The Environment Benefits of Cleaner Fuels for Africa

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Estimated Growth of the Global Fleet

Global Light Duty Vehicle Stock

Data: IEA, 2019
requests UNEP, with its partners, to support Member States to collect information about and promote cleaner fuels and vehicles, including used vehicles, for environment and health reasons
Two Track Approach

• Electrification
  • Busses, 2&3 wheelers, light duty vehicles
  • Pilots, policies, financing, national strategies, targets

• Cleaner fuels and vehicles
  • Low sulfur fuels – fuels for Euro 4/IV vehicles
  • Euro 4/IV vehicles – diesel and petrol
  • Used vehicles
PCFV - leading global fuels & vehicles initiative

- The PCFV is the leading global programme to support the introduction of cleaner fuels and vehicles in low- and middle-income countries
  - Elimination of leaded petrol
  - Shift to low sulphur fuels
  - Cleaner and more efficient vehicles standards/policies
- Public – Private Partnership
- 73 Partners
- Governance Rules
- UNEP Implementing Secretariat
From 117 countries to Zero...

Campaign to Eliminate Leaded Petrol
The PCFV measurable goal agreed upon by the PCFV Partners Meeting 2006 was:

To reduce sulphur in vehicle fuels to 50 ppm or below worldwide...
... concurrent with clean vehicles and clean vehicle technologies...
... with roadmaps and timelines developed regionally and nationally.
<table>
<thead>
<tr>
<th>Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Countries with low sulphur fuels in 2006</td>
<td>27</td>
</tr>
<tr>
<td>Countries that switched to low sulphur fuels 2006-2021 with UNEP/PCFV support</td>
<td>54</td>
</tr>
<tr>
<td>Countries that switched without UNEP support</td>
<td>11</td>
</tr>
<tr>
<td>ECOWAS Countries implementing new standards</td>
<td>11</td>
</tr>
<tr>
<td>Countries still to switch to 50ppm</td>
<td>94</td>
</tr>
</tbody>
</table>

Countries with low sulphur fuels 92 (+11 ECOWAS) = 103
Countries remaining = 94
Sulphur campaign – global progress (diesel 2022)
Africa Diesel Sulphur Levels 2006-2022
Africa Diesel Sulphur Levels
November 2022
Africa Diesel Sulphur Levels

With regional commitments achieved

- ECOWAS
- Botswana (November 2022)
- DR Congo & South Sudan (joined EAC)
Global Vehicles Standards

Global Light Duty Vehicle Emissions Standards (June 2022)
The Global Trade in Used Vehicles - 2021

- Europe
- Japan
- South Korea
- United States
- Blocked

A (20,000 - 145,000)  B (145,000 - 270,000)  C (Higher than 270,000)
Used Vehicles - Most African Countries Have Weak LDV Regulatory Framework

<table>
<thead>
<tr>
<th>Regulatory Environment Ranking (UNEP)</th>
<th>Countries</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Good</td>
<td>Algeria, Mauritius</td>
<td>2</td>
</tr>
<tr>
<td>Good</td>
<td>Chad, Côte d’Ivoire, Gabon, Lesotho, Mauritania, Morocco, Rwanda, Tunisia</td>
<td>8</td>
</tr>
<tr>
<td>Weak</td>
<td>Angola, Djibouti, Kenya, Namibia, Senegal</td>
<td>5</td>
</tr>
<tr>
<td>Banned</td>
<td>Egypt, South Africa, Seychelles, Sudan</td>
<td>4</td>
</tr>
</tbody>
</table>

Countries not included
Progress - East Africa

• 2016 Low sulfur fuel standards (actual 10-15 ppm)
• Kenya and Rwanda already adopted Euro 4/IV vehicles standards - implementation ongoing
• May 2022 East Africa Community Council of Ministers adopted regionally harmonised Euro 4/IV vehicles standards
• After the EAC standard was gazetted early July, countries have 6 months to adopt standard as national law
Progress - West Africa

- September 2020 ECOWAS Council of Minister adopted regionally harmonised fuel and vehicle standards
- New set of fuel quality standards
- EURO4 minimum vehicles emissions standards new & used vehicles. Used vehicles age restrictions – 5yrs for LDV, 10yrs for HDV – 10 yrs to implement
- Adopted fuel economy roadmap
Proposed Targets for Africa

By end of 2023:

• All African countries import low sulphur (50ppm or less) diesel and petrol fuels

• And refining countries have a set a date for their refineries to switch
1. Implement existing adopted standards:
   • ECOWAS
   • EAC (DR Congo, South Sudan)
   • SADC Ministerial decision diesel fuels
   • Export regulations (incl other countries)

2. Adopt standards
   • Central Africa – sub regional standard
   • SADC – sub regional standard (based on diesel decision)
   • North Africa – country standards (regionally harmonized standards not envisaged)
Costs

• East Africa Community – small, not noticeable at pump
• Ghana – 2 cents per liter
• Mauritius – same price

• Difficult to predict
• Around one cent per liter?
### Benefits

Example – from no regulation to Euro 4/IV

**FROM: current situation mainly Euro 2&3 fuels and vehicles; average age 18 yrs**

**TO: minimum Euro 4 fuels and vehicles; vehicle age ~8 yrs & valid road worthiness certificate**

<table>
<thead>
<tr>
<th>Key Issue</th>
<th>Benefits</th>
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<tbody>
<tr>
<td><strong>Pollution</strong></td>
<td>Exhaust filters faulty, missing or removed;</td>
</tr>
<tr>
<td></td>
<td>Common pollutants reduced – up to 90%</td>
</tr>
<tr>
<td><strong>Fuel Savings / Climate</strong></td>
<td>High fuel consumption</td>
</tr>
<tr>
<td></td>
<td>increased efficiency/ reduced CO2 emissions – ~5-10%</td>
</tr>
<tr>
<td><strong>Road safety</strong></td>
<td>Key safety equipment missing or removed – ABS, ESC, airbags; crumple zones</td>
</tr>
<tr>
<td></td>
<td>together major reduction of crash impacts - ~50% (inside cars)</td>
</tr>
</tbody>
</table>
Thank You

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www.unep.org/transport