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PPC REPORT

PETROLEUM PORTFOLIO COMMITTEE REPORT

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This work is the product of The Petroleum Portfolio Committee (PPC) of the Energy Regulators Association of East Africa. The findings and conclusions expressed in this work reflect the views of EREA Secretariat, the Executive Council and the General Assembly.

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1 Introduction

The Petroleum Portfolio Committee (PPC) is one of the main working groups of the Association. It is mainly formed to support the Association's Secretariat by considering and deliberating on petroleum technical matters relating to the regulatory matters within the EREA member states. The purpose of this Portfolio Committee is to deliberate and deal with issues relating to upstream, midstream and downstream petroleum (including natural gas).

The membership of the PPC is drawn from all the National Regulatory Institutions (NRIs), namely:

(i) Authority for Regulation of Water and Energy sectors (AREEN) of the Republic of Burundi;
(ii) Energy and Petroleum Regulatory Authority (EPRA) of the Republic of Kenya;
(iii) Energy and Water Utilities Regulatory Authority (EWURA) of the United Republic of Tanzania;
(iv) Petroleum Authority of Uganda (PAU) of the Republic of Uganda;
(v) Rwanda Utilities Regulatory Authority (RURA); and
(vi) Zanzibar Utilities Regulatory Authority (ZURA) of Zanzibar.

The main objective of the PPC is to deliberate and deal with issues relating to upstream, midstream and downstream petroleum in terms of, but not limited to quality, safety, standards, security and reliability of supply.

The specific objectives of the PPC include the following among others:

(i) To facilitate EPC and LPC to develop model regulations to guide drafting of contract and tariff for Oil and Gas infrastructure in the EAC region;
(ii) To enhance regional harmonization of quality standards to improve cross border trading of petroleum products among the National Regulatory Institutions (NRIs);
(iii) Establishment of stable and sustainable regulatory regimes in NRIs to encourage continued improvements in the upstream, midstream, and downstream petroleum and natural gas sub sectors to match economic growth;

(iv) To share & enhance the policy, legal & regulatory framework on upstream, midstream and downstream petroleum in the EAC region;

(v) To benchmark on regulatory practices for upstream, midstream and downstream petroleum operations from each member NRIs & other regulatory organizations identified in other parts of the world;

(vi) To initiate development and harmonization of standards that will ensure that the petroleum infrastructure in the EREA member NRIs are maintained at required operational levels so as to guarantee stable supplies of petroleum products across the EREA member countries;

(vii) To encourage exchange and recommendation of best practice for regulation of the petroleum supply chain (from port or processing plant or refinery to pump or burner-tip) in the EREA member countries;

(viii) Develop and share policies, laws, regulations and technologies that can be used in the quality of refined petroleum products and avoid tax-leakages due to export diversion;

(ix) To propose for enforcement of Health, Safety and Environment standards in the Petroleum sectors in the EREA member countries;

(x) To propose standards for enforcement of efficient mode of transport of the Oil and Gas products in the EREA member countries;

(xi) To conduct field visits with the purpose of benchmarking the Oil & Gas infrastructure and projects in the EREA member countries; and

(xii) Invitation of EREA member countries to training in Oil and Gas that may be held in the EAC region.

The first (1st) PPC meeting was held from 2nd to 4th December 2021 at EREA Head-quarters in Arusha, United Republic of Tanzania.

2 Constitution of Bureau

Participants present at the first (1st) meeting were:

(i) EPRA;

(ii) EWURA;

(iii) PAU;

(iv) RURA; and

(v) ZURA.

The Secretary received apologies from AREEN.

The EREA's constitution requires a minimum of three (3) NRIs to constitute the Bureau. Accordingly, it was confirmed that the five (5) members present complied with the requirement to form quorum and the bureau was fully constituted.

A full list of the participants is attached as **Annex 1**.

The meeting was chaired by **Mr. Nurudin NJABIRE (PAU)** and the secretary was **Eng. Gerard RUSINE (RURA)**.

3 Adoption of the Agenda

The Agenda was proposed as listed below:

(i) Introduction

(ii) Constitution of Bureau

(iii) Adoption of the Agenda

(iv) Matters arising:

  (a) Review of the Resolutions of the 19th EXCO of 22nd June 2020 via zoom online platform;

  (b) Review of the Resolutions of the 21st EXCO of 22nd June 2021 via Zoom online platform;

  (c) Review of the Resolutions of the 13th AGA of 30th June 2021 via zoom video conferencing platform.

(v) Review of activities under the PPC Work Action Plan for the FY 2021/22.

  (a) Identify research areas in Upstream and Downstream Oil & Gas, collect data and to prepare a draft report on the same;

  (b) Update information on the development in Oil & Gas in the EREA member states for sharing.

(vi) Any Other Business.

The Agenda was **adopted** for discussions.

4 Matters arising

- **Matters arising from the 20th EXCO**

The PPC considered the matters-arising from the 20th EXCO relating to the action on development of Terms of Reference for the Consultancy on Data Reporting Portal. This had been deferred due to the fact that it required more time to be implemented. PPC prepared and submitted its Data Sharing Requirements which has been forwarded to the Secretariat for compilation and preparation of the final tender documents.

This is attached as **Annex 2 for NOTING and to give further guidance**.

- **Matters arising from the 21st EXCO**

The PPC considered the matters-arising from the 21st EXCO and noted that there were no matters arising directed to the PPC.

- **Matters arising from the 13th AGA**

The PPC considered the matters-arising from the 13th AGA relating to the amendment of the EREA Constitution to include the Upstream Petroleum Portfolio Committee. In this regard, the directive of establishing Upstream Petroleum Portfolio Committee required the amendment of the Constitution which will be done by the LPC. The PPC has prepared the Terms of Reference to govern the functions of the portfolio committee.

This is attached as **Annex 3 for APPROVAL and to give further guidance**.

