



Toxic Fuels

From Europe to Africa: the case of sulphur

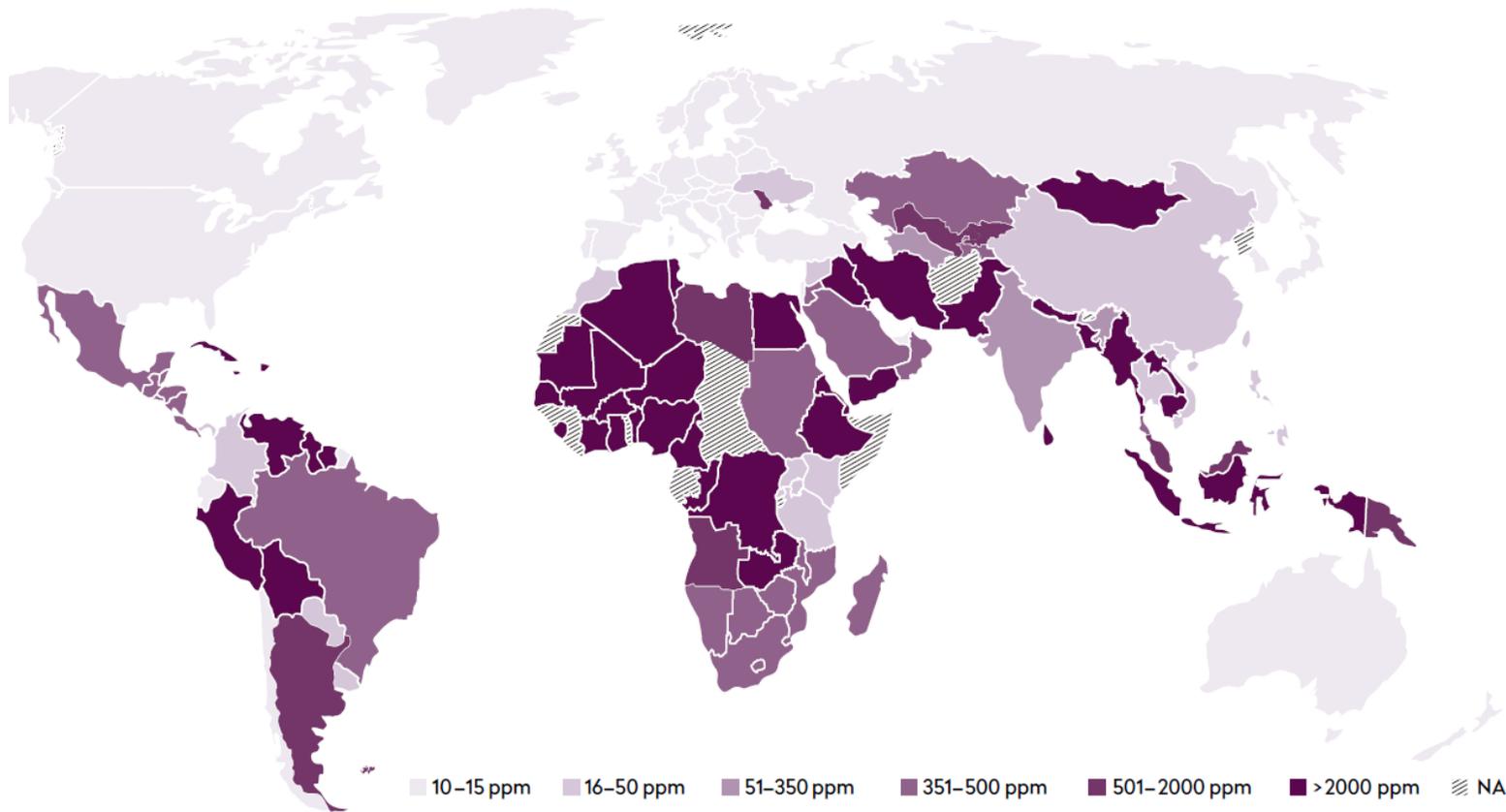
Public Eye

COP BRA, Geneva
1st May 2017

Double standard: sulphur in fuels

- On average, African sulphur limits in diesel are 200 times above the European limit, in some countries this figure is as high as 1,000.

