

Can India make the transition to electric vehicles?

PARLEY

India has taken some baby steps but more needs to be done to improve demand and supply

Finance Minister Nirmala Sitharaman announced an additional income tax exemption of ₹1.5 lakh for purchasers of electric vehicles in Budget 2019-2020. She also said that the GST rate on electric vehicles would be lowered to 5%. Can India make a smooth shift to electric vehicles? G. Ananthkrishnan explores the options with Ashok Jhunjhunwala and Tarun Mehta. Edited excerpts from a conversation:

What do you think will be the impact of the Budget announcement of a tax break for electric vehicle purchases?

Ashok Jhunjhunwala: Electric vehicles are very important for the country. I think this is the first definite statement made by the Government of India in that direction. Some companies have been resisting the change, but it will happen however much you resist it. It is a matter of time. But by slowing it [the transition] down, India will get hurt, and will be dependent on outsiders for the technology. This Budget clearly indicates that the government will go all out for it, and it is best that companies prepare and take advantage of it. It is giving specific breaks in the beginning, but finally India has to win with electric vehicles even without any subsidy or concession. It is time for the auto industry, researchers and everybody working towards the development of next generation products to make up their mind that it is going to be electric vehicles.

Tarun Mehta: The tax concession is positive as a Budget announcement, but in terms of numbers GST is a bigger benefit. From a market shaping perspective, incentivising EMI purchase of electric vehicles has a big impact. There are two things. Today, the market does not have many financing options for electric vehicles. By incentivising EMI purchases, the government has ensured that [for] every customer who wants to go in for them, there will be a lot of interest from banks and NBFCs to create relevant products. The second advantage is that electric vehicles need more financing options. Because you want to

take the upfront sticker shock out of the battery, motor, etc. Today, a lot of customers may not consider financing options and hence are dissuaded by the upfront price. Incentivising makes the customers do the mathematics with financing in mind, which makes them realise that for electric vehicles the overall total cost of ownership is so much better.

Where does India stand on the global scene on electric two-wheelers?

AJ: We have just begun. Frankly, we don't stand very far up. But there is nothing in this technology that we cannot do ourselves. We have started making batteries. I have seen in many places that motor controllers are in the final stages of design and development. The rest, we can do: the body, tyres. Of course, some improvements can be there. In the next one or two years, a huge push [will be witnessed] and that's where India will be not just on par [with other countries] but will start leading in the technology.

The key concern for me will be whether we import everything from China or make it ourselves. If our industry is not to be affected, and jobs are not to be lost, there is huge employment in the auto sector. If the traditional internal combustion engine (ICE)-based vehicle is going away, we will have a huge crisis with many losing jobs. The only way they will continue to have jobs, or the number of jobs can be increased, is to start making every sub-system of electric vehicles.

We have to beat China on performance and price. That needs to be done in the next couple of years. That is what the Centre for Battery Engineering and Electric Vehicles at IIT-Madras has been working on for four years. It has actually done so much to convince India that yes, we can do it ourselves. And there are a number of incubated companies working closely, getting these things done. Two-wheelers and three-wheelers will start scaling up in a year. This year you will see plenty of it, and next year it will really scale up. Two years down the line, it will start edging out ICE vehicles.



BIJOY GHOSH

There are only some small players now. A large number of small players and some big players must get into it in a full-fledged way. Customers don't want only a single type of vehicle, [they have to be] in different sizes, with different power, battery sizes. These are all going to come in the next two years.

TM: China is a very interesting place. Just in sheer volume terms, India is far behind. However, India has a far stronger two-wheeler industry, and a very capable assembly and component manufacturing ecosystem. Indian component manufacturing for two-wheelers is even more price competitive than China, which is a very rare thing to achieve. In China, there are no credible players. There is a very large market but no credible players and very little real R&D for electric two-wheelers. There are a lot of commodity components being manufactured there. In India, local market and large players can create a strong R&D base, leverage our local demand to create economies of scale, a strong supplier base, and take a leadership role in two-wheeler electrics globally.

Is there a time frame by which we can do that?

