Fuel economy standards: Getting the principles right

Though vehicle stock is expanding rapidly in India there is no policy to mandate for fuel economy improvement for the vehicle industry. Fuel economy regulations set targets for improving Even after nearly four years of policy discussions the proposed standards are under wraps with disturbing reports that the car industry is negotiating to dilute them. Delay in announcing and implementing the fuel economy standards for 2015 and 2020 can seriously jeopardize energy security and climate mitigation plans especially given the unprecedented growth in car sales. Crude oil prices are peaking again and this can hurt India tremendously as it imports nearly 80 per cent of its crude oil needs. According to the International Energy Agency cars will be one of the primary drivers of energy demand in the transport sector in the coming decades.

Transport sector is the largest user of oil – 30 per cent of total consumption, and is poised to make India's oil security even more precarious. Asian Development Bank projects that the total fuel consumption of on-road vehicles in India in 2035 can be six times over that of 2005 level. Explosive growth in personal vehicles and steady shift of freight transport from railways to roadways will incite ravenous appetite for energy.

Various projections including that of the International Energy Agency have shown that the future energy demand in the transport sector in India will be primarily driven by cars. Both car numbers as well as the average fleet mass are expected to increase in the future. It is not fair to incur enormous energy costs and increase climate risk from the personal vehicles that are tantamount to luxury consumption. Other estimates have shown that the current trends in market shifts towards bigger cars and SUVs, particularly aided by the dieselization, can lead to a cumulative loss of 6.5 mtoe of energy between 2010 and 2020. This equals the fuel use of all four-wheeled passenger vehicles in 2006 -- around 6.6 mtoe. Therefore, the new standards should have built-in safeguards to attain effective reduction by 2015 and 2020.

Without regulatory targets fleet wide fuel economy will worsen as the car market is steadily shifting towards heavier and bigger vehicles that guzzle more fuel. Without targets for improvement this can seriously undermine overall all efficiency of the fleet and incite guzzling. India needs effective fuel economy targets and strictly enforceable regulatory design for passenger cars. But the current process of setting these standards is getting inordinately delayed and at an enormous cost to the nation.

As the government is designing these standards it is important to set the terms of this decision.

New standards need to leverage India's unique advantage in its comparably good fleet-wide fuel economy average. Due to the dominance of the small and low powered cars in the fleet the average fleet-wide fuel economy is good compared to many other vehicle producing regions. This gives India a unique advantage and a much improved baseline. This must not worsen. Even in the small car segment there is considerable scope of improving the fuel economy. This is evident from the studies of International Energy Agency that the comparable small car segment in Europe that have more improved technology, have better fuel economy compared to the Indian vintage.

The lax targets will perpetrate status quo: India has decided to set the new standards in terms of sales weighted corporate average CO2 standards (also to be interpreted in mileage terms – km/litre) and the targets will be set for 2015 and 2020. It has already been reported that the car industry is negotiating hard to keep the standards lax for 2020. The available information on the current status of fuel economy levels of the new car fleet shows – as also reported by the International Energy Agency etc -- that Indian industry has already achieved fleet wide CO2 emissions of 141 gm/km in 2009-10. The new data that has now come for the year 2010-11 shows further improvement to about 138-139 gm/km.

This means if the car industry is will have to meet much tighter targets. The proposed lax arget would amount to legitimising status quo, almost no action – even less than 1 per cent improvement a year until 2015. This cannot be justified. This will not help the nation to make any substantial fuel saving gains or emissions reduction.

It is important to establish the logic as well as the target improvement in fuel savings and CO2 reduction benefits expected with the new standards to justify the proposed standards. Stringency of the target will have to be derived from that. This is particularly important now when the country is being repeatedly exposed to oil price vagaries, endangering energy security.

Where is India likely to be at the global scale?

With weak regulatory targets India will slide behind all major vehicle producing countries by 2020. This cannot be justified as a climate mitigation and energy security measure: It will be awkward if with lax regulatory standards India slides deplorably behind all the major countries that are fuel guzzlers today. India is starting with a much better fuel economy baseline than most other vehicle producing countries in 2010 but with the proposed targets India will finish behind all of them in 2020. It is therefore important for Indian government to take stock of all the regulatory targets planned by the key vehicle producing countries before finalizing the standards. India must be able to close gap with China's targets in 2020. The European Union with much higher average weight of car fleet today -- 1300 kg that affects fuel efficiency -- is setting a more ambitious CO2 target of 95 g/km in 2020. But India with average weight of 1050 kg today and with a better baseline emissions/fuel economy today is pushing for only marginal improvement.

Table: India will finish last: Comparison of the CO2/fuel economy improvement target of key vehicle producing regions

Country	Fleet average CO2 emissions (g/km) In 2010 (approx)	Fleet average CO2 emissions (g/km) target proposed for 2020
European Union	145	95
United States	187	121
China	179	117
Japan	130	125 (in 2015)
India	141*	???????

