

REPUBLIC OF RWANDA



MINISTRY OF TRADE AND INDUSTRY

National Downstream Petroleum Policy

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LIST OF ACRONYMS

AGO	Automotive Gasoil
ASIMPER	Association des Importateurs Pétroliers du Rwanda
BPS	Bulk Procurement System
CNG	compressed natural gas
DRC	Democratic Republic of Congo
EAC	East African Community
EHS	Environmental, Health and Safety
EAC	East African Community
EDCL	Electricity Development Company Limited
REP	Rwanda Energy Policy
ESSP	Energy Sector Strategic Plan
GDP	Gross Domestic Product
GoR	Government of Rwanda
HFO	Heavy Fuel Oil
LPG	Liquefied Petroleum Gas
MINECOFIN	Ministry of Finance and Economic Planning
MINICOM	Ministry of Trade and Industry
MININFRA	Ministry of Infrastructure
N/A	Not Applicable
OMCs	Oil Marketing Companies
OTS	Open Tender System
PMS	Premium Motor Spirit
PSF	Private Sector Federation
RSB	Rwanda Standards Board
RDB	Rwanda Development Board
REMA	Rwanda Environment Management Authority
REG	Rwanda Energy Group Limited
RRA	Rwanda Revenue Authority
RURA	Rwanda Utilities Regulatory Agency
SWG	Sector Working Group
VAT	Value Added Tax
NST	National Strategy for Transformation
ICE	Internal combustion engine

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1. THE DOWNSTREAM PETROLEUM POLICY

1.1 Executive summary

The Downstream Petroleum sub-sector is a key segment in its contribution to the Rwandan economy. The landlocked status of Rwanda makes it necessary to institute ways to increase petroleum supply assurance. The key challenges faced in this respect include: global price volatility, unreliable product supplies, high transport costs due to insufficient transport and insufficient storage capacity. These negatively impact imports, re-exports, distribution and maintenance of strategic reserves of petroleum products and LPG. The high cost of investment in storage and distribution facilities as well as the high cost of maintaining commercial reserves, and ensuring compliance to the modern technologies and standards also negatively impacts the effective cost and availability of fuel products and strategic reserves.

The aspiration of this National Downstream Petroleum document is to lay the policy framework upon which cost-effective, affordable and quality petroleum products such white products such as Petrol, Diesel, Kerosene, Aviation fuel, etc. and black products such as Heavy fuel oils and gaseous products such as LPG, etc. and other petroleum products will be made available to the domestic economy and export markets on a regular and sustainable basis. The National Downstream Petroleum Policy articulates different options that are necessary for the trade of petroleum and petroleum products in the area of import, transportation, storage, distribution and re-export.

1.2 Context and Background

The petroleum subsector covers both upstream and downstream activities. The upstream industry activities deal with exploration, development and eventual production of petroleum oil while the downstream industry activities cover transportation (of both crude and refined products), refining, storage, distribution and marketing of petroleum products.

The existing legal and regulatory framework for managing and regulating the downstream petroleum sub-sector is governed by the Downstream Petroleum Law N° 85/2013 of 11/9/2013. This law applies to the trade of petroleum and petroleum products in Rwanda including LPG.

Rwanda, like all energy importers, faces long-run risks associated with the supply of fossil fuels, high oil prices on international and domestic markets, political

instability in oil producing and exporting countries, piracy along the major maritime routes, instability in transit countries and speculation on international markets that lead to extreme rises in local retail prices and petroleum products shortages. The Government needs to pursue cost-effective supply mechanisms that offer domestic and export markets availability of products and at competitive prices.

The Government through the Rwanda Energy Policy of 2015 envisions to accelerate regional cooperation and strategic infrastructure development; to ensure adequate storage infrastructure to maintain appropriate strategic reserve levels; to enhance the effectiveness of price stabilization mechanisms; to improve data collection and enforcement of fuel quality standards and to improving Liquefied Petroleum Gas (LPG) market and distribution infrastructure.

The petroleum transport infrastructure primarily composed of road transport from Kenya and Tanzania which are the main transit countries of Rwandan fuel imports is expensive and often ridden with weak infrastructure systems. There are plans underway to extend the Nairobi—Eldoret pipeline to Kampala and Kigali; and new lines in western Kenya have opened up the development of other projects such as the Kisumu Oil Jetty that could serve Rwanda better. A railway system to Kigali from Tanzania is also being planned. These two transportation systems should be pursued with more vigour since they will greatly improve the efficiency and cost effectiveness of petroleum products importation for Rwanda.

The Downstream petroleum policy is therefore important in order to develop a robust petroleum supply chain in Rwanda given the regional logistical challenges, infrastructural problems and other factors beyond Rwanda's control such as international oil market fundamentals and volatility of international oil prices. A proper market regulation needs to be given priority policy direction in order to nurture the dynamic economic growth prospects of Rwanda through a proper, well-coordinated and executed institutional and regulatory mechanism of the Downstream Petroleum Sub-Sector.

1.3 The 2012 Downstream Petroleum Policy achievements

The 2012 policy had set very ambitious targets since it was the pioneer policy in the sector. An encouraging work has been done on all the 18 main focus areas and the remaining work is planned as a built-in agenda for the new policy. Below is a highlight of key achievements of the 2012 policy and critical areas of continual focus in the new policy.

