Strengthening Investment for the African Downstream

So often debates about the African oil industry are dominated by discussions on the crude oil price and African oil production. But such debates ignore the importance of supplying competitive, clean petroleum products, efficiently and safely, to satisfy growing consumer demand.

At this year’s conference, the ARA seeks to highlight the need to strengthen investment in all sectors of the African downstream petroleum industry: in refining, storage and distribution, port operations, supply chain efficiency, human capital, safety, security, and the environment.

All delegates will get the opportunity to share solutions to the many challenges facing the future of the African downstream oil industry. Previous conferences have seen more than 600 key players of the North and Sub-Saharan African and International downstream oil industry present all in one place in a unique inter-active environment. This year, even greater participation is expected from representatives from African refiners, government ministries, banks, regulators, importers, distributors, traders, storage companies, marketing companies and refinery equipment and technology suppliers.

ARA WEEK 2019 will offer all delegates the opportunity to network across the African downstream industry and to listen to international professionals talking about the latest trends and innovations in the industry, share experiences with pan-African and international companies and to review new technology developments and services.

Call for Papers: if you wish to propose a presentation on any of the following topics, please contact info@afrra.org:
- Strengthening Investment for the African Downstream in refining, storage and distribution, port operations, supply chain efficiency, human capital, safety, security and the environment.

To learn more about how to attend ARA WEEK 2019 and information on ARA membership and sponsorship opportunities contact the ARA on info@afrra.org.
A round 100 people from 17 countries attended this year’s Forum held in the magnificent Radisson Blue Hotel on the Corniche in Dakar. Hosting by the Société Africaine de Raffinage, represented by Managing Director Mr. Serigne Mboup, helped make it a very successful event.

The theme of this year’s Forum was “Achieving a safe, sustainable and efficient petroleum supply chain” and the topics addressed were focussed on this theme. The various expert industry speakers concentrated broadly on two major topics:

- Improving and regulating the quality of petroleum products
- Improving supply chain efficiency and operating practice

After opening remarks by the ARA President Mr. Hillaire Kabore, Mr. Cheikh Bedda, Director of Infrastructure and Energy at the African Union in Addis Ababa, discussed some of the economic issues facing African countries. Amongst the issues he discussed were the air quality problems in African cities, and the need to improve petroleum product quality. He assured everyone that the African Union would support all efforts made to address these problems and recognised the efforts being made by the ARA to promote best practice across the continent through the Association’s Fuels Policy.

The Managing Director of the SAR refinery then welcomed everyone to Dakar and gave an overview of plans for the future of their refinery.

The first day of the conference focussed mainly on the issues of supply chain efficiency and product quality. Presentations demonstrating recent improvement in the supply chain were made by Mr. Hippolyte Bassole of Sonabhy, leader of the ARA Storage and Distribution Work Group, and Mr. Daouda Ndiaye of Senstock. In a closing session, Mr. Pape Deme of the Senegalese regulator CNH discussed local efforts to encourage supply efficiency.

ARA consultant, Mr. Tony Ogbuigwe, ARA regional representative for ECOWAS, updated participants on the progress of the study on how to improve product quality in the fifteen ECOWAS countries, and he particularly congratulated Ghana on their pathfinding effort introducing AFRI 4 specs (50ppm sulphur).

A specialist presentation by S&P Global Platts on the IMO 0.5% sulphur limit on bunker fuels, to be introduced from 2020, highlighted the good and bad news for African refiners. The World Bank affiliate IFC gave a clear presentation on the project financing they can offer, with examples of projects in Nigeria and Turkey.

The second day was mainly focussed on improving operating practices, and presentations were given by Total (trucking safety), Alpha Maintenance (tank efficiency), Soudotec (tank overfill protection) and GESTOCI (loss control). The day closed with a presentation by NPA Ghana showing how robust regulation can promote market efficiency.

The ARA President thanked all attendees for an excellent Forum and reminded participants that he hoped to see them at the ARA WEEK in Cape Town beginning on March 25th, 2019.

The Forum was closed by Mrs Aminata Ba, Directeur de Cabinet of the Ministry of Oil and Energy who thanked everyone for coming to Dakar for this important conference.

Following the conference, SAR kindly invited all participants to visit the refinery and join them for dinner at the famous Terrou-bi restaurant.
Seminar organised by the RHSEQ Work Group, 3–4 July 2018 in Pointe Noire, Congo-Brazzaville.

The seminar covered the means of combating corrosion, how to take into account its effects and also feedback / return of experience.

