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14/09/2016

Public Eye
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8021 Zürich
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Dear Sirs,

I am writing to you in my role as Executive Secretary of the ARA (African Refiners Association) to provide some factual analysis of your recent report entitled "**Dirty Diesel - How Swiss Traders Flood Africa with Toxic Fuels**".

Most of the Marketers you mention in your report are members of our Association as are many storage and distribution companies and Energy Regulators since we represent the full range of downstream petroleum operations in Africa (please see www.afrra.org).

Over the past 10 years since its founding in 2006 the ARA, a "not for profit" Swiss association, has been working with its members to improve the quality of petroleum products in Africa. To do this, in 2007, we created a specifications road map called AFRI Specifications. We, therefore, find it surprising that our efforts are only mentioned in your report twice and then only near the end on pages 105 and 127.

We show below a copy of the AFRI specifications and their evolution, and have the following observations:

- Throughout Africa both local refineries and importers work within fuel specifications set by their Governments. Within the regulated downstream sector, these official specifications are controlled to avoid off-specification fuels reaching the final consumer. The supplier must meet these specifications. The results of analysis of your own samples shown in table 6.2 on page 53 are evidence that, in every case, the product provided was better than the legal limit (and sometimes much better)
- Over the past 10 years, the ARA, acting on behalf of its members has participated in over 100 meetings on the subject of improving product quality in Africa. Apart from meetings of our Specifications, Supply & Distribution and Refining Work Groups, there have been meetings involving UNEP, PCFV, IPIECA, ECOWAS, IEA, African Union, EU, Government Ministers, Government regulators and numerous Technical Seminars. The result has been a steady improvement in product quality as can be seen from the attached maps. Currently, the ARA is having discussions with ECOWAS regarding a study to develop a regional roadmap to improve the specifications of petroleum products and vehicle emission limits in the region. It is envisaged that imports into the region will follow the AFRI 4 and 5 time frames of 2020 and 2030.
- Working alongside UNEP, ARA set up a clear road map to raise fuel quality across Africa by 2030 with an intermediate step in 2020. The target of 2020 was set in conjunction with the World Bank, following a landmark study of the impact of fuel quality on urban pollution and individual health: http://www.afrra.org/uk/world_bank_study

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Why are African Governments tightening specifications so slowly?

1) Refining:

Many African crudes, when processed in typical African refinery configurations produce diesel fuel with sulphur levels of 2 to 3000ppm. As mentioned on page 132 of the report, reducing this involves an investment of around \$500 million per refinery. Most African refineries are majority owned by Governments who, to date, have chosen not to provide this level of investment; or not to support financing schemes through any levy at the pump. The African Refining Value Study conducted by Wood Mackenzie (2014), indicated that "Experience of clean fuels programs suggests that refiners are unlikely to receive a commercial return on any such investment". When Kenya lowered the diesel specification to 50ppm it led to the closure of KPRL refinery. When faced with a choice between implementing lower specifications and closing a large employer (directly and its supporting industries), Governments have, to date, chosen to maintain fuel quality at their current levels.

2) Regional distribution

On page 132, your report suggests that many countries without refineries could tighten their specifications without delay. This ignores the reality of how products are distributed. For example, the Abidjan refinery serves as a hub for the movement of products throughout the region. Mali and Burkina take products from Abidjan by rail and road, and small cargoes are delivered from Abidjan by sea to Liberia, Sierra Leone and Guinea. If these countries tighten their import specifications independently from the Abidjan refinery they eliminate this source of supply and will incur significant additional logistics costs.

3) It may not change the emissions much:

The age of the African vehicle fleet is much older than Europe. This means the majority of engine and exhaust management technologies used in the African vehicle fleet are designed for fuels of a quality supplied in Europe 10 years ago. In addition, only a handful of African countries have any vehicle exhaust emission controls, and none are properly enforced. Therefore the benefits of any clean fuels supplied, in practice, does not improve air quality as much as expected. Fuels and vehicles must be considered as one "integrated system" and not in isolation.

In addition, the lack of strict controls on second-hand vehicle imports does not assist in achieving the desired air quality improvements.

4) Bureaucracy:

The processes for changing fuel specifications are often complex and bureaucratic, requiring approvals at many levels right up to the President and his/her cabinet. Many attempts have been started in many countries only to fail to overcome the bureaucratic hurdles.

Other comments:

- 1) With Africa importing over 50% of their gasoline, diesel and kerosene, the role of traders to manage the operational, financing and price risks of moving oil products around the globe is essential for the survival and growth of the African economy.
- 2) If Swiss traders followed the report recommendation today their role would be filled by (possibly less reputable) traders from other nations who would simply supply the quality required to meet the official specifications. The result would be that nothing would change in Africa.
- 3) The report compares Africa Quality with Europe and the USA, but it ignores the fact that it took these regions more than 25 years in a phased manner to migrate to the these low sulphur goals.
- 4) What is very clear (but is only briefly mentioned in the report) is that the role of improving fuel quality in Africa clearly rests with African Governments, not with the fuel suppliers.