The 2012 policy had an ambitious target of reaching a storage capacity of a 150m litres through both private and public investments. The country now has a total of 111.2M Litres and the new policy will strive to facilitate and create a conducive

environment to allow the private sector to develop more petroleum storage infrastructures especially petroleum depots that are highly needed.

In terms of availing land and incentives meant to attract private sector investments in bulk petroleum storage facilities, a national petroleum terminal was designated in Rusororo Sector of Gasabo district and two private investors were facilitated to construct storage facilities equivalent to 42m litres. Supportive road infrastructures and utilities were also extended to these investments by the government—demonstrating a constructive public private partnership successful story. In the new policy, more areas across the country will be mapped and designated as suitable for bulk petroleum storage infrastructure facilities investments.

The 2012 policy also set itself to establish minimum government strategic reserves that would be utilised in cases of petroleum supply shocks. Although the policy set itself to achieve a three months' reserves, the energy policy of 2015 scaled it down to a 2 months' reserve. Consequently, the current Government strategic stocks indeed can last a two months' supply but as demand for petroleum products increase at an average rate of 6% annually in the last five years, there is need for the new policy to focus on increasing the strategic reserves as well to align it with the ever changing demand and global threats to supply disruption.

To support the reconstitution of strategic reserves, the government established a levy on petroleum trade for replenishment financing and infrastructure development. In the future, more concerted efforts should be made to ensure that the sector self-financing mechanism is increased two-fold and that it universally covers other sector development needs such as maintenance and systems integration for quality and quantity control to avoid revenue and product losses.

The aviation industry used to suffer from petroleum supply challenges among others. The 2012 policy envisioned a specific strategy to address the high prices of aviation fuel on the Rwandan market and this strategy improved the competitiveness of Rwanda's air transport sector in the region and globally.

The review of the 2012 policy also indicates that the following were achieved:

- 1) Establishment of a robust legal and adequate regulatory regime in the downstream petroleum subsector activities;
- 2) Establishment of a transparent and efficient system of issuing licenses for operation of petroleum installations and businesses;
- 3) Creation and enforcement of standards for the downstream petroleum sector activities. More than 100 petroleum related standards were developed;

- 4) Establishment of an effective fuel pricing methodology that is used based on oil market fundamentals;
- 5) Introduction and promotion of measures for pollution control using environmentally friendly fossil fuels. For instance, low sulphur diesel and unleaded gasoline were introduced on the Rwandan market;
- 6) Undertook coordinated training and education programmes to develop capacity of handling and distributing oil products;

The 2012 policy established a strong foundation in the legal and regulatory governance and in infrastructure development. More work, however, needs to be done on the following critical areas of the downstream petroleum subsector not only as it had been previously envisioned but also to align the policy to new developments in both environmental protection and technological advances:

- 1) Creation of safeguards for environmental protection, oil disaster awareness and mitigation. The current policy does not address in a specific manner the issues of environmental effects that may be caused by petroleum activities and related infrastructure development. Safeguard measures on oil disasters and spillages should be strengthened and mitigation guidelines developed;
- 2) Still in line with environmental focus, Rwanda should continue to phase out the usage of leaded gasoline and high sulphur content diesel products and other additives. Low fuel quality negatively impacts on engine life and emissions equipment and has does prevent release of modern engines and emissions technologies. The implementation of the current air pollution legal control and regulatory instruments shall be strengthened;
- 3) Another critical area of focus should be to develop a critical mass of skilled personnel in Rwanda to undertake effective operation and regulation of petroleum activities. A long term skills deployment plan for training of government officials and business operators that are in the petroleum industry should be a priority; and
- 4) In attracting and promoting investments, the development of more storage capacity through public and private sector led investments should be given top priority as well and the policy orientation will be to facilitate and create visible support to allow the private sector to develop more petroleum storage infrastructures especially petroleum depots.

1.4 Sector Outlook Analysis

1.4.1 Overview

Rwanda imports all its petroleum products requirements through neighborhood countries since the local oil production is on its research stage. On one hand, the

consumption of white petroleum products in Rwanda stands at the average of 535 million liters per annum as of 2019 and constitutes about 13.2 % of total national imports and has been steadily rising in the past seven years. On the other hand, the consumption of LPG was 21 million Kgs in 2019, up 31% from 16 million Kgs in 2018. Since 2017, the consumption of LPG has seen tremendous increases that warrant its close attention to develop it into an alternative energy source to traditional biomass energy sources.

Considering the historical annual growth of 6% and 61% of white petroleum products and LPG respectively, the average monthly consumption is estimated to reach 54 million liters of petroleum fuels in 2024 while LPG monthly consumption is estimated to reach 38 million Kgs in 2024 from the 1.8 million Kgs in 2019.

Fossil fuels are still the most important source of commercial petroleum products in Rwanda, and are mainly used in the transport, commercial, power generation and industrial sectors.

The country is exploring the development and promotion of alternative sources of energy through the extraction of methane gas byproducts such as CNG (Compressed Natural Gas) which may complement or replace the usage of fossil fuels products in the future for households (use of CNG as cooking gas), automotive and industrial sectors.