Source: Based on the estimates of the International Council of Clean Transportation that has compared the fuel economy/CO2 regulatory targets for the countries US, European Union, Japan and China based on NEDC cycle. * IEA for India 2010

Car industry should do substantially improve from the current level of fleet-wide fuel economy already achieved: It is a public knowledge now that the current sales weighted fleet-wide carbon-dioxide emissions from the Indian passenger car fleet – the proxy for fuel economy -- as in 2010, is about 140 gm/km. This is verifiable from the self reported fuel economy data for each car model and make from the Society for Indian Automobile Manufacturers (SIAM). The car industry has also conveyed this. Therefore, there is a strong public expectation that the car industry will do much better and the new standards will ensure substantial fuel savings in 2015 and 2020.

There is no reason why India cannot narrow the gaps with the target that Europe has set for 2020. The average weight of the European car fleet today is 1300 kg and has average CO2 emissions of about 145 gm/km. In fact India is more advantaged as the average weight of Indian cars is lower -- still 1050 kg with lesser CO2 emissions. If Europe can therefore propose a target

of 95 gm/km in 2020, India should at least be below 109 gm/km or 105 gm/km in 2020. This can be easily achieved with at least 2.5% improvement a year.

The car industry often puts pressure to weaken both the baseline as well as the target improvement. It is important to recall the early proposal in 2008 from an expert committee under the Union Ministry of Road Transport and Highways. It had proposed to reduce sales weighted fleet-wide average CO2 emissions from 210 g/km in 2006 to 179 g/km in 2010 and subsequently to 155 gm/km by 2015, and finally to 128 gm/km in 2020. Such a relaxed baseline for 2006 was worked out based on the worst models in the fleet against the actual fleet average of 155g/km. This would have allowed the car makers a wide margin to maintain status quo, even increase emissions in the medium term, especially from the heavier vehicles and eventually meet only an ineffectual target in 2020.

We are confident that the Ministry of Power and the Bureau of Energy Efficiency will prevent such dilution of the baseline already achieved by the car industry in 2010 and set effective improvement targets for the intermediate year of 2015 and for 2020.

Effective targets are doable. India should achieve at least 20% improvement in the fleet-wide fuel economy of the car fleet by 2020. Even a mere 2% improvement per year in fuel economy of the car fleet from 2010 onwards can help to achieve substantial improvement by 2020. Even without the standards the industry has currently shown annual improvements of at least one per cent. Standards will only help to improve that further. Feasible and cost effective technology options exist. As an emerging auto hub the investments in the automobile sector will have to be driven by the stringent targets. Other governments including China in Asia are tightening the targets further. India must not get left behind in the race and maintain status quo on this critical environmental issue.

The rationale for the proposed standards must be established on the basis of energy savings and CO2 emissions reduction aimed with these regulations*:* We would urge you to carry out the assessments of the fuel savings and emissions prevention/reduction with the help of the proposed targets for 2015 and 2020. It is important for the policy makers and the people to know the benefits of the regulations and the difference that the effective standards will make vis a vis the weak standards.

You may recall that the 2009 McKinsey report on India has estimated that if India improves fuel economy by even 15% by 2015 then India will save 29 million tones of CO2 in 2030. This translates into 10.3 million tons of oil equivalent which at 100 dollars per barrel works out to be 7.8 billion dollars of savings in 2030 alone. If this fuel savings is linearly increased from 2010-2030, the total fuel savings can be approximately 100 million tones of oil equivalent, and the cumulative dollar savings around 78 billion dollars.

Establishing the energy and environmental gains of this regulation is critical and must accompany the announcement of the proposed standards.

Notification on the new standards should codify the implementation strategy: We understand that the current deliberations on the standards have accepted setting of the targets in terms of corporate fleet average CO2 emissions and that will also be presented in fuel economy terms. Such an approach requires stringent enforcement systems and penalty. We hope that the notification will detail that out adequately and effectively.

Enforcement strategy must be detailed out for corporate average fuel economy standards: To implement sales weighted corporate average standards every year the regulator will have to assess the actual number of cars sold by model and make and calculate their average CO2/fuel economy levels to verify compliance. This requires very disciplined and credible reporting of fuel

economy data as well as the exact number of sales of cars for each make and model in a year. As of now there is no official system in place to collate and verify the actual sales of car models in India and the entire system depends on self reporting by the car industry. The BEE/Ministry of Power and the Ministry of Road transport and Highways must immediately put that system in place as well as detail out the compliance strategy and the penalty for the car companies for non-compliance in year. The CAFÉ standards cannot work without stringent compliance and penalty system. Moreover, the government will have to create independent systems to generate data.

Public discussion before finalisation of the standards: In view of the importance of these regulations for environment and energy security and to make the process more participatory, BEE and the Power Ministry must engage all stakeholders before finalizing the standards. Cross sectional views will help to make the regulations more robust and build public support. Otherwise the entire engagement will remain restricted to the car industry which is the target of this regulation. This has the risk of conflict of interest.

India is attempting these standards for the first time and getting them right in terms of values, structure and enforcement strategy is very crucial to prevent the guzzle in the sector. So far the discussions have been restricted to only between the car industry and the government. This can result in conflict of interest. Participation of other stakeholders and taking on board their concerns and demand will help us to get robust and effective standards.