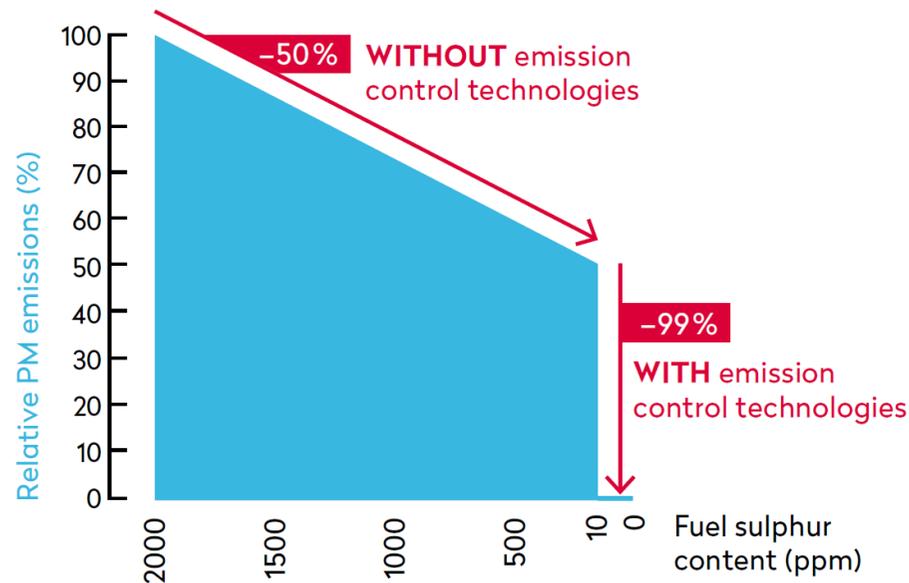
Figure 3.3 – Sulphur limits in diesel (December 2015)



The rising burden of air pollution in Africa

- The use of ultra-low sulphur fuels (10 parts per million [ppm] sulphur) could halve the emissions of pollutants.