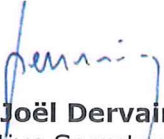
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- 5) Also it is African Governments that must decide whether to invest in, or support, local clean fuel production or face the consequences of refinery closures and redundancies.

We are available to meet with you if you wish to discuss this further.


Joël Dervain
 Executive Secretary

cc. Members of the ARA Executive Committee

AFRI SPECIFICATIONS

AFRI – Gas Oil / Diesel Specifications

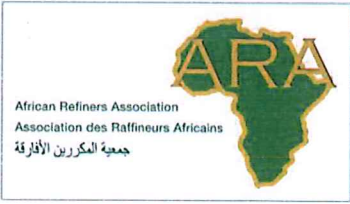
Property	AFRI-1	AFRI-2	AFRI-3	AFRI-4	AFRI-5
Sulphur content, % mass, max.	0.8	0.35	0.05	0.005	0.005
Density at 15°C, kg/m ³ , min/max.	800 / 890	800 / 890	800 / 890	820 / 880	820-880
GAS OIL / DIESEL Cetane Index (calculated), min.	42	45	45	45	46
Cetane Number, min.	n/a	n/a	n/a	n/a	49
Polycyclic Aromatic Hydrocarbons (PAH), mass %, max.	n/a	n/a	n/a	n/a	11
Lubricity (HFRR @ 60 °C), micron, max.	to be reported	to be reported	460	460	460
Oxydation stability (Hr) ⁽⁴⁾	20	20	20	20	20
FAME content, vol%, max.	7	7	7	7	7

1. A higher grade of gasoline may be marketed if required.
 2. "Unleaded" means <0.013g of lead per litre.
 3. Imported gasoline to be free from oxygenates.
 4. Applicable only to gas oil / diesel containing more than 2 % v/v FAME.
 5. In cases of dispute ASTM D3244 / EN ISO 4259 shall be used.

AFRI – Gas Oil / Diesel Methods

Property	Methods
Sulphur content ⁽¹⁾	ASTM D2622 / ASTM D5453 / IP336 / ASTM D4294 ⁽¹⁾ EN ISO 20846 / EN ISO 20884 / EN ISO 13032
Density ⁽²⁾	ASTM D4052/ D1298 / IP 160 / IP 365 / EN ISO 3675 / EN ISO 12185
GAS OIL / DIESEL Cetane Index	ASTM D976 / ASTM D4737 / EN ISO 4264
Cetane Number	ASTM D976 / ASTM D4737 / EN ISO 5165 / EN 15195 / EN 16144
Polycyclic Aromatic Hydrocarbons	IP391 / ASTM D2425 / EN 12916
Lubricity	ISO 12156-1 / CEC -F06-A-96
Oxydation stability	EN 15751
FAME content	EN 14078