TM: Most larger two-wheeler original equipment manufacturer (OEM) players today have ₹10,000 crore to ₹20,000 crore of deployable capital, and the electrification process will take only a fraction of it. Indian industry can invest, and our suppliers can make the transition. We will create more jobs, high quality jobs. From assembling mechanical components we can move to manu-

Governments have to think of phasing out internal combustion engine vehicles. This is what China is doing. And we have to move in that direction.

Do we have sufficient battery capacity to meet rising demand?

AJ: Four or five years back, we were nowhere in battery manufacturing. I had gone to labs in China, the U.S. and Germany. The Germans were by far the best. But in the last four to five years, we have started making battery packs as good as those made in Germany, probably better. This has happened through start-ups. We have a start-up at IIT-Madras, Grinntech, and we have a number of manufacturers who have jumped into it. As electric vehicles grow, batteries will be made in India.

There are three parts to battery production. One is battery pack development, which we will do immediately. Number two is cell manufacturing. On this a number of companies are setting up cell manufacturing units in India as a joint venture. It will take two or three years to start cell manufacturing. The third is raw material. Lithium, cobalt, manganese, nickel – for that we need to recycle old batteries. Even cell phone batteries, which is lithium ion. We throw away 300 million cell phone batteries. If we recycle and extract, we can expect [to recover] 90% of lithium, cobalt,

manufacturing PCBs [printed circuit boards], assembling electronic boards, and bring battery manufacturing to India.

manganese, nickel and graphite. And there are small companies that have the technology.

Battery technology will continue to evolve. There is no question of limits. The cost falls as better technology starts coming in, giving us higher energy density. More energy per kilogramme of material. There will be continuous work on that, at least over the next 10 years.

TM: Capacities will have to be installed now. All of us building battery packs are now in the process of installing more capacity quickly. We don't have cell supply in India today, but cells are abundantly available in the global supply chain. Which is what we will have to tap into to build battery packs. As our volume rises, as we start topping a few gigawatts in capacity, cell manufacturing will come to India.

What will drive adoption and use of electric vehicles from a policy perspective?

AJ: Basically governments have to think of phasing out [ICE vehicles]. For example, the amount of pollution that we have, we cannot continue to live in that kind of pollution. We are importing all the oil; we cannot continue to import all that oil. City after city may say, no more ICE two-wheelers or three-wheelers and four-wheelers from this date onwards. This is what China is doing. And we have to move in that direction. Enough time has to be given for change.

TM: The Budget incentivises the demand side. We need a few policies around the supply side and on infrastructure. We need to incentivise battery pack and cell manufacturing. Rebates around setting up battery plant capacity, manufacturing of battery packs in India in the next 18-24 months will help. On the infrastructure side, the government can come up with requirements to have charging points in every parking location. We don't need charging hardware that OEMs and other companies can bring, we only need access to an electrical socket.

There are in-between segments like electrically powered bicycles. Will they become more popular?

TM: Micro-mobility is a new, emerg-

ing segment. I am not sure what form factor will be suitable there – electric cycles or electric stick scooters or something which is a smaller version of the bicycle. But I am pretty confident that real micro-mobility within one km sort of travel will find interesting solutions beyond scooters and bikes in the next five years.

AJ: Let the manufacturer find customers and if they like it, let them go for it. We should do minimum regulation.

What about the EU model of a law for automobile companies to cap total emissions across products to spur electric vehicle growth?

AJ: All that should be done. Step by step. Don't give too many shocks. Already the auto industry is nervous. Convey to them that this is going to happen, give them time and make it happen. For three-wheelers and two-wheelers, they have suggested [a shift by] 2023 and 2025 [respectively] for new vehicles to be 100% electric. That is a very good window. In due course we can define this for cars.

TM: It makes a lot of sense for a place like India. However, places like Europe and the U.S. have been implementing policies like that for almost a decade, but we would not have the luxury of 20 years to implement them.

Should taxation of conventional fuels have a role to play?

AJ: Finally, at some point of time, conventional fuel vehicles have to move out. I am open to time frames, we should have a discussion with the auto industry and figure out what is doable. In the meantime, support electric vehicles as much as possible, so that they can become a common thing.