1.4.2 Current Demand and Projections for Petroleum products

1.4.2.1 Current Demand and Projections for White Products

Rwanda, and the East African region in general, does not have any local production of petroleum products and relies on imports of petroleum fuels from international markets through the ports of Mombasa in Kenya and Dar es Salaam in Tanzania. The market players are essentially private companies which import products for local distribution and re-export. The key demand segments for petroleum products are road transportation, thermal power generation, aviation industry and cooking for gaseous products.

Table 1: Import of Petroleum product for domestic market consumption (liters)

PRODUCTS	2013	2014	2015	2016	2017	2018	2019
PMS	103,037,219	104,106,017	119,589,939	127,320,834	125,393,106	138,239,979	150,246,339
AGO	158,128,450	165,376,541	173,808,243	168,598,208	163,777,012	183,796,146	198,984,099
BIK	14,290,383	11,666,659	9,185,528	7,193,458	4,356,068	5,025,646	4,828,593
Jet A1	892,845	632,143	1,290,118	1,593,350	131,546,447	144,983,451	146,699,936
HSFO	39,995,101	42,860,829	31,136,075	20,012,881	30,667,545	29,603,161	34,963,925
TOTAL	316,343,998	324,642,189	335,009,903	324,718,731	455,740,178	501,648,383	535,722,892

Source: NISR

Considering the Government of Rwanda's target to reduce reliance on petroleum-based energy generation by exploiting new resources such as peat and methane gas from Lake Kivu, and current efforts to introduce electric mobility as part of an integrated national transport policy to enhance the reduction of imports of petroleum products; the transport sector will continue to claim the lion's share of the total demand for white fuels due to the increase of the fleet of vehicles, air transport, industrial usage and infrastructure development.

Although overall demand may be affected by the COVID-19 pandemic, the pre-pandemic historical growth projected petroleum products demand to increase on average by 8% for PMS, 4% for AGO and 6% for JET A1 annually. The current monthly consumption averages 44.6 million liters and demand is expected to increase to 54.4 million liters per month by 2024¹

Table 2: Demand projections for petroleum products (Litres)

PRODUCTS	2020	2021	2022	2023	2024
PMS	161,891,660	174,439,589	187,960,085	202,528,530	218,226,149
AGO	206,835,303	214,996,288	223,479,276	232,296,973	241,462,584
BIK	4,143,438	3,555,503	3,050,993	2,618,071	2,246,579
Jet A1	155,060,779	163,898,130	173,239,147	183,112,534	193,548,634
HSFO	35,299,383	35,638,060	35,979,986	36,325,193	36,673,711
TOTAL	563,230,563	592,527,570	623,709,487	656,881,300	692,157,657

Source: NISR

1.4.2.2 Current LPG Demand and Projections

The consumption of LPG in Rwanda has not yet developed to its full market potential. The Government is sensitizing Rwandans to use LPG in households as well as in schools, prisons and other big institutions as a clean cooking solution in order to reduce household air pollution, improve health outcomes, save nonrenewable biomass and support local economic development.

Since 2010, more Rwandans are ditching charcoal and opting for LPG as the energy source for cooking. Statistics from RRA indicates that LPG imports increased annually on average by 61% between 2015 and 2019 with a projected monthly consumption of 19.2 million Kgs by 2024. Although demand may be affected by the COVID-19 pandemic, the pre-pandemic figures shows how fast Rwandans are adopting the usage of LPG as a strategic clean cooking solution. Besides, the National Strategy for Transformation (NST 1) 2017 – 2024 targets to reduce biomass usage for cooking to other cleaning solutions from 79.9% to 42% by 2024 and the EICV report of 2016/2017 indicates that the population using Gas and Biogas stand

¹ BIK and HSFO are not included in the projections.

at 1.1%. The development of the usage of LPG is therefore one sure way of boosting the appetite of the local population to adopt increased usage of gas and gas products.

Table 3: LPG consumption 2014-2019 (Kgs)

Year	2013	2014	2015	2016	2017	2018	2019
LPG Imports	1,568,937	2,142,918	2,808,426	4,978,395	10,255,777	16,377,881	21,385,995

Source: NISR

Import of LPG to Rwanda is made through either the oil marketers or individual gas traders who source the products through Kenya and Tanzania using road transport and in bulk trucks. Retail channels of distribution are through service stations, registered distributors and supermarkets in cylinders of different sizes.

Table 4: Demand Projections for LPG until 2024 (Kgs)

Year	2020	2021	2022	2023	2024
LPG Imports	34,414,383	55,379,691	89,117,103	143,407,410	230,771,474

Source: NISR

Compared to other petroleum products, LPG does not have strategic reserves. LPG trade and distribution relies on few storage facilities with a total of 693.7 MT owned and managed by private importers. If indeed LPG is to become a strategic alternative to usage of charcoal as a cooking solution, there is then an urgent need to set up strategic reserves to mitigate future supply risks and ensure steady supply of LPG as demand will be increasing with increasing urban population.

