CAFE norms are too lenient

Why fuel economy standards are important and how proposed revisions to CAFE norms fall short

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Fossil fuels today are at the root of multiple societal problems. Among the alternatives ways in which society can reduce consumption of fossil fuels, raising energy efficiency is perhaps the simplest and most economical policy to address many of those problems simultaneously. However, energy efficiency policies need to be designed carefully.

Specifically, let us consider the revisions to the Corporate Average Fuel Economy Standards (CAFE) for passenger cars proposed by the Bureau of Energy Efficiency for 2027 to 2032. CAFE specifies an average carbon dioxide (CO 2)-emission per kilometre target across all vehicles sold by an automaker. Given certain assumptions, a carbon standard is equivalent to a fuel economy standard and vice versa. Phase I of CAFE lasted from 2017 to 2022. Phase II, which is in effect through 2027, lowered the upper-limit for average CO_2 emitted per km, and introduced additional credits for electric and hybrid vehicles to promote their adoption. The proposed Phase III norms for 2027 to 2032 mandate an even lower average emissions per km. Currently, these norms are applicable for passenger vehicles with gross vehicle weight (GVW) below 3500 kilograms, although similar norms for commercial trucks and buses are under consideration.

A fundamental feature of India's CAFE norms, which is also their weakness, is that targets for carbon emissions (and fuel economy) are set based on vehicle weight with heavier vehicles such as SUVs allowed higher maximum emissions per km (i.e., a more lenient target) compared to that for smaller vehicles. This means firms selling more heavier vehicles (such as Tata and Mahindra) might find it less costly to meet their targets compared to automakers that mostly sell smaller cars (e.g. Maruti), as incremental fuel economy gets harder as cars get more efficient.

Heavy influence

In simple terms, heavier cars have more lower hanging fruit to raise fuel economy. Therefore, smaller cars may see a greater proportional increase in cost compared to heavier cars. Although CAFE norms are not the primary reason for India's car market shifting towards large cars and SUVs in the last few years, targets based on weight can inadvertently make larger cars relatively more attractive. With SUV and large makers already marketing their cars as safer because they are heavier, standards biased against small cars help strengthen their case and further drive down demand for smaller, more efficient cars. Of course, since heavier cars and SUVs are more expensive, weight based standards for passenger cars are also socially inequitable.

A second feature of CAFE that was introduced in Phase II and is set to be retained at the same level in Phase III is called super-credits. Super-credits allow the sale of each alternative fuel vehicles like pure battery EV, hybrid EVs or flex-fuel (ethanol) vehicles to be counted as if multiple units were sold. A super credit of 3 for pure battery EVs means, each EV sold is treated as three EVs sold for compliance purposes. This reduces the number of actual alternative and clean vehicles that need to be sold to achieve a given fuel economy or emission standard, which counteracts the objective of increasing demand for alternative technologies. The simplest explanation for super-credits is that they are there to reduce the cost of compliance with any given standard and make the norms more

palatable to automakers. Generous super-credits also reduce the incentive to innovate and become more competitive.

Regulatory capture

Interestingly, both weight-based standard and a form of super-credits feature in fuel economy standards in US, China and EU. This could mean either that these features have merits or that the automakers in those countries are as a powerful as they are in India. As to the extent of truth in each is an empirical question. Suffice to say that the more lenient the emission (or fuel economy) standard and super-credits, stronger is the evidence of regulatory capture by the auto industry. Unfortunately, the proposed level of super-credits, which is to be set at three to begin with in 2027, seems a bit generous.

In any case the proposed norms provide no justification for this number. BEE's decision to re-solicit public comments on the current revised version, which are a little more stringent compared to original standards it put forward in 2024, is welcome. However, in the opinion of this author, who submitted a public comment to BEE on the earlier version in 2024 calling for stronger standards, the proposed super-credits appear super-generous.

The reason being that Lithium batteries and EV are near maturity with battery prices falling more than 10-fold in the last decade to below $100 per kWhr today internationally. Moreover, EVs are also already supported with various forms of subsidies such as lower GST, rebates on income tax, road tax, and charging equipment, and preferential electricity tariffs etc., which are not the point here.

But it does beg the question as to why in spite of all this electric cars remain costlier than what the cost of batteries suggest ought to be the difference in upfront cost. The auto industry might prefer to lay the blame on the cost of the technology for that is one way to convince policymakers to keep subsidizing them. But is that really the case? And if this is the state of affairs after a decade of subsidies and no mandates, isn't the need of the hour stronger standards rather than weak regulations plus generous super-credits?

If doing more of the same and expecting a different outcome is stupidity, then isn't this what finding new ways to soften the impact of EVs on internal combustion engine vehicles amounts to? Surely our policymakers are capable of holding powerful interest groups to higher standards if they can summon the political will.

A broader perspective on energy efficiency

Speaking of larger policy frameworks and perspective concerns, there are many ways to increase energy efficiency and conservation such as making energy costlier through further taxation; rewarding voluntary improvements in efficiency (e.g. purchase of certain types of vehicles or the use cleaner modes such as public transportation); mandating improvement in efficiency (e.g. through minimum standards for fuel economy) or mandating disclosure of information (e.g. fuel economy labels); and nudging voluntary action through education, information provision and by nurturing a sense of civic duty.

Each of these has its benefits and costs. Taxation can increase inflation and is politically unpopular; rewarding people with subsidies burdens government finances; mandating efficiency generates fierce opposition from businesses which will need appeasement (the auto lobby in India is quite powerful); walking, biking, and public transit are perceived as slow, inconvenient and might even

be unhealthy or unsafe given Indian traffic patterns; information in labels and stickers can be inaccurate or hard to process mentally, and last but not least voluntary action or charity rarely produces the scale of change needed when the situation is grave.

This is not to suggest that energy efficiency is hard or ineffective but that we need to pursue energy efficiency through more means than one and not rely on any single policy. At the same time the overall policy landscape needs to be as simple as possible to navigate, provide certainty and clarity to businesses while minimizing arbitrary carve outs to appease special interests. These arguments apply to conservation and efficiency in water use, land use or any other scarce resource as well but we will focus on energy efficiency in transportation here.

In this respect, a potential weakness of fuel economy standards is they do little to encourage people to adopt public transportation. They lower the marginal cost of driving which can lead to a rebound in vehicle use, congestion and pollution. Yet, this might be the least inefficient policy after pollution and congestion taxes.

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