Following the success of the first seminar on this subject, held on 24th and 25th October 2013 in Casablanca, participants made the following recommendations, based on updates and observations:

- In-depth analysis of corrosion-linked monitoring in the distillation head circuit (qualities, types of products and materials to put into the column head, frequency of analysis of the iron content, monitoring of the dew point);
- Share information about corrosion indicators (use, suppliers), nu-bolt technologies and their suppliers through the ARA website. Share information on the value of cathodic protection on pipelines; using the MFL method to scan tank floors; on types of paints and coatings: standards, conditions, guarantees; Acquire information for the inspection service: the means of checking the grade of the material; monitoring the injection of chemicals and measuring its efficiency;
- Set up a pre-acceptance procedure for pipelines;
- Carry out a HAZOP review for changes in the operating conditions of tanks and pipelines, and design reviews for critical equipment for every change in operating conditions;
- Review the criteria for the authority and independence of the inspection and safety services;
- Look at the feasibility of having dedicated tanks for slops;
- Choose galvanised steel grating steps for tank stairways;
- Choose bolted mounting for external equipment;
- Set up programmes for the systematic inspection of static equipment including means for the operators to give feedback and requests for inspection;
- Consult with suppliers and manufacturers about the operating procedures and maintenance of floating screens.

This workshop, which concentrated on Butane, took place from 22nd to 24th August 2018 in Ouagadougou, Burkina Faso, and was jointly organised by the Storage and Distribution and Regulation Work Groups.

The objective of the workshop was to discuss the following topics:

- Production and storage on LPG;
- Product measuring points in gas terminals;
- Supply and storage of butane;
- Policy for the promotion of LPG in Ghana;
- Distribution of butane in Burkina Faso;
- Butanisation programme in Senegal;
- The process of gas cylinder manufacturing and regeneration in the PETROCI unit;
- The ECOWAS project to draw up a regional strategy for LPG.

The participants made the following recommendations:

- States should mandate their regulatory agencies to carry out studies to define the regulatory and economic framework necessary for establishing shared infrastructures;
- Regional organisations should carry out the studies necessary to harmonise the regulatory and economic framework for shared infrastructures;
- States should set up a framework for consultation between industry stakeholders and port infrastructure managers;
- The ARA should make its members aware of the importance of these changes to the regulatory framework;
- Refinery, wharf, pipeline and depot operators should define and communicate their requirements;
- Consultants should carry out a business-case study to identify the investment opportunity;
States should mandate the relevant agencies to carry out studies to define coherent national policies for managing LPG cylinders;
Regional organisations should carry out studies to harmonise and produce coherent sub-regional policies for managing LPG cylinders;
The ARA should draw up a comparison of different butane subsidy policies and a study of how they have evolved;
Propose sustainable butane tariff mechanisms to states in order to make the investments profitable;
Regional organisations should define and harmonise standards for the manufacture and maintenance of butane gas cylinders;
States should put restrictive measures in place to enforce standards and eliminate non-compliant cylinders;
States should draw up consistent tax and customs policies on steels and other imports for both the local manufacture of cylinders and the importation of cylinders;
States should set up customs tariff arrangements for the movement of cylinders destined for regeneration;
Regional organisations should define and harmonise regulations on installations and equipment;
States should put restrictive measures in place to enforce installation and equipment regulations;
The ECOWAS should complete its study and implement all the recommendations that arise from it. They are to be congratulated for the work completed to date.

2ND JET FUEL SYMPOSIUM
ADDIS ABABA, 28TH NOVEMBER 2018

The ARA’s 2nd JET FUEL conference was held in Addis Ababa on November 28, 2018 at the Radisson Blu Hotel brought together more than thirty participants from 13 countries: Ethiopia, Ivory Coast, Senegal, Ghana, Madagascar, DRC, Sierra Leone, Mauritania, Cameroon, UAE, UK, France and Canada.

The official opening of this conference was made by Mr. Koang Tutlam, Minister of Mines and Petroleum of the Republic of Ethiopia.

During this conference eleven presentations were made to share experiences of the JET FUEL production and supply chain. Experts also put their know-how and their recommendations at the service of the participants.