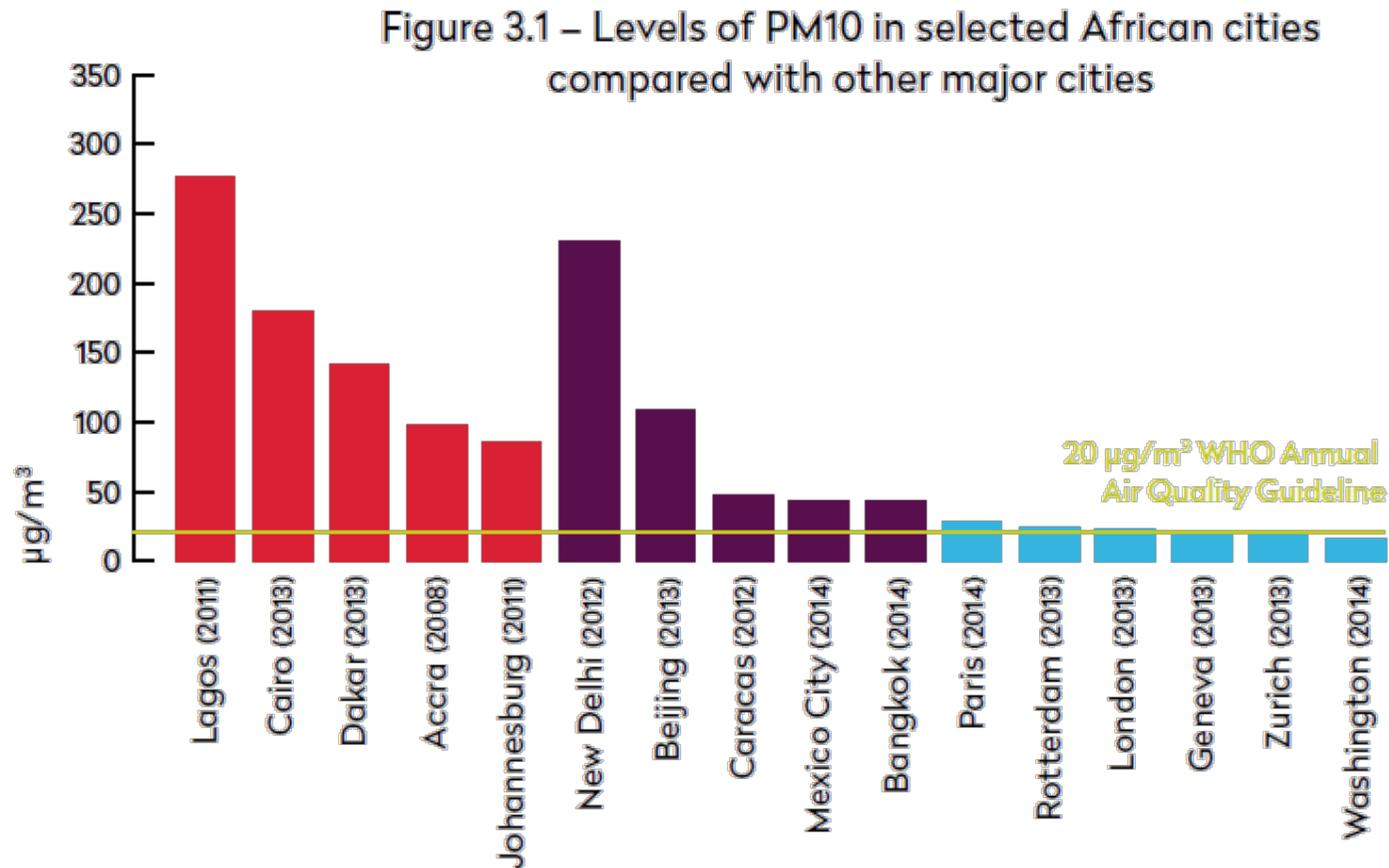
Figure 3.4 – Lowering sulphur reduces vehicle emissions



- If done together with the introduction of cars that use existing emissions control technologies, the emission of pollutants could be reduced by 99 percent.

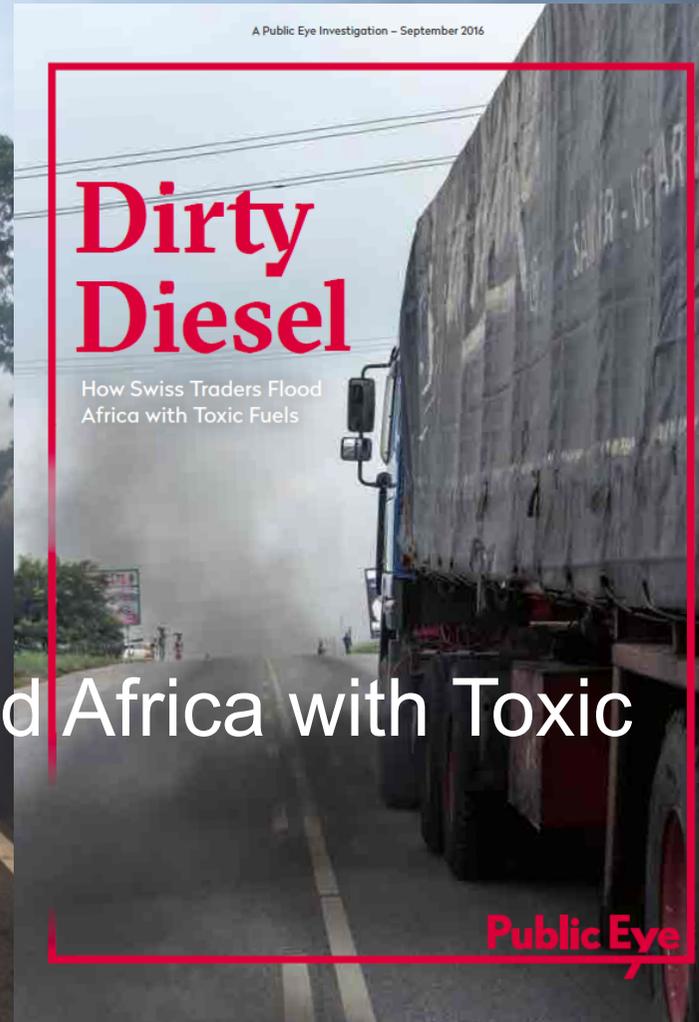
The rising burden of air pollution in Africa