5 Review of activities under the PPC Work Action Plan for the FY 2021/22

A review of the Work Action Plan under the PPC was done; focusing on the progress achieved to date as summarised in **Annex 4.** These were:

- **Identify research areas in Upstream and Downstream Oil & Gas, collect data and to prepare a draft report on the same.**

  The approved work-plan by the 13th AGA required a research study to be carried out on the geological potential, licensing, and the economic evaluation of upstream petroleum fiscal regimes in the East African Community (EAC).

The objective of the research study was to benchmark the attractiveness of the geological potential and fiscal regimes in attracting oil and gas companies in the EAC.

The research study identified the following recommendations:

(i) **Progressive fiscal regime:** There is a need to create a progressive fiscal regime which can support achievement of a reasonable take of the state. This research has shown that none of the model Production Sharing Agreements (PSAs) is responsive to LOW and HIGH oil and gas prices in terms of Government take.

(ii) **Exploration:** There is need to fast track additional exploration within the region to bring down the observed 'break-even price 'from the economic modelling.

(iii) **Incentives to attract Licensees (investors):** There is need for EAC partner states to look for incentives to attract investment in exploration. This is important since there's now limitation to access funding for exploration of fossil fuels and the climatic driver to transition to other energy sources. The incentives may include; allowing investors to bid for State Participation share, Royalty and Signature Bonus (e.g Kenya has allowed investors to propose).

The draft report is attached as **Annex 5 for NOTING and to give further guidance**.

- **Research on Reticulation of LPG/CNG in Domestic and Commercial Settings**

The approved work-plan by the 13th AGA required a research study to be carried out in an area of interest in mid- and down-stream petroleum. This was identified by the portfolio committee following its interest by investors in Kenya and Tanzania.

The objective of the research study is to provide key regulatory aspects that should be considered when developing regulations or issuing licences and or permits for the reticulation of LPG/CNG in the NRI member states.

The PPC met and discussed the research topic. It was noted that where feasible, reticulation of LPG/CNG has significant advantage over selling of the same in bottled systems such as safety and low entry and exit costs for the consumer.

The PPC noted that key aspects of regulation of reticulated systems are not explicitly covered in all NRIs licensing regime. From the foregoing, the following recommendations are made:

(i) A table listing key aspects of regulatory framework for reticulated system has been developed for each NRI to consider implementing in their regions;

(ii) Each NRI is encouraged, where applicable, to put in place regulatory tools as per the guidelines in their respective regions; and

(iii) The NRIs are requested to work with their respective National Standard bodies in the EAC region to develop standards for the reticulation of LPG/CNG systems in the domestic and commercial settings.

The draft report is attached as **Annex 6 for NOTING and to give further guidance**.

- **Update information on the development in Oil & Gas in the EREA member states for sharing.**

(a) Upstream information and data

Upstream sector in the EAC region experienced a period of slow-down as occasioned by COVID-19 pandemic. In the year 2020, signs of recovery have been signalled by increased activities in the licensed blocks.

The report is attached as **Annex 7 for NOTING and to give further guidance**.

(b) Mid- and down-stream information and data

The PPC has analysed the trend of prices of petroleum products for the world market and local prices, it is noted that prices of petroleum products in the world market have been increasing on a monthly basis and it has negatively affected the economies of almost all countries in the world especially those which are net importers of petroleum products including the East African countries. This has caused consumer uproar in various NRIs member states. The price of:

(i) Petrol has increased by 23% from US$ 644.01/MT in May 2021 to US$ 793.14/MT in October 2021;

(ii) Diesel has increased by 30% from US$ 550.68/MT in May 2021 to US$ 713.28/MT in October 2021; and

(iii) Kerosene has increased by 30% from US$ 558.90/MT in May 2021 to US$ 726.56/MT in October 2021.

Different strategies were employed by the NRIs, namely:

(i) Tax and levies reduction: Some of the NRIs' Governments decided to forego a portion of Taxes and Levies due so as to ease pressure on consumers. This strategy was employed by EWURA and RURA.

(ii) Price stabilisation: This is where the effective increase of petroleum products with reference to a particular month is compensated to the Oil importing companies so as to ensure price remains unchanged in the month under review. The NRIs employing this strategy are EPRA, RURA and ZURA. They have utilised the funds built under a special levy called Petroleum Development Levy ZURA Stabilisation Fund respectively that were established in the period when the landed prices were low.

The report is attached as **Annex 8 for NOTING and to give further guidance**.

6 Any Other Business (AOB)

The Executive Secretary (ES) urged all the PPC members to attend the Oil & Gas Training on 17th and 18th January 2022. NRIs are encouraged to inform staff to obtain the requisite approvals so as to attend.

There being no other business, the meeting was adjourned on **4th December 2021** at **1600Hrs**.

ANNEX 1 ATTENDANCE LIST FOR THE TECHNICAL PORTFOLIO COMMITTEE MEETING

No.	Name	NRI	Telephone Contact	e-mail contact
1.	Ezra TERER	EPRA	+254720308108	ezra.terer@epra.go.ke
2.	Gerald MAGANGA	EWURA	+255754288509	gerald.maganga@ewura.go.tz
3.	Gerard RUSINE	RURA	+250788738037	gerard.rusine@rura.rw
4.	Jabir Is-Haka	ZURA	+255773651154	jabir@zura.go.tz
5.	Nurudin NJABIRE	PAU	+256772829348	nurudin.njabire@pau.go.ug
6.	Poline MSUYA	EWURA	+255758809701	poline.msuya@ewura.go.tz

ANNEX 2 Proposal of Petroleum Data Sharing Requirements for inclusion in the Proposed Consultancy of Data Reporting Portal/ Regulatory Data-hub

The following data was identified to be considered for the database:

1 UP-STREAM PETROLEUM

1.1 Petroleum exploration, development, and production

- (i) Contract/Agreement
- (ii) Legal framework
- (iii) Sector status
- (iv) Number of discoveries
- (v) Stock Tank of Oil Initially In-Place (STOIIP)

1.2 National content

- (i) National Content legal framework
- (ii) Value retained in-country
- (iii) Number of services ring fenced for Nationals
- (iv) Number of Joint venture contract

1.3 Monitoring framework

- (i) Monitoring operations
- (ii) Cost monitoring

2 MID- AND DOWN-STREAM PETROLEUM

2.1 Petroleum and natural gas facilities, import and price progression

- (i) Infrastructure: jetties, storage, pipelines, retail stations, gas processing facilities.
- (ii) Volume of imported petroleum products for local consumption
- (iii) Price progression

2.2 Repository of Regulatory Framework and update of changes

- (i) Policies
- (ii) Acts of Parliament
- (iii) Regulations, Rules
- (iv) Standards and Guidelines

ANNEX 3 Terms of Reference for the Petroleum Portfolio Committee

1 Background

Following the 21st Executive Council (EXCO) meeting of June 2021 vide virtual Zoom platform, it was resolved that there shall be established an Oil and Gas Portfolio Committee. This has subsequently been proposed by the Legal Portfolio Committee to be renamed as Petroleum Portfolio Committee (PPC) so as to include mid- and down-stream petroleum.