THE FOLLOWING OBSERVATIONS HAVE BEEN MADE

JET FUEL is a product with a supply chain where the level of risk is very high for both safety and the preservation of the quality of the product because of the large number of participants in the supply chain speakers from production up to the final consumer, namely:

- Producers, traders, National Import Organisations
- Laboratories of analysis, inspectors etc.
- Primary logistic operators (pipeline, seagoing vessel / barge)
- Supply warehouses / and operators in storage
- Secondary logistic operators, particularly truck transport
- Airport services: aircraft depots and bunkers
- Civil Aviation Authorities, Airport Authorities, Local Authorities

This multiplicity of actors is illustrated by: different roles, responsibilities and different tasks at all stages of this segment of activities – different skills – a heterogeneous level of technical knowledge – from awareness to the control of particularly among players in non-oil companies – the absence or insufficiency of contractual provisions which set obligations to international standards and determine responsibilities – the insufficiency or even absence of official regulatory texts – the obsolescence of equipment, the regional insufficiency of laboratories in number and quality (not approved) as for the reliability of the analyses to be carried out, the insufficiency or absence of new technologies, insufficient storage, etc.

This can lead to variable reactions and level of involvement
in abnormal situations (fuel shortage, technical incidents, product quality, etc.), with a significant potential impact due to misunderstood, under-estimated, not relayed or partially relayed information and therefore bad decisions taken.

Moreover, in the transport segment, long distances are often covered with increased risks for safety, inadequate maintenance of transport equipment, risk of fraud, risks of product contamination by dust and rain, and various constraints at border crossings.

The impact of insufficient audits and controls of this complex logistics chain was noted. In addition to the technical issues related to the jet fuel supply chain, the price aspect has also been addressed: Africa will remain a net importer of refined products, including JET fuel; Price identification remains in trading centres far from Africa (USGC, New York Harbor, Northwest Europe, Singapore).

There is a lack of African reference and regional benchmarks. These constraints include the mismatch between product specifications and events in distant markets affecting prices for African refiners, importers and consumers.

**CONCLUSIONS AND RECOMMENDATIONS**

Following the presentations and the informative debates, the following was noted:

- Continue the implementation of the roadmap of the 1st JET symposium 2017 and reinforce it;
- In line with its commitments, the ARA will continue the necessary and essential efforts to raise awareness of all players in the supply chain;
- The ARA will contribute to improving the dissemination of international standards and invites all stakeholders to share these standards and good practices. The presentation by the Energy Institute, from London, was particularly appreciated by delegates;
- The ARA will organise training dedicated to the supply chain of JET fuel.
- It is recommended to increase communication and to better share technical knowledge between partners involved in the local supply chain (civil aviation, airport authorities, importing states, etc.);
- The ARA will help to train personnel in the upgrading of the contractual provisions according to the international requirements which make it possible to define the responsibilities and to ensure an efficient management of the interfaces;
- The ARA will assist all stakeholders with their respective Authorities to ensure an adequate regulatory and legal framework to secure the supply chain at all levels;
- It is recommended to encourage investment and increase the cost of maintenance and upgrading of all equipment throughout the supply chain. Costs incurred to secure transport and ensure the integrity of the product and the safety of property and people contribute to significant savings and reduce losses of human and financial resources (geolocation, trackers, avoid theft, accidents, etc.);
- It is recommended to share the feedback of incidents and accidents that may occur in all segments of the supply chain;
- It is recommended to increase the number of accredited laboratories, especially at a regional level, equipped with measurement equipment to the standards required to ensure the reliability of analysis and better use of their results;
- The ARA renews its commitment to prioritise JET in inter-laboratory round robin tests and encourages participants to identify non-conformities and ensure their expected correction;
- The ARA undertakes to give priority to the JET as part of any audit missions carried out. All stakeholders are invited to strengthen audit and control actions in their respective activities;
- The ARA is committed to organizing a 3rd edition of the JET conference. Members will identify the topics they wish to see addressed and are invited to forward their proposal to the ARA by December 30th.

In terms of prices, Argus Media made a presentation proposing that Africa could develop regional markets and have regional price references: dynamic local markets, which are traded at differentials with standard international benchmarks, are possible with certain fundamentals. These could emerge, for example, off Lomé or Lagos, Saldanha Bay, Durban or Mombasa, against other existing benchmarks / references. Africa needs JET fuel at fair and transparent prices.

In addition, it was suggested that the implementation of the IMO 2020 compliant marine fuel will inevitably have an impact on all product trade flows and prices, including JET fuel.
On November 27th, the Specifications Work Group (SWG) met in Addis Ababa. Representatives from Ethiopia, Cameroon, Democratic Republic of Congo, Mauritania, Senegal, Madagascar, Sierra Leone and Côte d’Ivoire Algeria, France and the United Kingdom were present at the meeting.