- African mega-cities such as Lagos or Dakar already have worse air quality than Beijing.



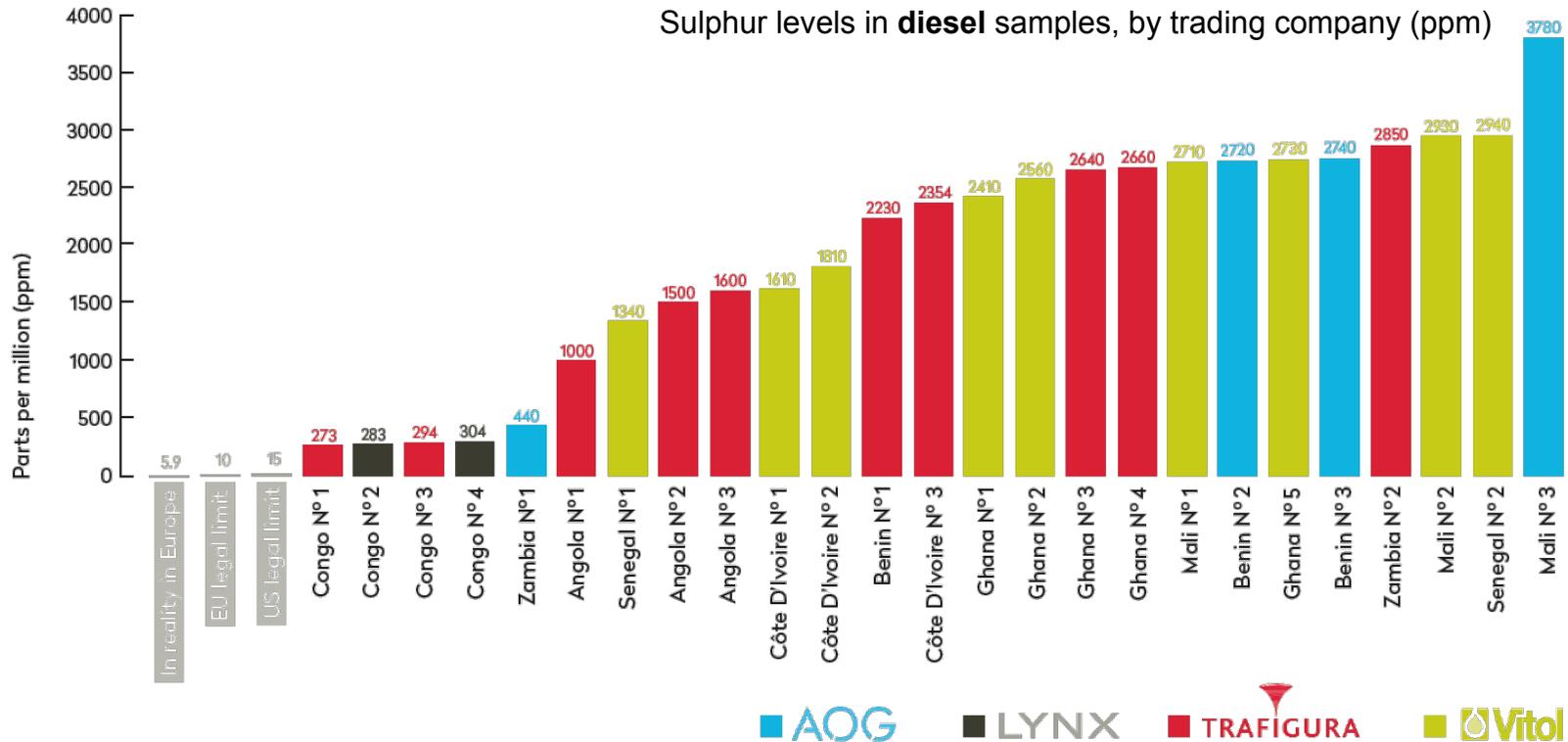
Dirty Diesel

How Swiss Traders Flood Africa with Toxic Fuels



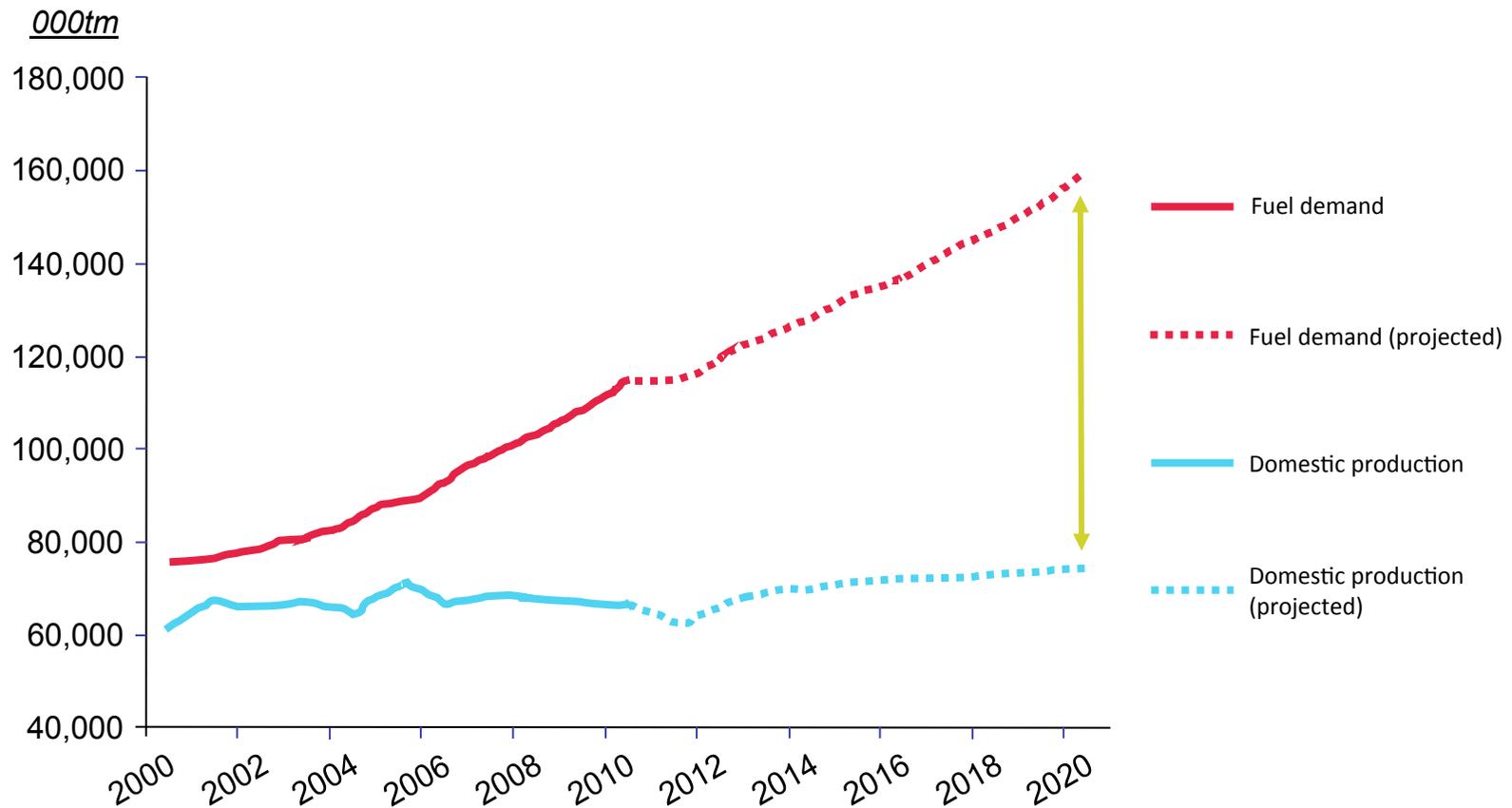
Sampling at the pump

- More than two thirds of the diesel samples (17 out of 