The purpose of PPC is to deliberate and deal with issues relating to upstream, midstream and downstream petroleum in terms of quality, safety, standards, security and reliability of supply. This will reinforce the spirit of Section 75 (b) of the EREA constitution. To achieve this, the proposed constitution of the members shall be staff of national regulatory authority directly involved in petroleum regulation from each member state.

Section 8(g) of the EREA Constitution empowers the General Assembly to appoint committees to perform specific tasks like Petroleum Regulation, as it may consider necessary.

2 Reporting

The Petroleum Portfolio Committee will work independently and report to the EXCO, like the other Portfolio Committees.

3 Membership

The Petroleum Portfolio Committee will comprise of the NRIs in the upstream, midstream and downstream petroleum industries.

4 Meetings

The Petroleum Portfolio Committee will meet quarterly or other times as it will be directed by the EXCO Chairperson.

5 Functions of the Petroleum Portfolio Committee

The following are the functions of the Petroleum Portfolio Committee:

(i) To facilitate EPC and LPC to develop model regulations to guide drafting of contract and tariff for Oil and Gas infrastructure in the EAC region;

(ii) To enhance regional harmonization of quality standards to improve cross border trading of petroleum products among the National Regulatory Institutions (NRIs);

(iii) Establishment of stable and sustainable regulatory regimes in NRIs to encourage continued improvements in the upstream, midstream, and downstream petroleum and natural gas sub sectors to match economic growth;

(iv) To share & enhance the policy, legal & regulatory framework on upstream, midstream and downstream petroleum in the EAC region;

(v) To benchmark on regulatory practices for upstream, midstream and downstream petroleum operations from each member NRIs & other regulatory organizations identified in other parts of the world;

(vi) To initiate development and harmonization of standards that will ensure that the petroleum infrastructure in the EREA member countries are maintained at required operational levels so as to guarantee stable supplies of petroleum products across the EREA member countries;

(vii) To encourage exchange and recommendation of best practice for regulation of the petroleum supply chain (from port or processing plant or refinery to pump or burner-tip) in the EREA member countries;

(viii) Develop and share policies, laws, regulations and technologies that can be used in the quality of refined petroleum products and avoid taxes leakages due to export diversion;

(ix) To propose for enforcement of Health, Safety and Environment standards in the Petroleum sectors in the EREA member countries;

(x) To propose standards for enforcement of efficient mode of transport of the Oil and Gas products in the EREA member countries;

(xi) To conduct field visits with the purpose of benchmarking the Oil & Gas infrastructure and projects in the EREA member countries;

(xii) Invitation of EREA member countries to training in Oil and Gas that may be held in the EAC region; and

(xiii) Any other tasks related to Oil and Gas as may be directed by the EXCO Chairperson from time to time.

ANNEX 4 PPC WORK-ACTION PLAN 2021/22

KEY RESULTS AREA	STRATEGIES	ACTIVITIES	OUTPUT	TIMELINE	LEAD NRI	STATUS
Research and information sharing	Identify topical areas for research	Assist Secretariat to recruit implementing agency/ firm for the information portal	Agency identified	Mar-2021	EPRA	
	Conduct study and report	Assist Secretariat to supervise or manage contract	Study report	Jun-2021	AREEN	

ANNEX 5 Up-stream Research Topic

Geological Potential, Licensing and the Economic Evaluation of Upstream Petroleum Fiscal Regimes in the East African Community Region

1 INTRODUCTION

Three countries; Kenya, Tanzania and Uganda were used for the upstream research study. These countries had enough publicly available data. In addition, they have progressed in terms of exploration and development for oil and gas. They have an established policy, legal, and regulatory framework for upstream oil and gas. In terms of geological potential, licensing, and the economic evaluation of upstream petroleum fiscal regimes, the research utilized the existing Model Production Sharing Agreements available in the three countries.

2 FACTS FOR EXPLORATION AND DEVELOPMENT

Country	Exploration effort	Basins	Data	Hydrocarbon occurrence
Kenya	Petroleum Exploration in Kenya began in the 1950s within the Lamu Basin. The first commercial discovery was made in 2012. Government with the Licences are undertaking Field Development planning.	Basins are subdivided into 63 petroleum exploration blocks • 29 blocks are licensed to 15 international oil companies, • 1 block is licensed to the National Oil Corporation of Kenya (NOCK), • 33 blocks are open for licensing to investors for oil and gas exploration	**Seismic Coverage**: Over 80,000-line km 2D and 10,000 km^2 of 3D **Wells Drilled:** Over 86 wells drilled	**Resources:** approx. 4 billion barrels, 750 million barrels recoverable.
Uganda	Geological field expeditions for petroleum exploration were first carried out in the early 1920's. The British colonial administration conducted a geological survey to map possible oil deposits in 1925. This survey provided the first official confirmation of the presence of hydrocarbons in the Albertine Graben. The first commercially viable oil discovery was made in 2006, and subsequently, there has been 21 discoveries. The country has progressed into development of two upstream projects (Tilenga and Kingfisher) supposed to produce	Basins are: • Albertine Graben • Kadam-Moroto • Hoima • L. Victoria • L. Wamala	**Seismic Coverage:** 7,354.6 km of 2D and 1,948.6 km^2 of 3D **Wells Drilled:** 121 exploration and appraisal wells drilled, 106 wells encountering oil and/or gas (over 85%). **Geological Mapping:** Over 10,000 km of geological mapping undertaken.	**Resources:** 6.5 billion barrels, 1.4 billion barrels recoverable. In addition, Approx. 500 billion standard cubic feet (BCF) of gas