TM: You can use capital created by the United Nations and still tax polluting vehicles to generate a balance to fund cleaner transport. We don't have the time to wait to do only a handful of things. We should do everything we can. Funding factories, funding lithium cells, electric infrastructure, vehicles and subsidising user behaviour.



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Majoritarian here, secular there

Modi has been able to bring about a paradigmatic shift to India's foreign policy in one regard

SHAIKH MUJIBUR REHMAN

Some argue that Narendra Modi as Prime Minister has brought dynamism to India's foreign policy, evident by his frequent visits abroad. However, no theory in foreign policy research suggests that the higher the frequency of head-of-government visits to foreign nations, the greater the success in foreign policy outcomes. The most enduring foreign policy outcomes are accomplished by quiet diplomacy engineered by professional bodies. That is why heads of government of China, France or even Israel, to name a few, are selective in their visits. But Mr. Modi's foreign visits and diaspora meetings have a spectacle of dynamism and generated an image of him as a world leader among his followers. Compared to splendid foreign policy accomplishments of leaders such as former U.S. President Harry Truman, who laid down the institutional arrangement for the U.S. to operate as a global power, or Chancellor Helmut Kohl's political wisdom that led to German unification, the foreign policy accomplishments of Mr. Modi remained modest during his first term.

A paradox

However, Mr. Modi has been able to bring about a paradigmatic shift to India's foreign policy at least in one regard. His regime has demonstrated a majoritarian character in the domestic arena, as seen in the formulation of the Citizenship Bill for instance, but secular tendencies on foreign policymaking. He has strengthened ties with West Asian countries, including Saudi Arabia and the UAE. Acceptance of Saudi Arabia's prominent role in the de-escalation process during the post-Pulwama tensions and the UAE's decision to present the highest civilian honour, Zayed Medal, to Mr. Modi are signs of a special relationship that his regime has built up in recent years.

The Modi regime's attempt to enable the Indian state to grapple with paradoxical ideologies – domestic majoritarian and secular in the foreign policy arena – is a departure from India's traditional foreign policy paradigm. Pakistan, Saudi Arabia

and Israel have governed their countries with majoritarian ideologies and have pursued their national interests through secular alliances with foreign nations. By implication, there is a fair chance that future violations of human rights and minority rights in India could be firewalled as an internal matter. This would weaken the global voice for India's minority rights and human rights. Ironically, the Modi regime's response to the Rohingya issue or the Christchurch attack in New Zealand indicates that even the so-called secular approach in foreign policy has a majoritarian spin.

Arms deal

The Modi government's ability to take prompt decisions over an arms deal, such as Rafale, is argued as a sign of robust security policy. But mere accumulation of cutting-edge weapons is no guarantee for a coun-



try's security. Countries such as Iraq, Libya and Syria were some of the top arms-importing nations during the early 1980s, according to a report by the International Institute for Strategic Studies, London. The powerful nations that sold pricey weapons to these countries also played a decisive role in bringing these countries to the position they are in today. The mighty Soviet Union disintegrated despite possessing stockpiles of cutting-edge weapons, mainly owing to its failure to deal with its domestic economic crisis. Dynamism in foreign policy may have few substantial domestic consequences unless it is accompanied by a reduction in India's mass unemployment.

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NOTEBOOK

Why access to officials is so important for reporters

Every bit of information, whether crucial or trivial, is a piece of a large puzzle

SOBHANA K. NAIR

The Finance Ministry has decided not to let journalists, even those with Press Information Bureau (PIB) accredited cards, enter its premises without prior appointment. The Ministry has benevolently arranged an "air-conditioned waiting room" for reporters with regular supply of "water, tea and coffee" outside Gate 2 in the beautiful North Block. This is where reporters are apparently to stay put till a bureaucrat agrees for a meeting.