Table 5: Contribution of different technologies in reducing Charcoal usage

Technologies	LPG	Biogas	Electricity	ICS (Tier 3 & 4)
2020	102,617	1,466	5,864	183,244
2021	110,421	1,577	6,310	197,181
2022	118,695	1,696	6,783	211,955
2023	127,439	1,821	7,282	227,570
2024	136,691	1,953	7,811	244,090
Total Households	643,889	9,198	36,794	1,149,802
Contribution to NST-1 Target	35%	0.50%	2.0%	62.5%

The current target of the Ministry of Infrastructure is to halve the number of households (HH) using traditional cooking technologies to achieve a sustainable balance between supply and demand of Biomass. There are challenges though and the main challenges include the lack of sufficient bulk storage to enhance LPG penetration on the Rwandan Market. The current target under the ESSP will be the increase of gas reserves to cover at least three months split between the Government and the Private Sector. It is expected that by 2024, at least 35% of HHs

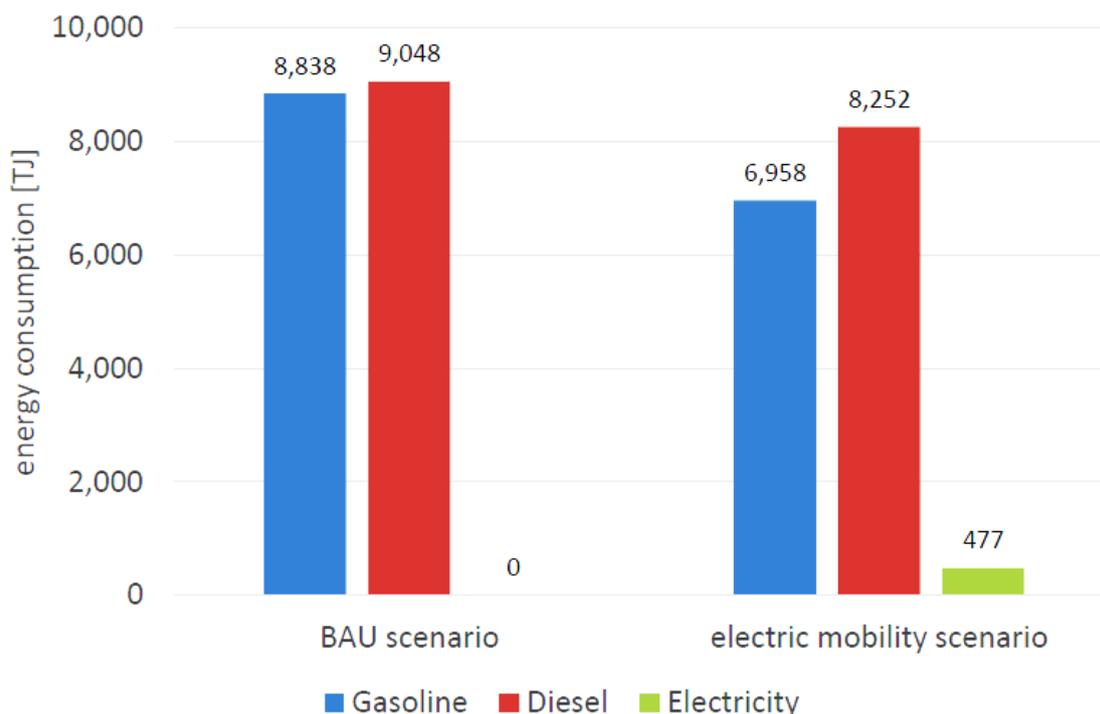
will have switched technology to LPG which will be equivalent to the anticipated urbanization rate. The ministry of infrastructure also expects to put in place regulations and enforce them to ensure that the remaining HHs that will be using charcoal, will only sell and purchase green charcoal allowed on the market.

A specific strategy for LPG trade with linkages to other sector specific initiatives in order to promote and boost the competitiveness of LPG as a preferred clean cooking solution shall be developed. An equally important quick win should involve the setting up of an LPG strategic reserve storage infrastructure and constitution of LPG stocks of at least 38.4 million Kgs to be used for a period of two months in case of serious shortage. Based on the current monthly consumption of 1.8 million Kgs for LPG and demand growth rate of 61% annually, the total monthly consumption by 2024 will stand at 19.2 million Kgs.

1.4.3 Energy demand – petrol, diesel and electricity for e-mobility

The Government of Rwanda has the ambition to ensure that safe and environmentally sound transport for goods and people is provided in the country to reduce dependency on fossil fuels in the transport sector. In this direction, the opportunities of electric mobility are being pursued. The benefits of electric vehicles, as compared to corresponding petrol or diesel vehicles, are found in reduced climate impacts and in opportunities to reduce dependency on fossil fuel products. Different scenarios have been developed by Gustavsson, M. et al., in their study on 'Electric mobility in Rwanda: background and feasibility study report', 2019. To understand the substitutionality of conventional vehicles with e-mobility solutions, the electric mobility scenario proved to reduce the usage of oil products in road transport. The demand of gasoline can be reduced by 21% and diesel by 9% until 2030. The total demand for oil products is reduced by 15%.