Country	Exploration effort	Basins	Data	Hydrocarbon occurrence
	230,000BOPD. Part of this crude will be exported at Tanga in Tanzania via the East African Crude Oil Pipeline (EACOP) and through addition of value by refining (60,000BOPD).			
Tanzania	Tanzania has been intermittently explored over the last 60 years. Significant gas discoveries were made at Songo Song, Mnazi Bay and in the southern deep-sea basin.	Basins include: • Inland basins and modern rift system • Coastal and continental shelf basins • Deep sea basins	**seismic coverage**: approximately 100,000 km 2D: 70,000 km offshore and 30,000 km onshore. About 15,000 km^2 of 3D **Wells:** More than 50 exploration wells and development wells	**Reserves:** more than 55 trillion cubic feet of gas reserves.

3 A COMPARATIVE STUDY FOR PETROLEUM FISCAL REGIMES; (KENYA, TANZANIA AND UGANDA)

The key fiscal terms of the various regimes are detailed in the tables below.

3.1 Fiscal terms

<table>
<tr><th>Item</th><th>Kenya</th><th>Uganda</th><th>Tanzania</th></tr>
<tr><td>Model PSA</td><td>2015</td><td>2015</td><td>2013</td></tr>
<tr><td>Signature bonus</td><td>Biddable</td><td>Biddable</td><td>Not less than 2,500,000</td></tr>
<tr><td>Production Bonus</td><td></td><td>When production first reaches volumes of 50,000,000 BOE, the Licensee shall pay to the Government 5,000,000 USD as Production Bonus. Thereafter on each additional 25,000,000 BOE, the Licensee shall pay to the Government 3,000,000 USD.</td><td>Not less than 5,000,000</td></tr>
<tr><td>Royalty</td><td>Not specified</td><td>Minimum royalty (biddable item)
<table>
<tr><th>Tranches of daily total Production (BOPD) rates</th><th>Royalty</th></tr>
<tr><td>Where the production does not exceed 5,000</td><td>2.5%</td></tr>
<tr><td>Where the production is higher than 5,000 but does not exceed 10,000</td><td>5%</td></tr>
<tr><td>Where the production is higher than 10,000 but does not exceed 20,000</td><td>7.5%</td></tr>
<tr><td>Where the production is higher than 20,000 but does not exceed 30,000</td><td>10%</td></tr>
<tr><td>Where the production is higher than 30,000 but does not exceed 40,000</td><td>12.5%</td></tr>
<tr><td>Where the production is higher than 40,000</td><td>15%</td></tr>
</table></td><td>12.5%</td></tr>
<tr><td>Cost recovery</td><td>60%</td><td>Not more than 65%</td><td>50%</td></tr>
<tr><td></td><td>5years straight line</td><td>5years straight line</td><td>5years straight line</td></tr>
<tr><td>CIT</td><td>30%</td><td>30%</td><td>30%</td></tr>
<tr><td>State Participation</td><td>biddable</td><td>Carried interest up to 25%</td><td>Carried interest up to 20%</td></tr>
</table>

Profit Oil

<table>
<tr><th>Country</th><th>Profit-Oil</th></tr>
<tr><td>Kenya</td><td>
R-factor: $R = \frac{X}{Y} = \frac{Cummulative\ cash\ inflows}{Cummulative\ cash\ outflow}$

$Cummulative\ CI = Cost\ petroleum + Profit\ Petroleum - Production\ Cost - Decommissioning\ Costs$

$Cummulative\ CO = Exploration\ costs + Development\ costs$

<table>
<tr><th>R-factor</th><th>Govt</th><th>Contractor</th></tr>
<tr><td><1.0</td><td>50%</td><td>50%</td></tr>
<tr><td>1≤R<2.5</td><td>65%</td><td>35%</td></tr>
<tr><td>R≥2.5</td><td>75%</td><td>25%</td></tr>
</table>
</td></tr>
<tr><td>Uganda</td><td>
<table>
<tr><th>R-factor</th><th>licensee</th><th>Govt</th></tr>
<tr><td>R≤1.0</td><td>50%</td><td>50%</td></tr>
<tr><td>1<R≤3</td><td>Z=50-[25*(R-1)/2]</td><td>100-z</td></tr>
<tr><td>R>2.5</td><td>25%</td><td>75%</td></tr>
</table>

‘R’ denotes R-Factor of Licensee at the end of preceding Year, rounded off to

three decimal places.

The "R-Factor” shall be calculated as follows:

R = X / Y

Where:

X is equal to the “Cumulative Net Revenues” actually received by the Licensee; and

Y is equal to the “Cumulative Capital Expenditures” actually incurred by the

Licensee.

“Cumulative Net Revenues” means total Net Revenues, as defined below,

received by the Licensee from the Effective Date until the end of the
</td></tr>
</table>

Country	Profit-Oil		
	Calendar Year immediately preceding the Calendar Year in question.		
United Republic of Tanzania	**Tranches of daily total Production (BOPD) rates**	**TPDC Share of Profit Oil**	**Contractor Share of Profit Oil**
	0- 12,499	70%	30%
	12,500- 24,999	75%	25%
	25,000- 49,999	80%	20%
	50,000- 99,999	85%	15%
	100,000- and above	90%	10%

4 CONCLUSION AND POLICY RECOMMENDATIONS

The following recommendations are made:

(i) **Progressive fiscal regime**: There is need to create a progressive fiscal regime which is able to support achievement of reasonable take of the state. This research has shown that none of the model PSAs is responsive to LOW and HIGH oil and gas prices in terms of Government take.

(ii) **Exploration**: Fast tracking of additional exploration within the region to bring down 'breakeven price'.