1. In case of dispute test method ASTM D5453 shall be used.
 2. In case of dispute test method ASTM D4052 shall be used.

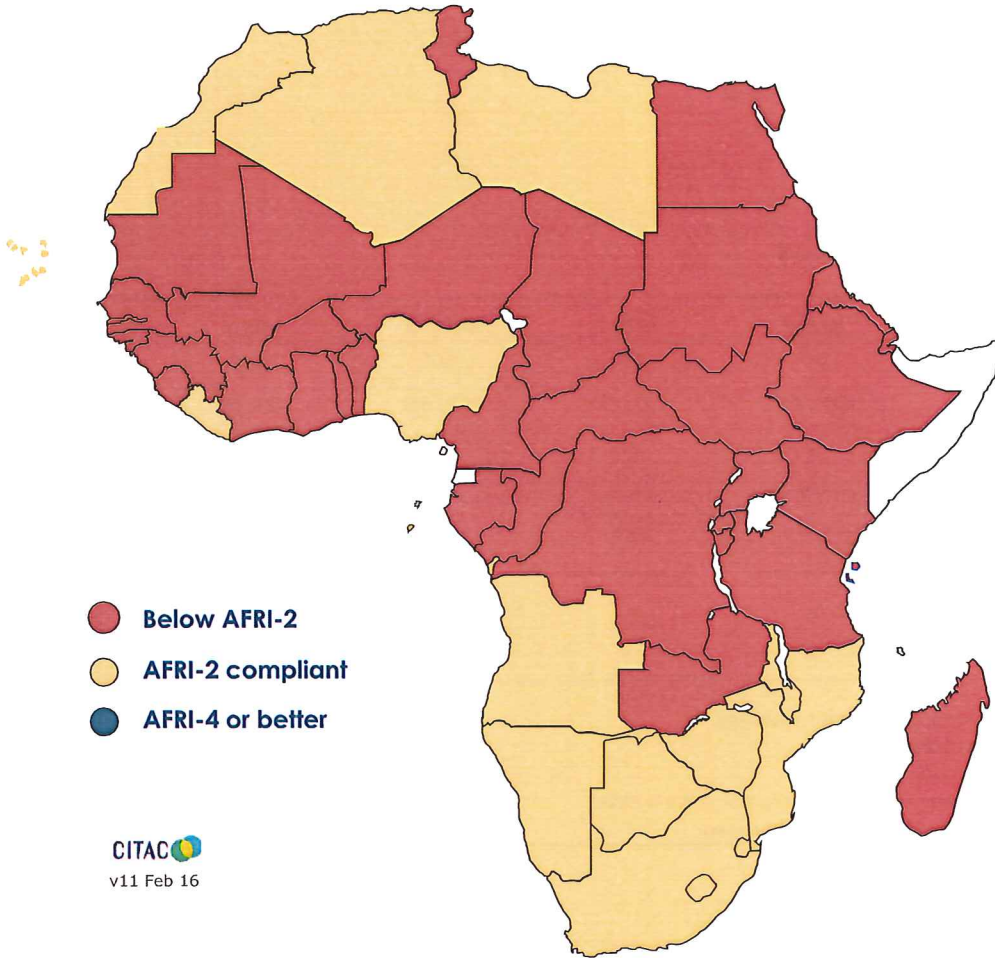


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Gasoil AFRI Sulphur compliance 2009:
Official specifications

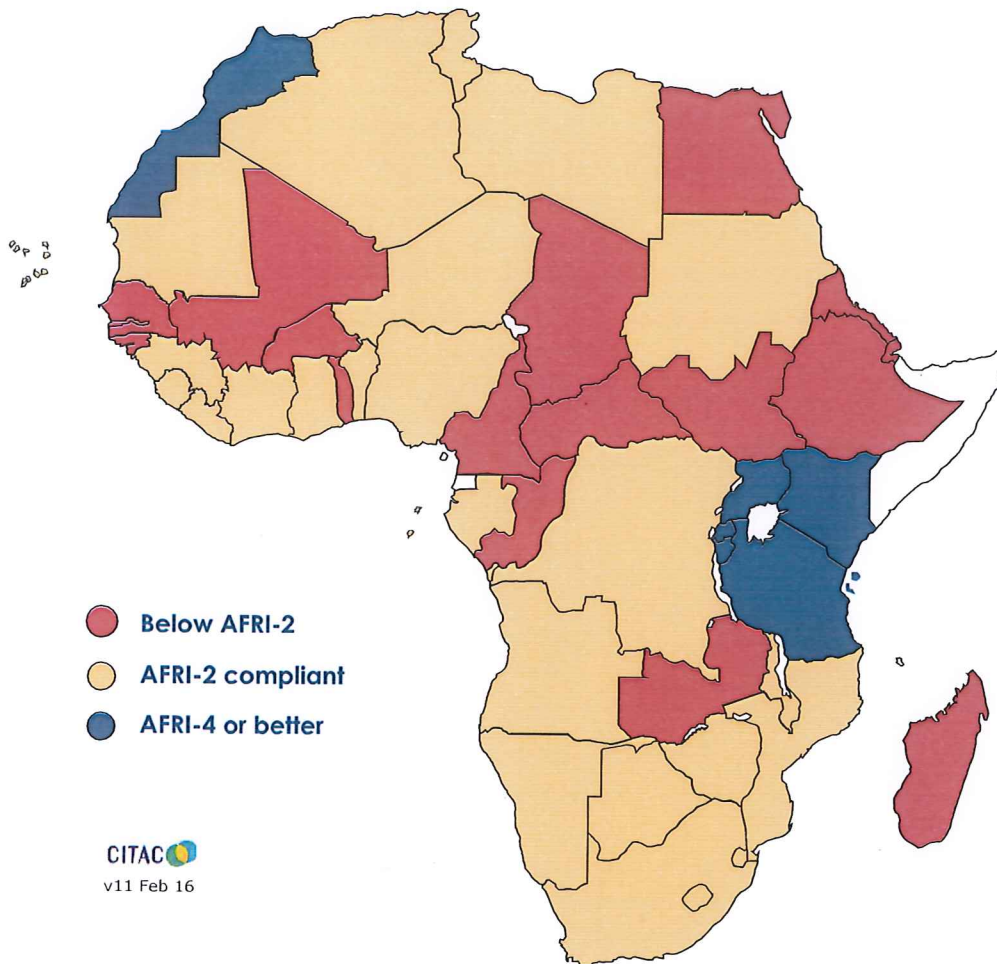


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Gasoil AFRI Sulphur compliance 2016:
Official specifications



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