Response to the estimates of diesel consumption in private cars used in the Planning Commission note on Emissions from Use of Fuels in Transport Sector and Improving its Quality to BS-V and BS VI Standards

Centre for Science and Environment, New Delhi
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We have had the opportunity to review the two sets of estimates shared by the Planning Commission on the quantum of diesel consumed by different sectors of economy and different transport modes within the transportation sector. These include:

1. Estimates sourced to Society for Indian Automobile Manufacturers (SIAM) and the 12th Planning Working Group on Petroleum Sector (WGP).
2. Estimates from Petroleum Planning and Analysis Cell (PPAC) under the Union Ministry of Petroleum and Natural gas that has been cited by Kirit Parikh Committee report of 2010.

As there is wide variance between the official estimates of PPAC and those provided by the SIAM/WGP, it requires immediate review. Diesel is used in a large number of sectors of economy. Its use in the transportation sector is the highest. In the road transport sector, goods vehicles/trucks, and maximum number of buses are captive users of diesel, as these do not have immediate and viable options to diesel. But the use of cheaper and low taxed diesel is also increasing rapidly in the personal vehicle segment. Understanding the magnitude of its use is important. (Annexure 1 explains the environmental and economic fall out of increased use of diesel in cars).

Table 1: Comparison of the data of the SIAM/WGP and PPAC

<table>
<thead>
<tr>
<th>Sectors</th>
<th>SIAM/WGP</th>
<th>PPAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>6.8</td>
<td>8</td>
</tr>
<tr>
<td>Industry</td>
<td>5.6</td>
<td>10</td>
</tr>
<tr>
<td>Total Transport</td>
<td>56.4</td>
<td>70</td>
</tr>
<tr>
<td>Cars</td>
<td>0.6</td>
<td>15</td>
</tr>
<tr>
<td>Three-wheelers</td>
<td>3.6</td>
<td>-</td>
</tr>
<tr>
<td>Taxi</td>
<td>2.1</td>
<td>-</td>
</tr>
<tr>
<td>Jeep &amp;MUV</td>
<td>2.5</td>
<td>-</td>
</tr>
<tr>
<td>Bus</td>
<td>6.0</td>
<td>12</td>
</tr>
<tr>
<td>Goods vehicles</td>
<td>37.9</td>
<td>37</td>
</tr>
<tr>
<td>Railways</td>
<td>3.7</td>
<td>6</td>
</tr>
<tr>
<td>Agriculture</td>
<td>18.8</td>
<td>12</td>
</tr>
<tr>
<td>Others</td>
<td>12.5</td>
<td></td>
</tr>
</tbody>
</table>
It is very clear that the SIAM/WGP reanalysis is focused on proving that cars and SUVs use miniscule and inconsequential amount of diesel. This note, which includes huge inconsistencies and clear jugglery is only intent on disproving the PPAC estimates (also cited by Kirit Parikh report) that passenger cars use as much as 15 per cent diesel and is the second largest user of diesel.

As the details of the assumptions used for these studies are not available it is not possible to reassess these results. But the review of the data sets shared by the planning Commission helps to bring out the inconsistencies in the results and show how untenable they are. It makes a strong case for review and reassessment.

**Some of our observations on SIAM/WGP estimates are as follow:**

1. **No explanation for the changed sectoral use of diesel:** It is not possible to compare the percentage share of diesel consumption by sectors in PPAC and SIAM/WGP estimates as sectoral categories used in both do not match. The SIAM/WGP report has introduced a new category of diesel consumption called “others” but with no definition. But this undefined “others” – that has not been accounted for -- is shown to be one of the largest users of diesel, 12 percent. This is as much as what both power and industry are estimated to be consuming together. What are these substantial uses of diesel that do not get covered by industry, power, agriculture or transport and is outside the policy purview of the government? But by using this undefined category of “others” the overall and relative share of diesel use in the critical sectors of economy -- transport, industry and power, have been reduced significantly. For example, the PPAC has estimated that the transport sector uses 70 per cent for diesel. But the new estimates have reduced it to 56 per cent. Similarly, share of industry has been reduced from 10 per cent to 5.6 percent and that of power sector from 8 per cent to 6.8 per cent. This needs explanation.

2. **In the SIAM/WGP analysis the total diesel use has gone up but its use in road transport, which is the only growing and largest user of diesel has not changed:** It is to be noted that the total diesel consumption estimated by PPAC for 2008-09 was 51,700 TMT and by SIAM/WGP for 2011-12 was 63,001 TMT. This is an increase of 20 per cent. Interestingly, even though the overall estimation of diesel consumption considered by PPAC and SIAM/WPG shown an increase, the actual quantum estimated for the road transport sector remains the same. What has changed for the road transport sector is the relative apportionment for different modes.