(iii) **Incentives to attract Licensees (investors):** There's need for EAC partner states to look for incentives to attract investment in exploration. This is important since there's now limitation to access funding for exploration of fossil fuels and the climatic driver to transition to other energy sources. The incentives may include; allowing investors to bid for State Participation share, Royalty and Signature Bonus (e.g Kenya has allowed investors to propose).

5 REFERENCES

https://nationaloil.co.ke/upstream/

https://tpdc.co.tz/

"Model Production Sharing Agreements for Uganda, Kenya and Tanzania"

www.pau.go.ug

ANNEX 6 Mid- and Down-stream Research Topic:

Regulatory Framework for Reticulated LPG/CNG Systems of in Domestic and Commercial Settings

1 INTRODUCTION

Reticulation systems is where supply of utility services is from a common point (the town-gate) to the individual homesteads or commercial entities. Reticulation of Liquefied Petroleum Gas (LPG) and Compressed Natural Gas (CNG) apply to distributors and retailers in domestic and industrial settings where the it is supplied to customers via a network of pipes connected to a storage tank which is periodically refilled.

Unlike the bottled LPG/CNG distribution system, customers are locked into exclusive retail arrangements – with the only option for avoiding unfavourable price/service outcomes being to change fuel sources. For this reason changing fuel sources is unlikely to be a cost effective option for most consumers.

Reticulated LPG/CNG is significantly more capital intensive than cylinder distribution, and thus a critical mass of customers among whom the higher fixed costs can be apportioned is required for the project to be feasible. Accordingly, the interest in establishing reticulated LPG/CNG networks ordinarily arises in new green-fields housing developments or industrial estates. Interest in developing such networks also arises in areas in which it is not presently economic to extend the natural gas network. In such areas it may be viable to invest in a reticulated LPG/CNG network which, if appropriately constructed, can be connected to the natural gas system at a later time.

Reticulation of LPG/CNG is raising interest due to its supply convenience in the areas where they have been utilized.

2 REGULATORY ISSUES IN RETICULATION OF LPG/CNG

In considering the extent to which LPG/CNG networks should be regulated and the form of regulation to apply, the PPC discussed and considered the following questions to be relevant:

(i) ***Do operators of LPG/CNG network possess market power and is there the potential for misuse of any such market power?*** Key issues relevant to this question include whether or not consumers within the LPG/CNG network are able to switch away to other sources of gas (eg. bottled gas) or alternative fuels (eg. converting from natural-gas heating to electric heating).

(ii) ***Given the extent of market power, and the potential consequences that might arise from the misuse of market power, what form of regulation is appropriate?*** There are a range of regulatory options available to the respective National Regulatory Institution (NRIs) within their respective licensing and price regulation powers and the decision on what to apply will depend on the particular circumstances of the relevant market.

(iii) ***Will the benefits of regulation outweigh the associated costs?*** The PPC discussed and concluded that regulation imposes costs on regulated businesses (eg. compliance and reporting costs). The design of the regulatory framework should therefore balance the benefits to consumers from regulation with the costs that it imposes.

Unlike bottled LPG/CNG customers, customers connected to a reticulated LPG/CNG network are not able to choose their own gas retailer. The design of a reticulated LPG/CNG network and the contractual arrangements between the distribution network owner/operator and the retailer is such that customer choice is not possible. A customer cannot choose price/contract length/incentive offerings from different natural-gas retailers, as natural-gas retailers do not have a guaranteed right of access to the LPG/CNG network.

2.1 Entity to be Licensed

The retailer in an LPG/CNG network will be either:

(i) The network operator itself - acting as retailer to customers connected to the LPG/CNG network; or

(ii) The party with whom the network operator has contracted for the supply of gas to the storage tank and for the retail supply of that gas to customers connected to the LPG/CNG network.

2.2 Pricing, Fees, Tarrifs and Charges

As outlined above, a key issue for customers in a reticulated LPG/CNG network is that they are captive to the particular retailer in the LPG/CNG network, unlike customers in the bottled gas system who may choose from several gas retailers. NRIs could use established various price control regimes for reticulated LPG/CNG ranging from price-setting to price-monitoring or price-reporting. The choice will largely depend on each NRIs legislative framework.

Regardless of the choice, it is important that the following factors are taken into consideration:

2.2.1 Transparent Price Information:

The PPC discussed and considered that pricing information should be provided to customers when they first enter into a market contract and on a systematic basis when prices change. Such initial information about market contracts may be provided by means of a written Disclosure Statement to be developed by each NRI as required by their respective Consumer Protection Laws in the Member States. The Disclosure Statement must provide a customer with a range of information including:

(i) The date of commencement of the customer sale contract;

(ii) The prices, charges, tariffs and service levels that will be applicable in respect of the customer sale contract;

(iii) If the prices, charges, tariffs or service levels are able to be changed by the retailer under the customer sale contract, the manner in which any such change may be effected;

(iv) The costs to the small customer associated with entering into the customer sale contract, outside of the prices, charges and tariffs payable (including any costs associated with the provision of infrastructure such as meters);

(v) The type and frequency of bills which will be rendered under the customer sale contract;

(vi) The payment methods and options which are available in respect of the customer sale contract;

(vii) The termination charges which may apply in the event that the customer terminates the contract and the method of calculation of those charges; and

(viii) The dispute resolution options which are available to small customers.

2.2.2 Systematic information is provided to customers by giving notice of changes to price, tariffs and service levels as these changes occur.

In addition, the PPC also discussed and considered that an Energy Price Disclosure be developed to guide each energy retailer, amongst other things, to publish on its website a price factsheet for each market contract that it offers to residential customers. There is merit in requiring transparent information about pricing in LPG/CNG networks. This pricing information should be provided direct to customers at the time of the initial contract and on an on-going basis as prices change. There is also merit in a requirement to publish on the retailer's website a price fact sheet for reticulated LPG/CNG.

Another option in monitoring and compliance by the NRIs is to establish a price monitoring regime for reticulated LPG/CNG

2.3 Supply and Demand Management and Reliability

Given that customers within a reticulated LPG/CNG network may be relying on LPG/CNG for hot water, cooking and heating, it is important that the consumer protections which apply to the purchase of energy are clear and transparent and that dispute resolution processes are readily accessible.

