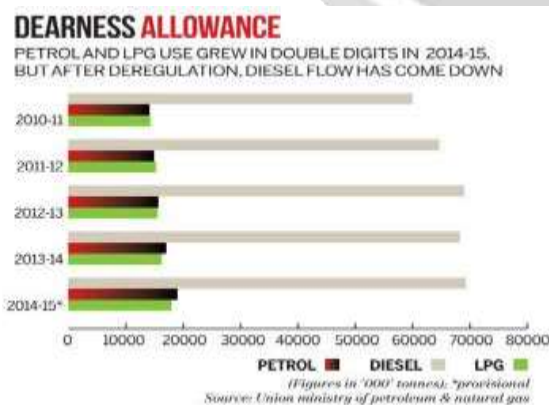
Experts also say that each fuel type has a unique profile of emissions with its own pros and cons. All vehicles emit



different pollutants, with petrol vehicles emitting higher carbon monoxide compared to diesel, while diesel vehicles emit higher PM10 compared to petrol vehicles. "Comparing the particulate matter from diesel with petrol is not appropriate and drawing conclusions from the same is not desirable. In view of this, future emission regulations have moved to particulate number in place of mass of particulate matter," says Tim Leverton, president & head, advanced and product

engineering at Tata Motors, part of the \$100 billion Tata group.

Although India is the fourth largest energy consumer in the world, per capita consumption of diesel is still low (so it can only go up). "In the future, diesel is more likely to remain the preferred highway transportation fuel, but its

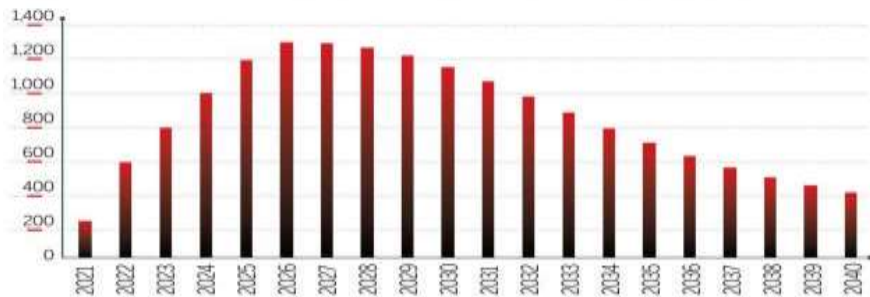


importance as an urban fuel may diminish," says George Paul, executive director, Bharat Petroleum Corporation Ltd, India's second largest petroleum retailer. The only way it can continue to hold some sway in urban transport is by adhering to emission norms at the earliest. Kirit Parikh, founder director and emeritus professor at the Indira Gandhi Institute of Development Research, proposes that diesel be priced higher than or at par with petrol so that people lose the incentive to use them in their cars.

The former 'miracle' fuel

NEW NORMS=BETTER HEALTH

PREMATURE DEATHS THAT CAN BE AVOIDED ANNUALLY IF INDIA TAKES THE GIANT LEAP, SHIFTS DIRECTLY TO EURO VI NORMS



Source: The International Council on Clean Transportation

The origin of diesel as a fuel can be traced back to 1892, when German scientist and inventor Rudolf Diesel designed an internal combustion engine where high temperatures ignited fuel in a combustion chamber that powered the engine. Diesel combustion, enhanced over the

years, was found to be more efficient than other fuels, resulting in 20 per cent better fuel mileage and lower emissions of carbon dioxide, considered a major cause for ozone depletion and climate change. Strict emission standards in Europe have forced oil refineries to dramatically reduce the sulphur content in diesel. All new cars sold in Europe must meet Euro VI standards for exhaust emissions of nitrogen dioxide and other pollutants, the latest in a progressive emission control measure practiced in the continent since 1992. Diesel cars make up around 20 per cent of new cars sold globally, up from low single digits a decade ago. In its use of diesel in transportation, India matches Europe, where half the cars sold every year are diesel. But they account for less than 2 per cent in China, the US and Japan, where the fuel is largely considered dirty.

The Volkswagen episode brought the fuel under further under close scrutiny of governments and regulators. In September 2015, the German car maker acknowledged that it tampered with 11 million diesel-powered cars using a software to help them meet stringent American emission standards, a move that led to CEO Martin Winterkorn's resignation, a \$26 billion erosion in VW's share value in the first four trading days after the scandal broke, and an estimated \$7.3 billion in damages.