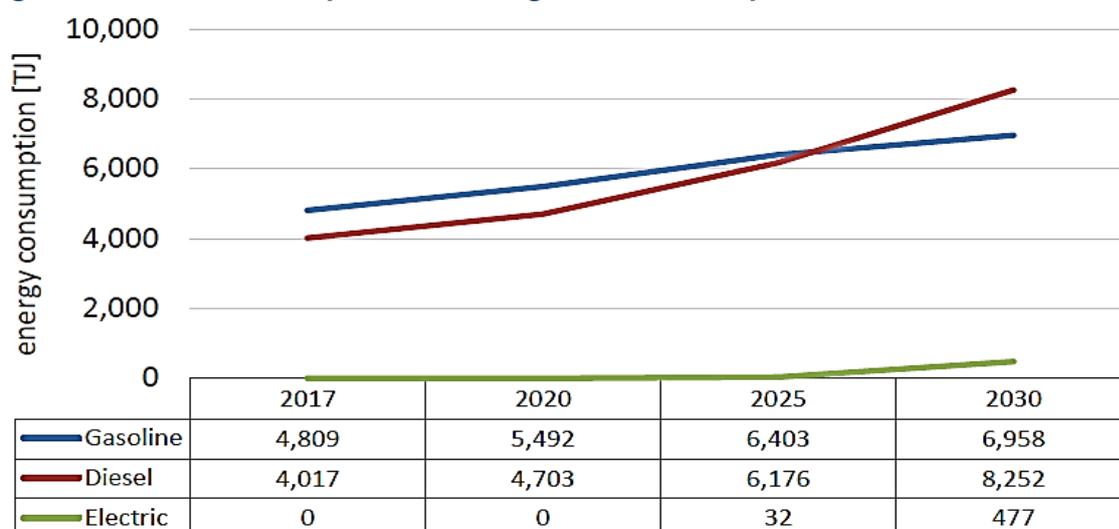
Figure 1: Substitutionality of fossil fuels consumption with e-mobility solutions



Source: Mathias Gustavsson et al., 'Electric mobility in Rwanda: background and feasibility study report', 2019.

There is reduced final energy demand of 2,676 TJ as compared to the Business as Usual (BAU) scenario. Due to the higher efficiency of electric vehicles, electricity demand is only increasing by 477 TJ (133 GWh) of electricity as compared to the BAU scenario. Even with this decrease in oil consumption compared to the BAU-scenario, the electric mobility scenario still shows an absolute increase in the demand for both diesel and gasoline over the next 10 years.

Figure 2: Electric mobility scenario long term variability



Source: Mathias Gustavsson et al., 'Electric mobility in Rwanda: background and feasibility study report', 2019.

More still, in the electric mobility scenario, the growth of transports made with petrol and diesel vehicles is apparent but less so than in the BAU scenario. Fuel retailers, oil infrastructure and maintenance and repair of ICE engines will still be needed in the medium term, even with an ambitious electric mobility policy.

1.4.4 Storage Capacity Status

Petroleum storage and strategic reserves are crucial in reducing fluctuations in fuel prices and to cushion fuel shortages on the local market by utilizing the stored fuel reserves while waiting for the next imports. The country currently has a total storage capacity of 111.2 million liters of white and black petroleum products and 693.7 kgs of Liquefied Petroleum Gas.

Table 6: Petroleum products storage facilities [million liters]

Product	Gatsata	Kabuye	Rwabuye	Bigogwe	Jabana	Rusororo	Kanombe	Total
Petrol	6.6	3.1	1.8	3.0	7.0	20.0		41.5
Diesel	6.7	2.7	1.8	2.0	13.0	36.0		62.2
Kerosene	1.5	-	-	-				1.5
Jet A1	-	-	-	-		4.0	2.0	6.0
Total	14.8	5.8	3.6	5.0	20.0	60.0	2.0	111.2

Source: Ministry of Trade and Industry

With the current total capacity of 111.2 million Liters of white and black fuel, the private sector owns only 23% (25.8million liters) of the total capacity. The remaining capacity (85.4 million liters) is owned by the Government but only 74% is used for strategic reserves and the rest has been offered to the private sector to use as commercial storage. This has increased private sector storage to 48.1 m liters (43%).

With such a storage capacity, Rwanda finds itself disadvantaged in comparison to some of her EAC Partner States that have impressive petroleum storage facilities. For instance, the Kenyan government storage facilities are 612 Million liters, Tanzania has 335 million liters, and Burundi has 60 million liters, while Uganda has 110 million liters of storage facilities. In the absence of new imports, the available capacity of 111.2 million Liters can only last 2.5 months if it is used at full capacity.

There is therefore need to increase the petroleum storage capacity from the current levels to 337 million liters in order to improve the national self-reliance in fuel and supply security and to cater for the growing local demand and re-exports that now constitute 25% of national petroleum imports. The requirement for the Government to maintain strategic reserves means that at the current projected demand, an additional 23.4 million litters of additional capacity infrastructure is needed by 2024. The private sector will need an additional 54.4 million liters for its strategic reserves storage capacity. Given the high cost of achieving such an

investment, the proposal is to spread the investment over a long time with annual storage increments.

The government will encourage more private sector investments to develop petroleum storage infrastructures to meet the commercial needs of the country as their demand increase beyond the existing infrastructures.