The NRI's should have as its primary objective the protection of the long term interests of the consumers with respect to the price, quality and reliability of essential services. The respective NRI must, at the same time, have regard to the need to:

(i) Promote competitive and fair market conduct;

(ii) Prevent misuse of monopoly or market power;

(iii) Facilitate entry into relevant markets;

(iv) Promote economic efficiency;

(v) Ensure consumers benefit from competition and efficiency;

(vi) Facilitate maintenance of the financial viability of regulated industries and the incentive for long term investment; and

(vii) Promote consistency in regulation with other jurisdictions.

2.4 Design and Technical Requirements

The objective of a regulatory regime should be to establish and maintain a safe and efficient system of gas distribution and supply, and the establishment and enforcement of proper standards of safety, reliability and quality in the networks.

The NRI should set up a system for the monitoring and regulation of safety and technical standards with respect to gas installations in their respective Member States. All reticulated network distributors (including operators of LPG/CNG networks) are required to provide a Safety, Reliability, Maintenance and Technical Management Plan (SRMTMP) to their respective NRI.

For LPG/CNG networks, the SRMTMP must provide assurance that distributors will manage and operate the LPG distribution systems so as to minimise, as far as practicable, the hazards and risks:

(i) To the safety of the public and consumers arising from the system;

(ii) Of damage to property of the public and consumers arising from the system; and

(iii) To the safety of the public and consumers arising from interruptions to the conveyance or supply of LPG/CNG and the reinstatement of an interrupted LPG/CNG supply.

The SRMTMP must comply with requirements and standards provided by the NRI including a detailed description of the structure, assets, function and operation of the LPG/CNG distribution systems and a Formal Safety Assessment (FSA); together with the specification of systems and procedures to be used by the network operator to ensure that the design, construction, installation, commissioning, operation, metering, maintenance and decommissioning of each LPG/CNG distribution network:

(i) Are adequate for public safety and the safe operation of the network;

(ii) Provide adequate means of achieving isolation of the entire network or any part of the network in the event of emergency;

(iii) Provide adequate means of gaining access for servicing and maintenance of the network and other equipment;

(iv) Provide adequate means of maintaining the structure and operation of the network (including control systems such as alarm systems, temperature and pressure systems, emergency shut-down systems);

(v) Provide adequate means of measuring the consumption of gas at a consumer's premises; and

(vi) Take into account the results of the FSA.

2.5 Complaints and Dispute Handling

The PPC proposed that a good practice for ensuring efficient and effective handling of consumer complaints and disputes would be to make it a requirement that the LPG/CNG retail licensees and distribution licensees participate in and Energy Industry Ombudsman (EIO) Scheme, which may provide an independent process to resolve disputes between customers and members of the scheme (including licensed gas retailers and distributors).

It is considereds desirable for all customers in reticulated LPG systems to have access to an external and independent dispute resolution process. These customers have a particular vulnerability because they are "captive" customers who do not have access to the gas retailer of their choice.

2.6 Quality of Service and Consumer Protection

The PPC proposes that a regulatory regime should have consistency of approach in relation to each entity and the outcomes for each customer.i.e. a customer's rights should not vary depending on the manner in which the LPG/CNG retailer or distributor is dealt with under the applicable statutory instrument for regulatory purposes.

2.7 Same licensed entity — retail and distribution

Depending on the applicable NRI statutory provisions, a requirement could be made preventing from issuing a licence to a person where that action would result in the same person holding both a distribution and a retail licence.

Nevertheless, where the same person holds both retail and distribution licences (or is exempt from holding such licence(s)), customers may suffer a special disadvantage, particularly when they are "captive" customers as described above.

In some reticulated LPG/CNG networks the distributor owns not only the pipeline but also the meters and the storage tanks – in these networks the distributor can exert some competitive pressure on the retailer (i.e. the distributor can select from a number of retailers for the supply of gas into the network on a competitive basis from time-to-time. However, in such circumstances there may be no equivalent incentive on the distributor to pass on resulting efficiencies to end-use customers).

In other networks, the tanks and the meter assets belong to the retailer so that there will be no competitive discipline in the selection of the retailer.

2.8 Approval of Draft Contracts

It is required that each NRI should consider setting out key contractual conditions. Among the key obligations are requirements for:

(iv) Standard contract terms and conditions;

(v) Customer enquiry, complaints and dispute resolution processes;

(vi) Billing processes and procedures — including information as to frequency of billing, method of calculation of the bill, particulars to be included on bills and processes by which a customer can have a bill reviewed;

(vii) Tariff information including:

- (a) the manner and frequency of advice regarding tariff changes
- (b) retail and distribution components of the bill
- (c) Security deposits: circumstances in which these can be required, amount of security deposit and repayment of such deposits
- (d) Payment terms and conditions including: payment options, time to pay, installment plan and hardship obligations

(e) Disconnection and reconnection processes
(f) Meter reading processes and procedures

The NRI could establish a Gas Distribution Code and Gas Metering Code to deal with matters such as physical disconnection and reconnection from the network, meter issues (accuracy and reading) and a number of technical and safety issues.

Meter reading processes and procedures would be dealt with in either a distribution or retail licence depending on which entity was responsible for the meter reading assets.

3 COMPARATIVE ANALYSIS

Regulatory Aspect/ Issues	Uganda	Tanzania	Zanzibar	Uganda	Rwanda	Kenya	Burundi
Price-setting							
Price-Monitoring							
Disclosure Statement							
Energy Price Disclosure							
Reliability requirements							
Safety, Reliability, Maintenance and Technical Management Plan							
Formal Safety Assessment							
Energy Industry Ombudsman (EIO) Scheme/ Resident/ Consumer Association							
Quality of Service Clauses							
Restriction on Same licensed entity - retail and distribution							
Standard form of contract							
Gas Distribution Code							
Gas Metering Code							

4 Conclusion and Policy recommendations

The PPC notes that only Kenya and United Republic of Tanzania have some form of investment in reticulation of LPG and CNG respectively. The mode of supply was not present in the other NRI member states. However, the above aspects of regulation are not explicitly covered in the licensing regime.

