Scaling up our ethanol blending programme

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WITH THE PERSISTING turmoil in the global commodities supply chain due to the Ukraine invasion, India has seen a sharp rise in cost of many an imported commodity. Crude oil and other petroleum products constitute more than 20% of our annual import bill and we are dependent for nearly 85% of our consumption requirement. Since the beginning of 2022, the price of crude oil imported into India has risen nearly 50% (in rupee terms) and the budget estimates that in FY23, more than 30% of our import bill will be towards crude and related products. Given the low elasticity of fuel demand (vis-a-vis price) and their role in driving economic activity and incomes, steps are needed to replace this dependence on the imported commodity. More importantly, the petrol consumption share of 4W has nudged up to 40% (in 2021) of the total (up from 36% in 2012). This is on account of the aspirational growth and purchases of 4W, coinciding with a waning role of diesel. Over the last decade, the ethanol blending programme has made a significant contribution in meeting this increasing demand of petrol. There has been a near 8x increase in the volume of ethanol used in blending and a historic milestone of 10% blend of ethanol in petrol was achieved recently.

India launched the ethanol blending programme as early as 2003 but saw little progress for more than a decade. Limited feedstock options, lack of certainty of offtake for suppliers, the preference for supply to a growing beverage industry, high levels of taxation on ethanol, and an uncertain price point for blending all posed significant challenges. The 10% blending target has been achieved after concerted policy action under the aegis of the National Policy on Biofuels (NBP 2018) that put in place various supply-side incentives. The reduction in GST on ethanol for blending from 18% to 5%, the differentiated and remunerative price regime for different feedstocks and signing tripartite agreements that guarantee offtake and financing *inter alia* are some of these measures.

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On the back of the recent growth in blending shares, the goal to advance to the blending target of 20% ethanol has been shifted from 2030 to FY26. The potential gains to the economy are significant—a cumulative savings in imports of ~ 12.5 MTOE and the resulting forex savings of ~ ₹97,500 crore by FY26. The avoided savings in green house gases (GHG) and criteria pollutants (particulate matter) are co-benefits of the pursuit of ethanol blending in petrol.

The transition to E10 has been rapid, with E5 having been achieved only in 2019-20. The country has also made rapid strides in leapfrogging to the BS-VI standard (in April 2020) that sets up the possibility for new 2W with fuel injection systems as opposed to the carburetors to adopt blended fuels more efficiently. However, to realise the savings from progressing to a 20% ethanol blend, the expectations with original equipment manufacturers, consumers, oil PSUs, and farmers must be set, and some outstanding issues as identified below must be addressed on priority.

The efficiency loss associated with blended fuel use (E20) in the existing stock of vehicles and the potential need for increased maintenance, component replacements, and financial impact on consumers must be addressed proactively to ensure that consumer backlash is minimised. The primary focus of policy must also be to limit the overall consumption of petrol in the economy and to limit the private demand for the fuel. Concerted promotion of public transit and pricing the use of private vehicles in urban settings could make the target of E20 a lot easier to achieve without straining the supply chain and running afoul of the competing uses for ethanol. Finally, the need of the hour is to actively invest in research and development and scaling up of second generation (2G) biofuels that do not use sugarcane and foodgrain but instead rely on cellulosic material and surplus biomass that is available in the economy to generate biofuels. The production of feedstock for the first-generation route is resource-intensive—water, electricity and fertiliser and each of these has a huge subsidy component both for state and central entities.

India's ambitions and policy impetus for a cleaner vehicle fleet have been spelt out clearly. While electric mobility becomes the predominant policy prerogative for the post-2030 period, securing our short- and medium-term fuel needs and shielding consumers from the vagaries of the global market are equally important. It is here that the blending programme gives us more breathing room. However, as the programme advances further, assessing its net impact on the wider economy and environment would be important. If India were to meet its ambitious ethanol blending goals by 2025, not only would it have advanced its sustainability goals but would have also contributed to strengthening its energy security and the wider economy.