1.4.5 Petroleum Strategic Reserves

Rwanda, being a landlocked country relying on petroleum imports, would have its economy seriously impacted by prolonged supply disruptions. This risk is currently addressed by the physical strategic stocks kept by the GoR, which can be released to the market in case of supply chain distress.

The GoR through MINICOM procures and maintains strategic stocks in five government owned depots across the country (Gatsatsa, Bigogwe, Rwabuye, Rusororo and Kigali International Airport). Some of the ullage (space) is leased out to oil marketing companies for commercial throughput volumes and this is the case of Gatsata, Rusororo, and Kigali International Airport fuel storage depots.

Through the years, the private sector has been sensitized to develop and store one month's worth of commercial strategic reserves. However, due to the financial implications of maintaining private strategic reserves, when margins are fixed by the Government, the target of having minimum commercial reserves posed a considerable challenge of increased retail prices to sustain the private stock holding. Nonetheless, the private sector, has on its part, maintained a steady supply of petroleum products into the country and this is evidenced by the fact that the commercial storage is always utilized at full capacity. There have not been fuel shortages recorded since 2012 and this points to the effectiveness of collaboration between the government and the private sector in maintaining and managing a steady stream of petroleum supplies coupled with investments in storage infrastructures. The need to have commercial private strategic reserves still remains and this policy recommends that the GoR maintains two months while the private sector maintains one-month worth of fuel consumption as strategic stocks.

The government petroleum supply should be secured through a competitive procurement process to ensure the best value for money process. Supply to the strategic reserves should be made through multiple lots and where possible, various companies should be requested to bid on one lot in order to have multiple suppliers who would not only offer better competitive prices but also offer supply security. The country is able to secure multiple supply sources in this approach than relying on a single supplier—who when confronted with conditions of force majeure or otherwise—risks the whole strategic reserves constitution.

The strategic stocks are currently financed through a levy on sales of petroleum products. The level of statutory and strategic stock is usually based on a variety of perceived supply security risks which is arrived at after a supply-chain security risk analysis. Some risks can be mitigated while others are not entirely in the control of petroleum importing countries like Rwanda. In the case of Rwanda which is a landlocked country, some worst case risk scenarios include: -

- Collapse of global petroleum supply channels through war or major catastrophe in major oil producing countries. This affects volumes of oil available and also prices.
- Collapse of petroleum supply infrastructure in transit countries (either Kenya or Tanzania) due to major disasters, infrastructure failure, or civil disturbances.
- Insufficient stock levels by the oil marketing companies in Rwanda due to ineffective supply planning or speculative reasons. This can happen if there is insufficient central monitoring of stocks in the country.

In other East African countries such as Kenya and Tanzania, they do not keep strategic stocks, although they have regulatory requirements to maintain strategic stocks. Uganda maintains 20 days' strategic stocks, and this role is contracted to a third party operators. However, each of these countries have regulatory requirements for minimum commercial stocks by marketers (Kenya-20 days, Tanzania-15 days and Uganda-10 days).

In the future, Rwanda needs to conduct a petroleum infrastructure master plan to strategically map out potential needs both in the infrastructure and distribution of petroleum products. The Master Plan's ambition is to delineate future infrastructure requirements and conditions to facilitate the realization of key infrastructure in petroleum storage, transport, distribution and to facilitate investments into the subsector to enable Rwanda to become a major regional trading and re-export hub. In this vein, the private commercial strategic reserves of petroleum product should also be taken into consideration given the broad strategy to supply the regional countries.

1.4.6 Petroleum Supply and Transportation

Petroleum products are imported in the form of refined and processed products and most of them originate from the Mediterranean region and the Arabian Gulf.

Being a landlocked country, the only petroleum supply routes available to Rwanda are the Northern corridor (Mombasa – Kampala – Kigali) and the Central corridor (Dar es Salaam – Kigali). In the past, constraints related to the Kenya Pipeline has hampered land-locked countries in the region and shortages of

petroleum products has not entirely been occasioned by soaring world oil prices but rather by supply related bottlenecks. With plans underway to extend the Nairobi—Eldoret pipeline to Kampala and Kigali, the new lines constructed in western Kenya to serve Kisumu and Eldoret depots, development of other projects such as the Kisumu Oil Jetty and developing a railway system to Kigali from the port of Dar es Salaam in Tanzania, there is hope that some infrastructural challenges to the transport of petroleum products could have lasting solutions in the future. These pipeline and railway line transportation systems will greatly improve the efficiency of petroleum product imports and needs to be pursued with more vigour.

From the domestic point of view, the transportation of petroleum products from fuel depots to pump stations or from Kigali City to up-country stations is characterized by poor quality of the service; trucks used are technically and mechanically non-standards compliant. RURA has put in place a regulation to address this issue. However, automated fuel delivery monitoring tools or systems are non-existent and therefore, there is need for quality fuel transport infrastructure and vehicles that meet safety and environmental criteria; an introduction of a calibration rig should be developed and operationalized to ensure quality and safety of trucks and petrol station storage tankers.

1.4.7 Local Distribution of Petroleum Products

Despite a significant increase to approximately 300 petroleum retail outlets in 2018 from 120 retail outlets in 2012, the supply of petroleum products in remote areas is still sparsely distributed. This is associated with low consumption levels and long supply distances which make doing business in rural areas uneconomical and therefore unattractive. The fuel storage facilities are concentrated only in Kigali which increase the traffic jam caused by trucks that come to load fuel to be distributed to the rest parts of the country as well as to be re-exported.