25) had a sulphur level higher than 1,500 ppm, which is 150 times the European limit of 10 ppm.



- Almost half of the gasoline samples (10 out of 22) had a sulphur level between 15 and 72 times the European limit of 10 ppm.

Due to its lack of refining capacity, Africa relies increasingly on imports to satisfy its domestic fuel demand.



Source: Mark Elliott, *Introduction to CITAC Workshop*, 2012

Dirty trade flows from Europe to West Africa

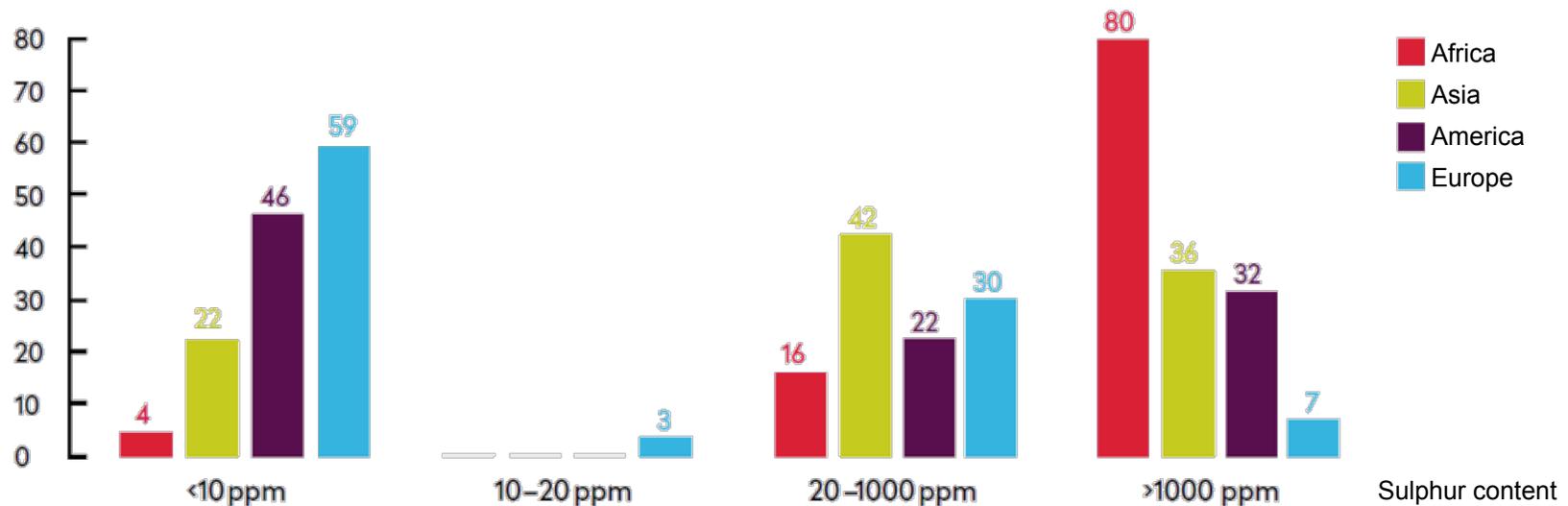
- UN trade statistics show that ARA accounted for around 50 percent of the declared volume of petroleum products delivered to West Africa in 2014.