Thus, PPAC has estimated that 64 per cent of the total diesel consumption is used in road transport which is 33,088 TMT. The
SIAM/WGP has estimated that about 53 per cent of the total consumption is used in road transport which is 33,254 TMT. Thus, both are estimating nearly equal quantity of diesel used by the transport sector but at two different points of time. Thus, SIAM/WGP estimates for road transport do not reflect the 20 per cent increase in the total consumption. It also does not reflect the 8 per cent annual growth reported by Planning Commission (See graph: Comparative estimates for road transport modes by PPAC and SIAM/WGP).

Moreover, SIAM/WGP has reapportioned this quantum to different modes of transport (see table). It is very interesting that only three-wheelers is being shown to be using six times higher diesel than cars, half of that of buses and nearly equal to railways.

Thus, the quantum of diesel consumed by car, jeeps/MUVs and taxis has been halved from the estimates made by PPAC. While some variance is possible in any estimation due to the differences in assumptions, a difference as wide as 50 per cent merits assessment.

**Graph: Comparative estimates for road transport modes by PPAC and SIAM/WGP**

![Graph showing comparative estimates](image)

3. **SIAM/WGP data indicates substantial dieselization of car segment:**
The SIAM/WGP has estimated that cars, taxi, jeeps use only 5.2 percent of the total diesel consumption, which is 3276 TMT. Given the fact that the petrol car segment uses about 4272 TMT – which is about a third of the total petrol consumed (the rest is used by two-wheelers and three-wheelers) – diesel use is already more than 40 percent of the total fuel
used in the car and jeep segment. Therefore, it is not possible to hide
dieselization and its consequences in any case. The government should
take note of this. Further review of the estimates will only increase the
quantum of diesel use in the car sector. It is very important to place in the
public domain the actual numbers of vehicles, their annual usage and
average fuel economy assumed for this estimation. At the same time
SIAM should publicly declare the fuel economy data and sales data for all
segments of vehicles.

This must be read coupled with the fact that according to PPAC the
growth rate for diesel has already exceeded that of petrol. The effect of
the increased consumption of subsidized diesel in cars is so dramatic that
the excise earnings from both diesel and petrol has nearly equaled despite
the fact that petrol pays seven times more excise than diesel.

4. **Diesel consumption estimated for bus segment seems unrealistic:** If
the estimates of the SIAM/WGP are considered the buses use only 6 per
cent of the total diesel consumption, which is 3780 TMT. It is very unlikely
that the total bus registration that the note has mentioned -- 12 lakh can
run on this quantity of diesel given their kilometerage, fuel efficiency and
numbers. Even if it is assumed that bus registration is inflated as it is not
corrected for scrappage and retirement and therefore the number is
halved to at least 6 lakh buses, even then the quantum of diesel allocated
to bus is too little and therefore questionable. Overall, it seem that the new
number crunching has focused on reducing the total diesel consumed by
the road sector.

5. **The use of diesel in passenger three-wheelers is also inflated:** It is
shocking to see the industry estimates that show diesel passenger three-
wheelers use several times more diesel than all cars, SUVs and taxis.
This does not seem plausible. Passenger three-wheelers are sold at a rate
of around 130,000 per year, whereas close to 700,000 diesel cars and
SUVs are sold each year now. In the year 2010-11 about 800,000 diesel
cars and SUVs were sold. Even if diesel passenger three-wheelers are
driven more, it does not make sense that three-wheeler passenger
carriers would use more diesel than cars and SUVs. Their numbers are
much smaller.

Not only that it is being claimed that the diesel passenger three-wheelers
use same amount of diesel as railways and as much as half of that used
by buses. This is clearly, a reflection of underestimation of bus use and
overestimation of three-wheeler use. It must also be noted that in several
cities three-wheelers are also steadily converting to CNG or LPG.
6. **The aim of this SIAM/WGP estimate seems to be to missing the real point of rapid increase in diesel cars and SUVs:** The real concern is the rapid increase in the use of diesel in car and SUV segments. In 2010-11 car industry has sold about 800,000 diesel cars which was 32 per cent higher than the previous year. Even if we assume a much moderate and flat growth rate of 20 per cent a year until 2020, the total diesel cars will be double the size of the total car sales today. The implications for diesel fuel use for public health will be enormous and deadly.

7. **The public health imperative of diesel in cities is lost in this estimate.** It is clear that even what Indian industry calls, ‘clean diesel’ is far from clean in terms of toxicity. Emission data shows that current diesel cars, on an average emit seven times more particulates and three to five times more nitrogen oxides than petrol cars. There is sufficient evidence that tiny particulates – PM 2.5 -- emitted from a diesel vehicle are toxic and carcinogenic. This must be accounted for in any calculation of the costs of diesel in the economy (See Annexure 1 for more information on this).