For LPG distribution, most filling plants and storage facilities are also located in Kigali which leads to the expensive distribution services of LPG in remote areas while the Government is in the process of phasing out traditional cooking energies by adopting LPG cooking solution in order to conserve the environment. The Government recognizes that there can be no meaningful development in rural areas without adequate supplies of commercial fuel energy and will ensure that such areas are adequately supplied with petroleum fuels and LPG at affordable costs.

In response to the non-effective distribution chain at the local market, a specific strategy or masterplan on the dispensing of petroleum storage depots, petrol

stations and LPG storage and filling plants country wide shall be developed and shall address the compliance with the international regulation where applicable or recommend new regulations for the national context.

1.4.8 Local Production of Alternative to Petroleum Products

The Government of Rwanda has put in place policies and strategies to reduce the use of polluting biofuels such as wood or charcoal used in cooking and replace them with cleaner and more affordable energy sources. It is also planned to replace petroleum products used in the transport and industrial sectors.

Therefore, a specific strategy to encourage the use of locally-produced CNG will be developed to support private investors in that sector and provide incentives to local manufactures and provides of alternative sources of energy where applicable in accordance with the national and international regulations.

1.4.9 Legal and Regulatory Framework

1.4.9.1 Legal Framework

The existing legal framework governing the Downstream Petroleum Subsector in Rwanda is comprised of the following instruments:

- A comprehensive Downstream Petroleum Policy 2012-2017; and
- A Downstream Petroleum Law enacted in 2013.

These instruments required to be updated and the current policy review will also be followed by a review of the aforementioned Downstream Petroleum Law so that both are consistent with the new National Strategy for Transformation (NST1) and developments in the petroleum industry that have occurred in the last 7 years and to also improve and clarify institutional responsibilities.

1.4.9.2 Institutional Framework

The current institutional framework for Rwanda's Downstream Petroleum Subsector needs to be improved in order to streamline all efforts of the different stakeholders related to this policy. The establishment of an appropriate regulatory framework has to take into consideration the different roles of the Government Ministries and Agencies and those of the oil companies in the implementation of the downstream petroleum policy activities. The previous institutional framework is summarized in the following table:

Table 7: The previous institutional framework

Ministry of Trade and Industry	Policy planning and led the implementation of the Downstream Petroleum Policy but shared technical responsibilities with various government stakeholders.
Ministry of infrastructure	Involved in setting up petroleum infrastructures and assists the private sector to have related infrastructure's utilities
Ministry of Finance and Economic Planning	Secures the budget for the development of Government petroleum facilities and supply of government strategic reserves.
Rwanda Standards Board	Development, harmonization and adoption of petroleum related standards; Provides calibration and verification services.
Rwanda Environmental Management Authority	Regulates environment aspect of petroleum related activities.
Rwanda Revenue Authority	Bonded Warehouse licensing and collection of related levies and taxes. Coordination of petroleum import data and other useful data on the sector.
Rwanda Utilities and Regulatory Authority	Took over sector regulation since 2016. Has been involved in economic and technical regulation.

The main challenge of the current institutional framework is that there is no clear separation of roles which leads to overlaps in mandates of each of the institutions responsible for certain aspects of the petroleum sector oversight. The need to create synergies is therefore important and this policy looks at achieving that.

2. THE NEED TO REVISE THE DOWNSTREAM PETROLEUM POLICY

Currently, households are still largely dependent on traditional biomass fuels (79%) for its heating and cooking needs especially in rural areas, while the private sector has a more diversified energy consumption mix, requiring larger amounts of fossil fuels and electricity for its power needs. Moving forward, economic growth at household and commercial level hinges upon developing reliable and affordable

energy services for cooking, lighting, heating, business operations, transport, and re-export. Domestically, greater access to electricity and cooking fuels will be essential to increasing standards of living and delivering prosperity. Similarly, the private sector needs a reliable supply and lower costs for electricity and transport fuels to operate competitively in the region. Already, high electricity and road freight costs, of which petroleum fuel is a significant component, put substantial strain on the private sectors' ability to deliver low cost and high reliability of service.

The vision 2020 recognised the vital role of Rwanda's dependence on imports for its petroleum requirements. A modern, more service-industry based industrialized economy requires predictable, sufficiently available, competitively priced energy commodities such as electricity and petroleum products. Re-exportation of petroleum has been growing in Rwanda and may continue to contribute to an increasing amount to GDP and improving Rwanda's trade balance into the future.

The new NST1 vision aspires to shift from 79.9% of the population cooking with solid biomass to 42% of the population with modern and clean cooking using LPG but this aspiration is hindered by the gap between the government ambition and the LPG private sector logistics and infrastructural capabilities. The investment in cylinders, LPG storage, filling plants, supply, primary storage and transport will quickly be necessary to meet the timeframe of 42% national LPG usage by 2024.