Figure 8.1 – ARA floods West Africa with fuels (2014)



Dirty trade flows from Europe to West Africa

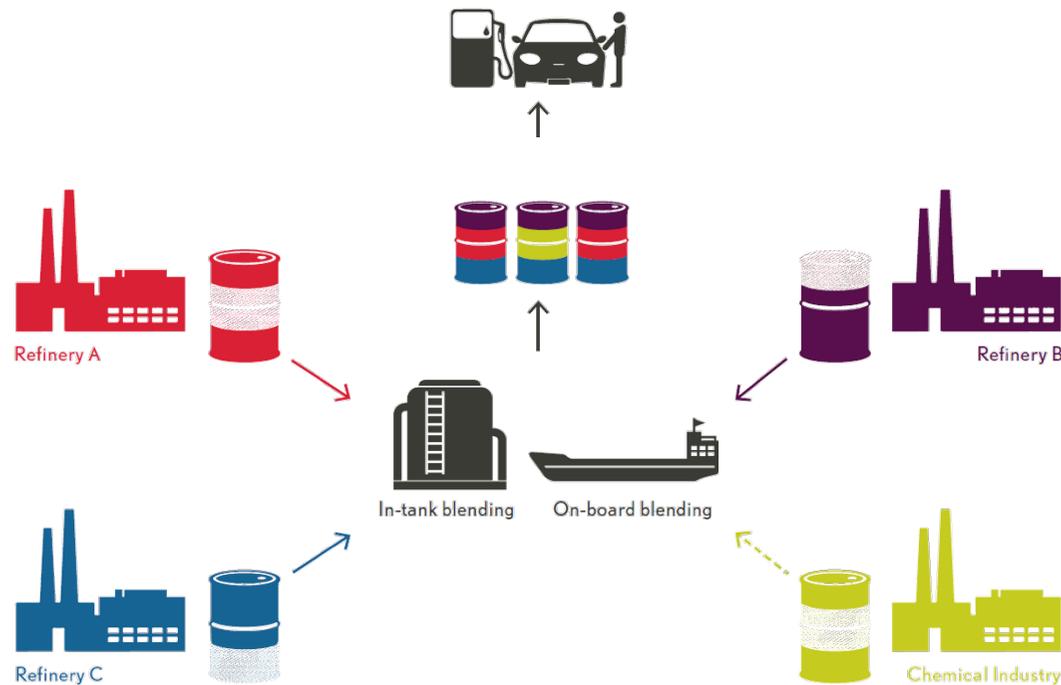
- Trade statistics show 80 percent of the diesel exported from ARA to Africa has sulphur content at least 100 times above the European standard.



- This figure soared to an average 90 percent for West Africa.

The business: blending fuels

- Contrary to what most people think, fuels such as diesel or gasoline do not always come straight from refineries.



- Instead, the refineries produce intermediate products, which are then mixed together, occasionally with intermediate products from other sources (such as the chemical industry).

The business: blending fuels

- «Blending on-spec» – the mixing of products to obtain a certain specification for a certain market – is an omnipresent term in the fuel blending industry and trading companies make no secret of it.



«Our detailed knowledge of specifications [...] gives us a real advantage in achieving **better trading performance.**»

