NEW DELHI: India will soon embark on an ambitious programme aimed at switching most, if not all, of its vehicles to battery power by 2030. In an audacious move worthy of Elon Musk, the key to the plan's success will be the eschewing of subsidies driven by a battery leasing strategy. The scheme, which kicks off in the next few months, includes limited tax breaks for manufacturers and the sale of vehicles without batteries to improve affordability, said a senior government official with knowledge of the plan.

The strategy is in marked contrast to the approach of most countries including the US, Japan and China, which have earmarked billions of dollars in subsidies for electric vehicles and have advised India against schemes that aren't funded this way. India, however, is forging ahead with its contrarian strategy that will start with public transport in the first phase, said the official cited above. Indian Institute of Technology-Madras professor Ashok Jhunjhunwala will spearhead the programme, he said.

While Indian manufacturers are keen on being part of the initiative, most of the overseas ones favour hybrid technology, said the official cited above.

Two-wheelers, three-wheelers and non-air-conditioned city buses made by automobile companies in India will be sold without batteries as part of the plan, thus slashing prices by as much as 70%. The batteries will be leased at a specified cost and can be swiftly swapped with recharged ones at stations, he said. "The private vehicles will be the last lap of the scheme. We expect the programme to start scaling in three years. The programme is in the final stages of drafting," the official said.

"It will take just two-and-half minutes to replace auto batteries and can be done in 10 minutes when city buses rest after about a 30-km trip. The model, however, will not work for AC cars and AC buses," the government official said.

Vehicle manufacturers expect the fine print of the policy to be made public soon. "An inter-ministerial committee led by Niti Aayog is drawing up the details of the plan to promote usage and convert most vehicles to electric by 2030," said a senior auto industry executive. "We expect a formal policy in about six months. A lot of effort and thought have to be given to how to put an infrastructure for such schemes in place. Also, while we move towards this goal, the government should not cast aside technologies such as hybrid which are stepping stones to going electric."

The ministries of road transport, power, petroleum and heavy industries are involved in the programme being framed by the government, he said.

For taxis, the government is considering fast-charging electric stations. Specifications and guidelines for each type of electric vehicle, lease plans, battery swaps and charging stations are being worked out.
The government sees a clear cost advantage in shifting to electric. If battery and vehicle are paid for, a sedan powered by an internal combustion engine costs Rs 7 per km to run, as opposed to Rs 1 per km for an equivalent electrical vehicle.

**ROPINING IN AGGREGATORS**

The government is considering involving aggregators to club demand and vehicle leases, the official said. The government has held fruitful discussions with stakeholders including manufacturers of vehicles, batteries and components as well as aggregators, he said. Aggregators will purchase vehicles and lease them to drivers.

The tax breaks for manufacturers are expected to give the ‘Make in India’ programme a boost. "In the pilot phase, cells for the batteries will be imported. As the programme scales up, they can be manufactured locally," said the official. The transition to electric from hydrocarbons will happen organically as prices become comparable, the official said.

Petrol and diesel vehicles have more than 2,000 moving parts as opposed to about 20 in electric vehicles, making them 90% energy efficient against 20% for the first kind, according to the official cited above. Only 1% of the 200 million vehicles on Indian roads currently are estimated to be electric vehicles.

To be sure, there are questions the government has to address, experts and executives said. Bharat Stage-VI emission norms will come into effect by 2020, requiring heavy investments by automobile companies. Will they be willing to spend this money if the ecosystem is about to get transformed. Also, what happens to oil refineries? A bulk of their output goes to fuel vehicles.

ABB has supplied electric vehicle charging solutions to car and bus original equipment manufacturers in India. ABB India also has an R&D cooperation pact with the Centre for Battery Engineering at IIT-Madras.

Interestingly, Chetan Maini, India’s electric car pioneer, has moved onto a new venture after selling his business to Mahindra & Mahindra — giving batteries out on hire. Mahindra is currently the only carmaker with electric vehicles in its portfolio: the Verito and e2o. In an interview to ET on June 27, 2016, M&M chairman Anand Mahindra said electric cars would be feasible only for public transport.

**ET View:**

**Sound Move**

*The government’s decision rightly signals its intent to ensure the roll out of a significant number of electric vehicles. Battery is the key component of the vehicle. So, the need is to ensure that domestic manufacturers have the wherewithal to produce quality batteries, and also undertake proper servicing and upkeep. Without effective batteries, lower costs will not help ensure rapid diffusion of electric vehicles in the Indian market.*

*(With reporting by Sharmistha Mukherjee in New Delhi)*