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## Policy Watch - India Will Shift To BS-VI Norms

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The Supreme Court had ruled on October 24, 2019, that no BS-IV vehicle would be sold with effect from April 1, 2020. **Bharat Stage VI** is the new emission standard that all vehicles in the country will have to adhere to.

### What are Bharat Stage Norms?

- The Bharat Stage (BS) are standards instituted by the government to regulate the emission of air pollutants from motor vehicles.
  - With appropriate fuel and technology, they limit the release of air pollutants such as nitrogen oxides, carbon monoxide, hydrocarbons, Particulate Matter (PM) and sulfur oxides from vehicles using internal combustion engines.
  - As the stage goes up, the control of emissions becomes stricter.

- The standards and the timeline for implementation are set by the **Central Pollution Control Board (CPCB)** under the Ministry of Environment, Forest and Climate Change.
- The standards are based on European regulations that were first introduced in 2000.

## What will it Need?

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**On-Board Diagnostics: Bharat Stage VI** norms include a wide list of technology modifications, the most significant being making OBD (On-board diagnostics) mandatory for all vehicles.

### On-Board Diagnostics

- **On-Board Diagnostics (OBD)** is an automotive term referring to a **vehicle's self-diagnostic and reporting capability**. OBD systems give the vehicle owner or repair technician access to the status of the various vehicle subsystems.
- OBD was originally designed to control the emissions. In BS-VI vehicles norms, OBD-2 is mandatory.
- **Better fuel:** Proper implementation of BS-VI needs better fuel. The refiners have invested more than Rs 80,000 crore in upgrading petrol and diesel quality to meet BS-VI specifications.
- The vehicle should have the **capacity to use the fuel at full combustion**.
  - New technology will be required by the automotive industries in combustion, ignition, carburetors, and exhaust steel pipe.
  - Taking a leap from BS-IV to BS-VI comes with immense technical challenges. It took Europe 9 years to completely implement the Euro VI standards.
  - Car-makers will have to spend heavily to develop BS-VI compliant engines for their existing product line.
  - Automotive electronics and embedded systems related constraints.

### Benefits of BS-VI norms over BS-IV norms

- According to the **Centre for Science & Environment study**, air pollution takes 10,000-30,000 lives in Delhi alone every year. Early migration to BS-VI fuels in the National Capital of Delhi and the whole country will help in saving thousands of precious lives by bringing down vehicular pollution significantly.
- A study by **System of Air Quality and Weather Forecasting And Research (SAFAR)** under the **Ministry of Earth Sciences** showed that the Transport sector contributes around 41% of the pollution in Delhi. Cleaner fuel is one of the ways to combat air pollution.
- In BS-VI fuel, will bring down the concentration of **sulfur** by 80%, i.e. from the 50 parts per million to 10 parts per million.

- BS-VI fuel is expected to **reduce the NO<sub>x</sub>** (nitrogen oxides) **emissions** from diesel cars by 70% and from petrol cars by 25%
- OBD (onboard diagnostics) will become **mandatory** for every vehicle and it will help monitor the pollution caused by the vehicle in real-time.
- RDE (Real Driving Emission) will be **introduced for the first time** that will measure the emission in real-world conditions and not just under test conditions.
- BS-VI norms will also change the way particulate matter is measured. It will now be measured by number standard instead of mass standard thereby, regulating the fine particulate matter as well.

## Challenges

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- **Stressed Industry:** Automotive industries are already under pressure due to a decrease in the sale. With the introduction of BS-VI norms along with strict safety, norms will lead to an increase in the cost of vehicles by ₹10,000 - 20,000. Since India is a cost-sensitive economy, it might further pressurize the automotive industries.
- **Technological Challenges:** The capacity of the automotive industries to equip their vehicles with the necessary technology will be tested.
- **Low Incentive for the Buyer:**
  - There is **no improvement in fuel efficiency** in the case of BS-VI vehicles, which was the selling pitch in the case of BS-IV vehicles.
  - **Cost of maintenance** of BS-VI vehicles is higher than the BS-IV vehicles.
- **Availability of the Fuel:** To ensure the availability of BS-VI fuel **at all places** by the due time will be another problem faced by the Oil Marketing Companies. For example, during the implementation of BS-IV fuel, some region like Northeast and Kerala were left out.
- **Skill Development:** Skill development of technicians, service centres and maintenance workshops which form the bulk of transport industries.
- **Low Transparency:** Transparency in **fuel production and its transportation is absent.**
- **Logistics Issues:** Earlier, the implementation of BS-II, BS-III, and BS-IV fuel and vehicles were done in a phased manner. But this time, BS-VI will be implemented in the whole country at the same time which might lead to logistics issues.
- **Implementation:** Issues with the implementation of **safety and insurance norms** along with BS-VI norms in commercial vehicles.

## Way Forward

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- **Awareness Generation:**
  - Oil marketing companies, automotive companies, and respective ministries should educate the users and maintenance companies through workshops about the BS-VI technologies and how it is different from the BS-IV.
  - Educating the people to avoid the misconception about the new fuel and vehicles.
- **Communication:**
  - Better communication between the Government, the Oil marketing companies and the Automotive companies will ensure the proper implementation of the policy.
  - The proper business ecosystem including **financing of vehicles should be made easy** by increasing the tenure and thereby reducing the EMI.
- **Road-map:** The government should present a **long-term plan** for fuel to be used in the future. Whether India's transport sector will be fuel-based or electricity-based inter alia so that investors can make decisions on their long term capital investment.
- **Including Petroleum in GST:** The overall cost of the vehicle and the fuel must be streamlined by including petroleum in Good and Service Tax. Effective GST must be rolled back to ease the burden of the depressed automobile sector.

Bharat Stage VI is an emission standard that will bring much-needed changes in the Indian automobile industry in terms of pollutant emissions. With this emission norm coming into effect, India will come at par with the US, European countries and other advanced automotive markets across the globe.