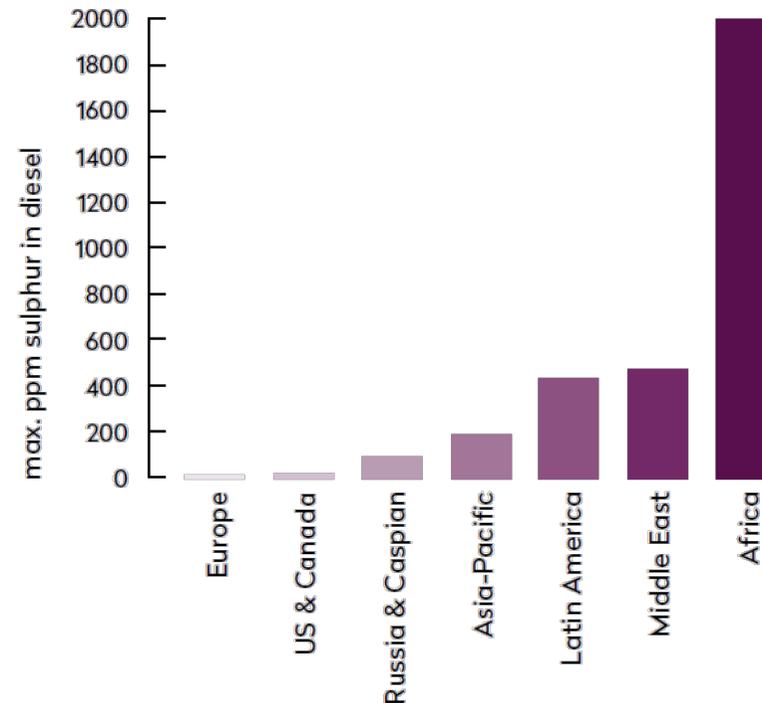
«We offer a full range of refined oil products and operate blending facilities in order **to tailor our products** to regional demands and specifications»



The business: blending fuels

- Differences between national fuel quality regulations offer opportunity for companies to profit from a form of regulatory arbitrage.
- With its weak standards, Africa is an excellent example.
- Swiss traders therefore produce fuels for the African markets that could never been sold in Europe.
- They even have a name for those toxic fuels: «African Quality».

Figure 3.2 – Average sulphur limits for diesel in different regions 2015 (projected)



The illegitimate business: making «African Quality» fuels

HFA 4860
 C5/C9 Heavy CCS
 HFA 8094 Butane MTBE
 RME Cracked naphtha F0002A
 HFA 1012 Gasoil dyed C7+ HITEC 3062

FO >1000 S <10000 ppm HFA 4101 Naptha tops HFA 6126 Nitrogen
 Gasoil max 500 ppm S Oil-Water-Sediment EC blend 88 MCCS
 Kerupur 3540 K25N Ultrazol 9012EX Gasoil DMA HFA 4815 F004A
 FO >0.1 <1% S Reformate arom >50% Heavy Platformate >50%
 Lubricity improver FCC gasoline Gasoline blendstock mogas TN 120
 Ethanol Pygas Eurobob Gasoil max 10 ppm S Light pygas HFA 1183
 HFA 8087 Propane Kerosene FAME HFA 1012 Gasoil max 1000 ppm S
 Gasoline (A-76) STADIS 450 Light Cycle Oil S <1000 ppm Gasoil max 50 ppm
 ETBE Gasoil unmixe >5000 S <10.000 ppm HFA 4079-1 Jet A1
 C7 light oil >50 arom RO 80 Euro95 Isomerate Light CCS Gasoline
 Benzene K1-Slops CCS C6 raffinate HFA 7025 TX MIX
 HiTEL H4679 FO >10000 ppm S SME Gasoil max 50 ppm
 HFA 4159 LCCG Heartcut Ethanox 4740 Nemo 6133 C7/C8 mixture
 Gasoil > 500 S <1000 ppm Gasoil undyed >1000 S <2000 ppm HFA 8030
 HFA 3033 Gasoline LOF Flow improver Alkylate
 Blend gasoline unl <95 C7 light oil >50 arom Gasoil Straight Run Napthta
 Mixed aromatics Lubrizol Light Cycle Oil S <500 ppm
 HFA 2039 Nemo 2041 Light Virgin Napthta HFA 4232 PME
 F0001A Blendstock aromatics Sudan D-RP250R Gasoil >2000 ppm S
 Dutch sector crude oil Cetane improver Lubricity improver
 HFA 8022 Pellacoat Heavy gasoil 1000 < S <10.000 ppm Napthta

«It is unacceptable that we continue to supply developing countries with substandard fuels and vehicles, which result in major health impacts by increasing air pollution. In our globalized economy, there are good reasons to universally apply clean fuel and vehicle standards in every country. Dumping old and dirty substances and technologies needs to stop now.»

UNEP Executive Director Erik Solheim