The other evils

While the biggest use of diesel is in transportation, diesel-type fuels (broadly termed distillate fuel oils or gas oils) are used in several applications, including residential and commercial heating, power generation, farming and industrial applications. In 2014, diesel gensets in factories and offices generated 90,000 MW of power, almost 36 per cent of the country's then total installed capacity. Diesel gensets sales are growing 10 per cent annually to an estimated 25 lakh at present, consuming around 1.6 crore kilo litres of diesel annually, and a sizeable chunk of demand comes from Delhi. The railways consumes less diesel compared to trucks and cars, 3.8 per cent of the total, but they are big pollutants as they do not adhere to emission control norms as yet. Less than 35 per cent of rail routes are electrified (until March 2013), so they remain big diesel consumers.

In India, the boom in diesel cars was fired by diesel subsidies that were originally targeted at helping farmers and the weaker sections but ended up in a proliferation of fuel guzzling SUVs, sedans and hatchbacks. Successive governments were wary of increasing diesel prices for its perceived adverse impact on inflation, broadening the price gap between the fuel and petrol. This had led to a preference for diesel vehicles vis-à-vis petrol vehicles or, as experts would have it, a 'dieselisation' of private motor transport. Diesel was cheaper by Rs 32 a litre in Delhi compared to petrol by the end of May 2014, a gap that subsequently narrowed after diesel prices were deregulated or were allowed to be priced in tandem with international prices in October that year. This gradually reflected on sales too. Diesel passenger vehicles' share in total passenger vehicles sales dropped 10 per cent to 48 per cent in 2014-15 from a year earlier.

Despite the deregulation, diesel is still cheaper by Rs 14 than petrol, which costs Rs 60 a litre in the capital as well as in Mumbai, due to lower central and state taxes on the former. Many companies launched new diesel models in India to cash in on the demand for diesel vehicles. Maruti Suzuki, India's largest car maker by far, has made new investments in diesel platforms in the last 4-5 years, while Japanese Honda Motors decided to launch its diesel cars for the first time in India.

The way forward

While moving to Bharat Stage VI norms would be key to reducing vehicular pollution, clean diesel to suit them isn't available yet. "Our state-run refineries are not yet equipped to produce ultra low sulphur diesel," says Bhargava. State-run oil retailers say they are preparing for the new norms. "The work to upgrade the fuel is progressing," said Paul before the government announced the new norms early January 2016. The job is not easy, as it entails revamping of the existing facilities at a huge cost. "The government has given us the target and we will stick to that," he says. Road transport minister [Nitin Gadkari](#) said that oil companies would need to invest nearly Rs 30,000 crore to produce Euro VI compliant fuel. The economic benefits of advancing to Euro VI standards directly far outweigh the costs though, and fully justify investments made in supplying ultra-low sulphur fuel, say some experts. However, the auto industry is not as optimistic. "This is not technically feasible, as fuel needs to be available in

time," says Pawan Goenka, group president, auto and farm sector, M&M. "Also, experts with major parts makers have said that such a jump (into Euro VI) will compromise safety in vehicles."

Autos gear up

Carmakers are framing new plans to brace for the ban on diesel

CLEAN ALTERNATIVES

MANY COUNTRIES ARE NOW TRYING OUT LESS POLLUTING FUELS

COMPRESSED NATURAL GAS

It consists mostly of methane. CO2 emissions are very low. NO2 and particulate of PM emissions is also much lower. Used as liquefied natural gas in vehicles.

BIODIESEL

Produced using vegetable oils, animal fats, or recycled restaurant grease. Releases much less emissions, especially carbon monoxide and hydrocarbons. Widely used in the US and Brazil.

HYDROGEN

Mixed with natural gas, hydrogen helps create fuel for vehicles using a certain kind of internal combustion engines. Known for low emission levels. Iceland and Norway are trying it out.

ETHANOL

Ethanol fuel is created by fermenting alcohol and distilling crops high on starch like corn. Brazil, Malawi, Sweden pioneers in this segment; the US is a top producer.

luxury cars in Delhi. M&M is planning to introduce more petrol variants in its SUV line-up, while Tata Motors has been making new launches in the petrol segment. Fleet owners are already looking for alternatives. Siddharth Pahwa, CEO of fleet taxi operator Meru Cabs, which has about 2,000 taxis plying in the Delhi-national capital region area, says it has fully converted all its taxis both in Delhi and Mumbai into CNG, which produces 20 per cent less harmful emissions compared to other fuels. It is now also in talks with Indraprastha Gas to convert its taxis in Bangalore into CNG.

CONCLUSION:

It's becoming increasingly clear now that diesel's use as a preferred transportation fuel will depend on the swiftness with which the country can adapt to the latest clean energy norms. India can ill afford to drag its feet in providing cleaner, greener fuels if it hopes to strike a balance between economic development and a sustainable future.

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