An update on the ECOWAS study on the harmonisation and improvement of fuel specifications and vehicle emission standards was provided, noting that it was launched to support improvement of the environment for the population. The report from the study is expected to be presented on 17 Dec, 2018 to an initial ECOWAS meeting. A follow up meeting to ECOWAS technical experts is planned in 2019, followed by a presentation to ECOWAS ministers later in 2019. It is expected that ECOWAS will be developing a roadmap to improve air quality, in cooperation with other parties including UNEP.

**SPECIFICATION CHANGES SINCE THE AGM IN MARCH 2018**

Significant changes have been made in Egypt including 95 RON import specifications moving to 1% benzene & 42% aromatics and sulphur in gasoil reduced from 10,000ppm to 1,000ppm.

Togo sulphur levels are reducing from 2,500 to 50ppm in gasoline and from 10,000 to 50ppm in gasoil. This change occurred just before the meeting and is seen as significant because although Togo itself is not a very large market, it is a major importing zone for all of West Africa with many ship-to-ship deliveries occurring off-shore there. This change also signifies that Togo is reducing sulphur ahead of the wider ECOWAS region, which could create concerns for harmonisation and technical issues. One example is lubricity requirements, whereby lubricity performance measurement or additive use may be needed in gasoil due to the much lower sulphur level, but this issue does not appear to have been addressed as part of the move to lower sulphur, as it should be. It was noted this was an example where the ARA can play an important role to help ensure proper planning and spec transitions, with fuller understanding of the test methods to be used as well.

The latest import tender for Ethiopia and Djibouti reduced sulphur from 1,000 to 500ppm S. and a lubricity requirement was introduced.

**MARPOL**

Mr. David Bleasdale of CITAC reviewed the issue of MARPOL implementation in 2020.

He highlighted that, due to competition law, there is almost no coordination possible amongst suppliers and shipping companies to understand volume availabilities at the new quality levels etc., which presents enormous uncertainty about how markets and pricing will be affected.

New risks in marine activity will emerge due to the potential that different fuels may not be compatible with each other. A concern will be if newly purchased fuel will be incompatible with fuel already in storage tanks and ships. This major compatibility concern will require care by all stakeholders, and general guidelines were noted in the presentation. A draft document on “best practices” from IMO was circulated at the meeting and will be made available to all ARA members. The key priority is not placing the vessel and its crew at risk through risk of engine failure.

It is expected that the MARPOL changes will bring major unpredictable changes to markets, with potentially very significant differences in product flows, tankage, storage, etc.

More transparency on the expected price differential between conventional and the new compliant fuels can be expected in the New Year as the Price Reporting Agencies (PRAs) increase their reporting coverage (Argus is currently reporting around $150/mt differential, but this is expected to widen as the MARPOL deadline approaches).

A key conclusion was that, in future, there will be much greater focus by ship operators on product quality, knowledge of blending components and supply chain integrity.

**MMT BRIEFING**

Mr. John Walsh, of Afton Chemicals, provided an overview of mmt®, a manganese-based octane enhancer additive, it’s role on the clean fuels journey, various stakeholder positions on the additive, and what has been the position of regulators around the world as they progressed along their own roadmaps toward cleaner fuels. The conclusion presented was that manganese additives are not harmful to vehicle abatement systems provided proper control over dosage recommendations is followed.
AFRI 6
A discussion on AFRI specifications was held. It was noted that the timing target set by the ARA for minimum AFRI 5 adoption across all of Africa is 2030. A debate took place whether this was too late and that the date should be advanced. After discussion, the date was left unchanged. The group felt that a concerted focus and effort over the short term (perhaps next 2 years) to achieve AFRI 4 across all of Africa should be promoted by the ARA. It was felt that this would provide significant air quality improvement versus today’s status, provided improvements in vehicle fleet inspection and maintenance controls, on both vehicle imports and on the existing vehicle fleet also occurred.

Consensus promoted the value of adding an AFRI 6 level to complete the AFRI specifications with the intent of providing an African roadmap to improving fuel quality with AFRI 6 being a “global best practice” level consistent with the highest quality fuel specifications in the world currently.

After broad discussion, a draft target date for the new AFRI 6 of 2035 was agreed.

All the comments received by the SWG, following an extensive stakeholder consultation exercise, in respect of AFRI 6 specification limits were reviewed by the group, and broad discussions followed, focusing on the following parameters.

Octane
It was noted that setting fuel specs is always a “balancing act” between competing priorities, and it’s important to find the right balance for Africa, which might be different than for Europe. For example, when increasing octane from 91 to 93 or 95, there are negatives in terms of increased refinery energy and fuel consumption, increased CO₂ emissions, and increased toxics in the fuel (e.g. in the form of aromatics and benzene). There was consensus in the room to stay at 91 octane, with no one voting to go to a higher level.