It was noted that where feasible, reticulation of LPG/CNG has significant advantage over selling of the same in bottled systems such as safety and low entry and exit costs for the consumer.

The PPC noted that key aspects of regulation of Reticulated Systems are not explicitly covered in all NRIs licensing regime. From the foregoing, the following recommendations are made:

(iv) A table listing key aspects of regulatory framework for Reticulated System has been developed for each NRI to consider implementing in their regions;

(v) Each NRI is encouraged, where applicable, to put in place Regulatory tools as per the guidelines in their respective regions; and

(vi) The NRIs are requested to work with their respective National Standard Bodies in the EAC region to develop standards for the reticulation of LPG/CNG systems in the domestic and commercial settings.

5 REFERENCES

A. A. Adegbola (2021), *"Conceptual Design of Gas Distribution Pipeline Network for Estates in Nigeria"*, Nigerian Journal of Technology Vol. 40, No. 1, January, 2021, pp. 25–36. www.nijotech.com

The Essential Services Commission of South Australia (2008) "*Draft Regulatory Arrangements for Reticulated LPG Networks*", Issues Paper, Level 8, 50 Pirie Street Adelaide SA 5000, GPO Box 2605 Adelaide SA 500, www.escosa.sa.gov.au

ANNEX 7 Upstream: Update and Sharing of of Information and Data

1 Petroleum exploration, development and production

Aspect	Burundi	Kenya	Uganda	Rwanda	Tanzania	Zanzibar
Contract/ Agree ment			Production Sharing Agreement (PSA)	Gasmeth for CNG production(contract with RMB&RDB) Kivuwatt, Shema Power for electricity generation(contract with MININFRA) Magma Energies for electricity generation (ongoing negotiation s)	Production Sharing Agreemen t (PSA)	
Legal framework			Policy/Law/ Regu lations	Oil: RMB is currently undertaking the review of Petroleum Law, Law n°13/2016 of 02/05/2016 and Upstream Petroleum Policy of 2013 (under review). Gas: Drafting of Methane Gas Policy and Law	Policy/ Law/ Regulation s/PSAs/ Institutions (NOC, PURA, EWURA)	

Sector status			Exploration/ Deve lopment	RMB has commenced Oil and Gas exploration works in Lake Kivu and conducted a 2D seismic survey to provide seismic reflection data for imaging Lake Kivu basin. The data was acquired and now under processing and interpretation.	Developm ent	
Number of discoveries			21 Oil and Gas discoveries	N/A	9 PSAs have discovere d gas	
STOIIP			6.5 Billion Barrels	N/A	57.54TCF	

Acronyms:

- **RMB:** Rwanda Mines, Petroleum and Gas Board
- **RDB:** Rwanda Development Board
- **MININFRA:** Rwanda Ministry of Infrastructure

2 National content

Period and Aspect		Burundi	Kenya	Uganda	Rwanda	Tanzania	Zanzibar
(Oct - Dec 2019)	National Content legal framework			Policy/ Regulations	N/A	National Energy Policy, 2015, PA 2015, LC Regulations, 2017	

Period and Aspect		Burundi	Kenya	Uganda	Rwanda	Tanzania	Zanzibar
	Value retained in-country			28%	N/A	Not quantified	
	Number of services ring fenced for Nationals			16	N/A	16	
	Number of Joint venture contract				N/A	4 registered JVs	
(Jan - March 2020)	National Content legal framework			Policy/Regulations	N/A	National Energy Policy, 2015, PA 2015, LC Regulations, 2017	
	Value retained in-country			26%	N/A	Not quantified	
	Number of services ring fenced for Nationals			16	N/A	16	
	Number of Joint venture contract				N/A	4	

3 Monitoring framework

Period	Aspect	Burundi	Kenya	Uganda	Rwanda	Tanzania	Zanzibar
QUARTER 2 (Oct - Dec 2019)	Monitoring operations			Saved 10% of budget	Monitoring operations by Lake Kivu Monitoring Programme (LKMP)		
	Cost monitoring			15% reduction	N/A		

				of Licensee budget			
QUARTER 3 (Jan - March 2020)	Monitoring operations			Saved 5% of budget	Monitoring operations by Lake Kivu Monitoring Programme (LKMP)		
	Cost monitoring			10% reduction of Licensee budget	N/A		
QUARTER 4(Apr - Jun 2020)	Monitoring operations			10% budget reduction	Monitoring operations by Lake Kivu Monitoring Programme (LKMP)		
	Cost monitoring			7% reduction of Licensee budget			

ANNEX 8 Mid- and Down-stream: Update and Sharing of of Information and Data

The 21st EXCO of June 2021 approved Work Action Plan for the financial year of 2021/22 which included sharing of information on Petroleum Import data, Facility Numbers and Price Progression. The Petroleum Portfolio Committee considered the above directive updated the data by each of the NRI members present.

