Sub-Regional Workshop on Promotion of Low Sulphur and Cleaner, Efficient Vehicles

Sub-regional Fuel Quality Standards

By
Natália Manuel Teodoro Simango
and
José Raul Muhai

Ministry of Mineral Resources and Energy
Mozambique

Blantyre, May 11 - 12, 2017
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1. General Information on the Country

- Localization: Southern Africa area: 799,860 Km²
- Population: Approximately: 26 Millions
- Economic: Last 10 years growth; about 7% per year
- Main natural resources: Natural gas, coal.

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2. Oil terminals and main market players

The main four ports are Maputo, Beira, Nacala and Pemba which serves the neighbouring countries as South Africa, Swaziland, Zimbabwe, Malawi, Zambia and DRC.
3. Legal Framework

Decree 45/2012, December 28, defines:

- The activities of production, importation, storage, distribution, transportation and retailer sales of petroleum products;
- Petroleum products destined for distribution within the national territory shall comply with appropriate technical specifications taking into account the criteria of technical and economic efficiency and environmental safety;
- Decree 44/2005, November 29;
- Regulation of Determination Maximum price of Natural Gas.

a) Petroleum Products
- Importation: 1,625,794.80 m³
- Consumption: 1,658,806.78 m³

b) Natural Gas
- Total Reserves > 170 TCF
- Production: 194,225,468.81 GJ/Y
- Exportation: 143,763,943.87 GJ/Y

Market Share by Petroleum Product

- Petrol: 67.83%
- Kerosene: 0.82%
- Jet A1: 0.02%
- Avgas: 5.10%
- LPG: 24.19%
- Diesel: 2.05%

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Mozambique has made many efforts to move for clean fuel through implementation of different actions where they highlight the following:

- Elimination of leaded petrol;
- Reduction of Sulphur content into and diesel from 2000 to 500ppm in 2005;
- Promotion of vehicles powered by Compressed Natural Gas (CNG);
- Government support on construction of CNG filing stations.

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7. Vehicles Registered in the Country

- The number of vehicles in the country is around 700,000 (2016).
- 2,000 of vehicles that the country holds are CNG powered engine.
Mozambique hosts in November, 2016 Sub-Regional Workshop on Promotion of Clean Fuels and Vehicles where was recommended that:

- Fuel importing countries like Malawi, Mozambique and Zimbabwe should phase out of high Sulphur content diesel and migration to 50 ppm Sulphur content diesel by June, 2017.

- Zambia as a country with the refinery should phase out the high Sulphur content diesel and migrate to 50 ppm Sulphur content diesel by 2018.

- Malawi, Mozambique and Zimbabwe should harmonize the petrol and diesel standards by January, 2017 before migration to 50 ppm.
9. Action plan in progress towards low sulphur content

- Malawi, Mozambique and Zimbabwe have already harmonized petrol and diesel standards according to workshop recommendations.

- Mozambique is preparing the approval of fuel standards. The proposal was sent to the Ministry Legal Office after that will be submitted to the Minister for approval and publication in Government Gazette.

- It is expected that next fuel bulk tender which will be launched by June will be 50 ppm Sulphur content petrol and diesel.

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10. Other Actions to promote clean fuels in Mozambique

- The use of CNG for vehicles was introduced in 2005. Now the country has 2,000 of vehicles are powered by CNG.

- This is the big challenge for the Government because as the country discovered huge amount of natural gas is important to create conditions to bring more vehicles using CNG.

- Apart of CNG being less pollutant, the price of it in the country it is less than 50% of imported petroleum products.
11. 500ppm vs 50ppm Diesel pump prices (USD/liter)

<table>
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<tr>
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<th>May-16</th>
<th>Jun-16</th>
<th>Jul-16</th>
<th>Aug-16</th>
<th>Sep-16</th>
<th>Oct-16</th>
<th>Nov-16</th>
<th>Dec-16</th>
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<th>Mar-17</th>
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</thead>
<tbody>
<tr>
<td>Diesel 500 ppm</td>
<td>1.21</td>
<td>1.22</td>
<td>1.29</td>
<td>1.13</td>
<td>1.10</td>
<td>1.17</td>
<td>0.99</td>
<td>0.81</td>
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<td>0.86</td>
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<td>0.86</td>
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<td>Diesel 50 ppm</td>
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<td>1.35</td>
<td>1.13</td>
<td>1.10</td>
<td>1.03</td>
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<td>0.88</td>
<td>0.89</td>
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<td>0.81</td>
</tr>
</tbody>
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11. 500ppm vs 50ppm Diesel pump prices (USD/liter) – Cont.

- As the previous graphic shows that the pump price of 50ppm diesel is quite lower than 500ppm, since March 2017 up to now.

- We should go to 50ppm Sulphur level, because, it is well known that at the international market, the production of 500ppm diesel in most of oil refineries is being reduced day by day, as most refineries have already upgraded their plants to produce more 50ppm diesel.

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12. Challenges

In order to guarantee the supplying of fuels in next times as well as to avoid high price as the result of shortage of 500ppm diesel it is necessary to move fast to 50ppm diesel.

For the successful of the program it's necessary to launch strong sensitization among the fuel users.
13. Final Remarks

- It is necessary to go faster to 50 ppm petrol and diesel to secure the supply of clean fuels in order to protect the environment, including to increase long life for vehicles and to reduce the risk of respiratory diseases in Mozambique and the region.

- The price of 50ppm diesel is favorable in the international market.
THANK YOU!