Sulphur
Several delegates questioned whether the European 10ppm sulphur limit is right for AFRI 6, and noted that maybe 30ppm is sufficient, reminding the group that there is a large increase in CO₂ emissions resulting from refinery processing to achieve 10ppm sulphur. It was also noted that catalyst manufacturer and auto studies show the same air quality targets can be achieved with 30ppm S fuel as with 10ppm.

There was an informal vote on the draft sulphur level for AFRI 6, and the group finished with a position that the draft sulphur level for both AFRI 6 gasoline and diesel should be 20–30ppm.

Metal based additives
It was noted that automakers have a policy of requesting lower metal levels in fuels. After discussion, the group suggested an 18mg Mn/l limit be introduced retrospectively for mmt® at the AFRI 5 level and a 6mg Mn/l limit for AFRI 6.

It was noted that while mmt® has supporting data, there is almost no similar supporting data from fleet tests, real world use, or health testing reviews for other metals such as Fe, Ferrocene, Chinese-sourced CMT Mn., etc. It was proposed that an appropriate footnote to address other metallic additives would be drafted.

NEXT SWG MEETING & NEW LEADER
It was agreed to target the next meeting for Saturday March 23 in Cape Town, as part of ARA WEEK 2019. This meeting will be chaired by Mr. Evans Mauta, of the Indeni refinery, Zambia, who will replace Mr. Riaan Henn as Leader of the Specification Work Group. Mr Dervain, on behalf of the ARA Executive Committee thanked Riaan for his exemplary work in developing and promoting the ARA Clean Air Policy over the last few years.
SAFETY AUDITS

The RHSEQ Work Group organised two safety audits, which took place 18–22 June at the SONABHY depot in Bingo, Burkina Faso, and 20–24 August 2018 at CORAF, Pointe Noire, Congo-Brazzaville respectively.

Audit reports have been sent to both sites. A third audit is scheduled to take place at SONABHY, in Ouagadougou.

Once this has been completed, the ARA operational office in Abidjan will organise an audit review meeting.

INTER-LABORATORY ROUND ROBIN TESTS

SONARA carried out inter-laboratory round robin tests on a single product, Jet A1, in accordance with the recommendations made by the Executive Committee following the Jet workshop held on 7th November 2017 in Abidjan.

The campaign of tests was organised by a team composed of Mrs Fatma Haidara-Toukourou and Mr. Georges Baou, ARA, Messrs Antoine Beyene, Benjamin Ekoume, Constant Behiri and Mr. Oumar Ly Seydina, Technical secretaries, and SGS-Cameroun, the independent inspector responsible for shipping the samples.

SONARA, the support laboratory, provided logistical support for the preparation of the samples (sampling and packaging) and fifteen other laboratories were selected to carrying out the tests.

The transfer of samples to the registered laboratories took place from May to July 2018 and the samples were analysed between July and September 2018. The report was released on November 8, 2018.

A feedback meeting with organisers and participants is scheduled on 15th January 2019 in Ouagadougou.

NEW MEMBERS

The ARA is delighted to announce that Ghana National Oil Corporation (Ghana), Horizon Terminal (Djibouti) and Office Malgache des Hydrocarbures (Madagascar) have become Members of the ARA.

SAFETY AUDITS

 Registered Office: ARA, 1200 Geneva, Switzerland
 Operational Headquarters – Abidjan: Lot 70 Rue des Camaa – Bât 6 & Danga Sud – Cocody Danga – Abidjan – PO BOX: 08 BP 2965 ABIDJAN 08 – Cote d’Ivoire

 Registered Office: ARA, 1200 Geneva, Switzerland
 Operational Headquarters – Abidjan: Lot 70 Rue des Camaa – Bât 6 & Danga Sud – Cocody Danga – Abidjan – PO BOX: 08 BP 2965 ABIDJAN 08 – Cote d’Ivoire

UPCOMING EVENTS

MEETINGS

15 January 2019
Round Robin Test Debriefing
Ouagadougou, Burkina Faso

16 January 2019
Safety Cross Audits Debriefing
Ouagadougou, Burkina Faso

24 January 2019
Executive Committee
Geneva, Switzerland

24 March 2019
Executive Committee
Cape Town, South Africa

WORK GROUP MEETINGS

23 March 2019
Specifications, Refining & HSEQ, Regulation and Storage & Distribution Meeting
Cape Town, South Africa

2019
ARA WEEK
25–29 MARCH

VISIT WWW.AFRRA.ORG/EN/EVENTS FOR MORE DETAILS