1 Infrastructure

<table>
<tr><th rowspan="3">Country</th><th colspan="5">Types of infrastructure & capacities</th></tr>
<tr><th rowspan="2">Storage depots (M3)</th><th colspan="4">Pipelines</th></tr>
<tr><th>Locations</th><th>Product</th><th>Diameter (Inches)</th><th>Length (Km)</th></tr>
<tr><td>Burundi</td><td>61,500.00</td><td>*</td><td>*</td><td>*</td><td>*</td></tr>
<tr><td rowspan="6">Kenya</td><td rowspan="6">1,253,456.00</td><td>Line 1
Msa-Nrb</td><td>Multi
(PMS/AGO/DPK)</td><td>14</td><td>453</td></tr>
<tr><td>Line 2
Nrb-Eld</td><td>Multi
(PMS/AGO/DPK)</td><td>6-Aug</td><td>327</td></tr>
<tr><td>Line 3
Sint-Ksm</td><td>Multi
(PMS/AGO/DPK)</td><td>6</td><td>168</td></tr>
<tr><td>Line 4
Nrb-Eld</td><td>Multi
(PMS/AGO/DPK)</td><td>10</td><td>330</td></tr>
<tr><td>Line 5
Msa-Nrb</td><td>Multi
(PMS/AGO/DPK)</td><td>20</td><td>450</td></tr>
<tr><td>Line 6
Sint-Ksm</td><td>Multi
(PMS/AGO/DPK)</td><td>8</td><td>168</td></tr>
<tr><td>Uganda</td><td>**</td><td>*</td><td>*</td><td>*</td><td>*</td></tr>
<tr><td>Rwanda</td><td>112,100.00</td><td>*</td><td>*</td><td>*</td><td>*</td></tr>
<tr><td rowspan="3">Tanzania</td><td rowspan="3">1,180,275.00</td><td>Line-1 (Lindi-Dar)</td><td>Natural Gas</td><td>16</td><td>232</td></tr>
<tr><td>Line 2 (Mtwara-Dar)</td><td>Natural Gas</td><td>32</td><td>533</td></tr>
<tr><td>Line 3 (Mnazi Bay-Mtwara)</td><td>Natural Gas</td><td>8</td><td>27.5</td></tr>
<tr><td>Zanzibar</td><td>18,605.779</td><td>*</td><td>*</td><td>*</td><td>*</td></tr>
</table>

NOTES:

***** means the infrastructure is **Absent** in the reporting NRI's country.

****** means information **Not Available** to the PPC at the time of the meeting.

2 Volume of imported petroleum products

		VOLUMES OF LOCAL IMPORTED PRODUCTS					
	COUNTRY:	Burundi	Kenya	Uganda	Rwanda	Tanzania	Zanzibar
QUARTER 1 (Jul-Sep 2021)	PMS (M^3)	**	463,218.94	**	35,789.907	349,151,397	25,295.779
	AGO (M^3)	**	696,865.24	**	59,797.094	487,019,176	11,973.683
	IK (M^3)*	**	164,212.59	**	905.394	4,782,966	1,274.224
	JET–A1(M^3)	**		**	9,221.820	25,386,210	3,807.876
	LPG (Mt)	**	84,807.44	**	4,168.941	75,893	1,651.160
QUARTER 2 (Oct-Dec 2021) ***	PMS (M^3)	**	284,670.58	**	28,211.128	128,785,602	**
	AGO (M^3)	**	301,120.88	**	43,875.578	204,553,684	**
	IK (M^3)*	**	68,151.85	**	795.496	2,964,234	**
	JET–A1(M^3)	**		**	4,721.699	32,903,579	**
	LPG (Mt)	**	**	**	9,221.820	22,534	**

NOTES:

* Kenya's Dual Purpose Kerosene (DPK) import volume comprises Jet A-1 and Illuminating Kerosene.

** means information **not available** to the PPC at the time of the meeting.

*** December 2021 of Quarter 2 data will be completed and submitted in the meeting of May 2022

3 Price progression

The PPC has analysed the trend of prices of petroleum products for the world market and local prices, it is noted that prices of petroleum products in the world market have been increasing on a monthly basis and it have negatively affected the economies of almost all countries in the world especially those which are net importers of petroleum products including the East African countries. The price of:

(i) Petrol has increased by 23% from US$ 644.01/MT in May 2021 to US$ 793.14/MT in October 2021;
(ii) Diesel has increased by 30% from US$ 550.68/MT in May 2021 to US$ 713.28/MT in October 2021; and
(iii) the price of kerosene has increased by 30% from US$ 558.90/MT in May 2021 to US$ 726.56/MT in October 2021.

Different strategies were employed by the NRIs, namely:

(i) Tax and levies reduction: Some of the NRIs' Governments decided to forego a portion of Taxes and Levies due so as to ease pressure on consumers. This strategy was employed by EWURA and RURA.

(ii) Price stabilisation: This is where the effective increase of petroleum products with reference to a particular month is compensated to the Oil importing companies so as to ensure price remains unchanged in the month under review. The NRIs employing this strategy are EPRA, RURA and ZURA. They have utilised the funds built under a special levy called Petroleum Development Levy ZURA Stabilisation Fund respectively that were established in the period when the landed prices were low.

		PRICE PROGRESSION FOR PETROLEUM PRODUCTS					
	COUNTRY:	Burundi (USD)	Kenya (USD)	Uganda (USD)	Rwanda (USD)	Tanzania (USD)	Zanzibar (USD)
JUL. '21	PMS	**	1.179	**	1.100	1.03	1.00
	AGO	**	0.998	**	1.066	0.95	0.96
	IK	**	0.908	**	*	0.91	0.69
	JET-A1	**	*	**	0.734	*	0.67
AUG. '21	PMS	**	1.174	**	1.097	1.04	1.02
	AGO	**	0.994	**	1.063	0.96	0.98
	IK	**	0.904	**	*	0.93	0.73
	JET-A1	**	*	**	0.742	*	0.67
SEPT. '21	PMS	**	1.231	**	1.093	1.04	1.06
	AGO	**	1.056	**	1.058	0.97	1.00
	IK	**	1.012	**	*	0.93	0.74
	JET-A1	**	*	**	0.721	*	0.68
OCT. '21	PMS	**	1.177	**	1.142	1.05	1.00
	AGO	**	1.004	**	1.058	0.98	**
	IK	**	0.939	**	*	0.95	**
	JET-A1	**	*	**	0.844	*	**
NOV. '21	PMS	**	1.168	**	1.126	1.07	**
	AGO	**	0.995	**	1.039	0.98	**
	IK	**	0.932	**	*	0.97	**
	JET-A1	**	*	**	0.844	*	0.69
DEC. '21	PMS	**	***	**	1.124	1.09	**
	AGO	**	***	**	1.037	1.04	**
	IK	**	***	**	*	0.97	**
	JET-A1	**	*	**	0.815	*	**

NOTES:

* means **not price-controlled**

** means information **not available** to the PPC at the time of the meeting.

*** December 2021 of Quarter 2 data will be completed and submitted in the meeting of May 2022