If only the life of a reporter were so easy that merely waiting outside rooms could get us sources and stories. We stalk corridors and wait outside rooms for a living. We knock at doors, reach out to disgruntled babus, and ambush senior officers and Ministers to ask them uncomfortable questions – all to gather little bits of information. A former Editor of mine

used to say that there are two kinds of stories. The first is the kind that everyone chases but nobody gets. The second is what the government wants us to publish. For the first, we need sources; the second is simply public relations.

Sources are built over many inconsequential conversations. Reporters and sources talk about the weather, discuss movies and parenting woes, listen to one another's small victories and frustrations. There was a Police Commissioner in Delhi who was an avid cricket fan. Before entering his room, crime reporters used to go armed with cricket anecdotes.

And tea is an important tool in news-gathering. If a bureaucrat offers tea, it means you sit. It buys you time. It also means that the bureaucrat wants to talk. And when tea is not offered, we sometimes ask for it to get bureaucrats talking. It's not as if most of

us enjoy that milky sweet concoction – it's more a professional hazard!

Slightly put, a bond needs to be built that is strong enough for officers to part with that one note or report that the government is trying to suppress. And it's a two-way street. Officials equally use reporters as a sounding board to fine-tune an idea that is still on the drawing board.

The accreditation card issued by the PIB is seen as an entitlement by many. It's as much an 'entitlement' as a ticket to a cricket match for an average spectator. After all, scribes are really the first spectators of any government. We record what we see and hear. Without that small, rectangular card, getting access to government officials every day is like running a hurdle race.

Routine visits to officials give reporters a peek into their eccentricities and habits. One Minister I know

rearranged her office for *vastu* purposes using tax payers' money. One had a penchant for taking selfies in front of elaborate flower arrangements in his office during lunch breaks. One loved cats so much that his office would stink of cat poo. These might be trivial bits of information for the readers, but for us, each bit of information helps us piece together the entire puzzle. You never know which one of these could come in handy and when.

On one visit to Shastri Bhawan, I stumbled upon a story during Prime Minister Narendra Modi's first term. A Cabinet Minister got her door sealed and constructed a wall in its place. The entrance to her room was rearranged, according to the directions of her *vastu* consultant. It's another matter that despite all the *vastu*, she could not stay on in her post for too long due to the controversies she generated.

FROM The Hindu ARCHIVES

FIFTY YEARS AGO JULY 12, 1969

Forecasts with aid of computer

A fresh weather map of India will be prepared every six hours with the help of a modern electronic computer to be installed in the Meteorological Office in Delhi. An agreement for the acquisition of the computer was signed to-day [July 11] between Dr. P. K. Koteswaram, Director-General of Observatories, on behalf of the Government and Mr. A. L. T. Taylor, Regional General Manager of I.B.M. Dr. Koteswaram told a Press conference that computerised weather forecasts would be a significant development in the field of meteorology in India. It would be a big leap forward from the traditional and subjective forecasts. The computer to be installed in the Meteorological Office is model 44 of I.B.M.'s latest computer '360' which makes about one million calculations in a second. It would be manufactured in India, Mr. Taylor said. According to a spokesman of the Meteorological Department, the acquisition of the computer was the natural consequence of a global project named World Weather Watch (W.W.W.). The decision to participate in this project was recently approved by the Government of India.

A HUNDRED YEARS AGO JULY 12, 1919.

Civil Disobedience.

In reference to Mr. Gandhi's fresh resolve to renew the Satyagraha campaign, Sir Narayan Chandravarkar, ex-Judge, Bombay High Court, and a Moderate Leader, through the medium of the press, makes a strong and earnest appeal to Mr. Gandhi [from Bombay, on July 11] to desist from starting the campaign. He says that Mr. Gandhi's advice to the people to make no disturbance in case he is punished for offering civil disobedience as a protest against the Rowlett Act and such pious advice condemning lawlessness and violence fail as the country knows to its cost and pain, because ignorant people are unable to distinguish between civil disobedience to laws, of a harmless character, and violent defiance of law and authority. In Sir Narayan's opinion the real reason is afforded by the actual fact of revolutionary crime in India with which he became officially familiar in the course of his examination of the 806 cases of Bengal internments. He found to his amazement that the revolutionary organisations educated their members in certain literature of political daocities, murders and other acts of violence.