Sustainable Tomorrow: Ways to bridge the gaps in addressing India's climate commitments

With India's ambitious 2030 clean energy targets and the 2070 net-zero goal, more was expected from the Union Budget 2023-24 to increase the uptake of electric vehicles (EVs) and solar photovoltaics (PVs). Currently, the EV market is struggling because of low penetration rates, and solar PVs have high production costs. Integrating EVs and solar PV systems could be a viable option for electric mobility in India, but without concessional financing available, the cost of solar projects would be too high, resulting in increased EV charging costs for consumers.

Solar energy has the potential to lead us to a net-zero future, but the demand for locally produced modules and cells is higher than the supply. The government introduced a 40 per cent customs tax on imported solar modules in April 2022 for boosting local manufacturing; however, this has resulted in delays and increased costs for the solar industry. Budget 2023-24 has not reduced this tax despite requests from the industry. Consequently, the production cost will remain high, leading to higher project costs and electricity tariffs. High borrowing costs for large-scale solar projects also play a significant role in rates going up. The solar sector typically has interest rates between 8 per cent and 12 per cent. The interest rates of loans for rooftop solar projects average from 14 per cent to 15 per cent—significantly higher than the interest rates in western countries—adding to the overall cost of solar projects. Interest rates need to decrease so that consumers can buy power at a lower price. A reduction in production cost through support measures for renewable energy from the government would also result in EVs becoming truly clean and a viable low-carbon pathway. The transport sector is a major contributor to emissions in India, and increasing the uptake of EVs plays a crucial role in achieving India's net-zero goals.

The budget announced some significant measures to promote the local manufacturing of batteries for EVs. If charging infrastructure investments and research-linked incentives are added to these measures in the future, the EV market in India will grow considerably. The projected allocation of Rs 51.72 billion for fiscal 2024 under the Faster Adoption and Manufacturing of Electric Vehicles (FAME II) scheme is a welcome step. However, FAME II will end in 2024, and an extension was expected for giving time to the industry to mature. The commercial vehicle segment was also expected to come under the ambit of the FAME II scheme as the freight sector accounts for nearly 40 per cent of CO_2 emissions from the transport sector. Additionally, the government could have included EVs in priority sector lending to make financing more accessible and cost-effective to the public.

The budget was also expected to address the inverted duty structure on EVs, where the spare parts attract more goods and service tax (GST) than the final product. Decreasing the tax rate on raw materials would enhance both the profitability of the business and the affordability of the end product for customers. Tax rationalisation on the battery/energy as a service (BaaS and EaaS) model is another aspect that needs to be looked at in the future. Skilling and upskilling of workers—such as providing incentives for developing academic or skill-training courses—also needs to be prioritised so that a skilled workforce capable of supporting the industry is ready and available. Further, battery recycling needs more impetus as it is an integral part of setting up an indigenous battery industry. Recycling ensures that critical materials extracted are reused in the production of new batteries, reducing expensive imports and promoting circular economy.

The renewable energy sector expected measures such as lower GST rates on the sale of renewable energy components, reduced operations and maintenance cost, low-cost project financing, budgetary allocations under the production-linked incentives (PLI) for batteries and electrolysers, and lower duties on electrolysers to be announced, but these have been overlooked for the time being. The requested extension of the PLI plan for electrolysers was also not included, and the allocation has been limited to Rs 2.97 billion for the year 2023-24.

Overall, the first budget of *Amrit Kaal* has taken some positive steps to create an enabling ecosystem for supporting new ventures and boosting the economy. If subsequent budgets bridge the gaps in addressing India's climate commitments, it will help transform *India@100* into a greener economy.