Following the end of the reporting period for the inaugural Downstream Petroleum Policy 2012–2017, it is important to develop a new National Downstream Petroleum Policy that proposes strategies in line with the NST1 and beyond. One of the lessons learnt in the preceding policy is that infrastructure development and resource mobilisation takes time and patience. The new policy will look at achieving significant deliverables in the confines of NST1 but developmental activities that need greater mobilisation of investment and resources will be accorded sufficient timeframe to materialise. The new policy will therefore have a duration of fifteen five years from 2021 to 2035 in order to accommodate long-term investments.

The long term policy approach helps to pursue a long term planning and vision to solve regional logistical and infrastructural problems and the disposition of projects within the policy is divided into short-, medium- and long-term periods implemented at annual intervals.

The new National Downstream Petroleum Policy articulates the policy advantages that are necessary for trade, storage, distribution and re-export of petroleum products to flourish in Rwanda. The need to address the challenges in this sub-sector is paramount and the policy identifies the following key issues within Rwanda's downstream petroleum subsector: -

- Lack of petroleum infrastructure master plan;
- The limited storage facilities in the country for both petroleum and LPG products that has hindered the petroleum trade volumes development;
- Lack of sufficient strategic reserves in the country for both petroleum and LPG products to cushion fuel shortages;
- Lack of quality infrastructure as a quality control mechanism for petroleum product;
- Lack of a safe and prudent mechanism that takes care of human security and conserves the natural environment and biodiversity; and
- Lack of a well-coordinated institutional framework in the downstream sector to enhance efficient management of the sector.

2.1 Policy Direction

2.1.1 Vision and Mission

2.1.1.1 Vision

To achieve a well-managed petroleum subsector that effectively contributes to the growth of the national economy.

2.1.1.2 Mission

To effectively and prudently administer, monitor and regulate the downstream petroleum subsector.

2.1.2 Objectives

The importance of this policy is depicted in the objectives upon which its elaboration is based.

2.1.2.1 General Objectives

The objectives of this policy are:

- a) To achieve a consistent and cost-effective supply and distribution of petroleum products in the country and its immediate hinterland in compliance with industry standards by creating conditions for the provision of safe, reliable, affordable and environmentally friendly products and services on a sustainable basis.

- b) To ensure proper management of the downstream petroleum sub-sector in Rwanda with reliable and efficient infrastructure and end-user regulatory systems to support national development goals.

2.1.2.2 Specific Objectives

- 1) To promote the development of an adequate modern storage facilities equipped to international standards that respond to the national consumption needs as well as to the re-export requirements;
- 2) To ensure adequate minimum strategic reserves of three (3) months' consumption;
- 3) To promote and achieve a cost-effective supply and distribution mechanism of petroleum products;
- 4) To establish a clear legal and adequate regulatory regime in the downstream petroleum subsector activities;
- 5) Advocate for regional cooperation for petroleum strategic infrastructure development;
- 6) Improve data collection and establish an integrated common data collection system;
- 7) Enhance LPG infrastructure, supply and distribution logistics chain;
- 8) Establish and ensure quality control mechanisms for both fuel and LPG;
- 9) Ensure that petroleum activities are performed in a safe and prudent manner that conserves the natural environment and biodiversity.

2.2 Preferred Policy Options

The challenges stated in the sector outlook analysis section of this document and the quick wins proposed to be undertaken as stated in the need for a new National Downstream Petroleum Policy are complemented with the following policy options and activities which are set as measurements to evaluate their implementation.

2.2.1 Develop a petroleum infrastructure master plan that strengthens infrastructure for fuel imports, storage, transport and redistribution

Rwanda is a landlocked nation which imports petroleum products through the central corridor (Tanzania) and the northern corridor (Kenya). The current Rwandan petroleum infrastructure essentially consists of petroleum storage facilities totaling a capacity of 111.2 million liters which is likely to be insufficient to provide essential security of supply considering the estimated monthly consumption of 54.4 million liters by 2024.

The opportunities for investment in the petroleum sector are vast in monetary terms, and substantial in terms of economic development impact. With reforms taking place, both public and private investments are necessary and should increase substantially. In order to implement the target to increase the storage capacity of light fuels and LPG as a cooking solution; there is a need to: a) Make domestic and international investors aware of the investment opportunity within the downstream petroleum subsector through improved incentives and proper land acquisition modalities; b) Private sector partnerships will be encouraged to invest in all petroleum sector activities especially in LPG bulk storage facilities; c) Upgrade the existing government petroleum storage facilities and constructing fully fledged new storage infrastructures. Annual assessments shall be carried out on the state of existing storage facilities to reveal the upgrading required and which shall set the stage for new investments needed into the sector.

Specific Policy actions

1. Conduct feasibility study and design a petroleum infrastructure master plan;
2. Increase government strategic storage facilities by 23.4 million liters for fuel products and construct new strategic reserve storage of 38 million kgs for LPG;
3. Ensure proper and efficient maintenance of existing government petroleum storage facilities;
4. Promote Rwanda as a distribution center for petroleum products in the Great Lakes region by enhancing cross border trade; and
5. Upgrade the existing infrastructures facilities in terms of storage and quality control (Slop tankers, complete laboratories, instrumentation system such as Automatic Tank Gauges).

2.2.2 Ensure adequate minimum strategic reserves and availability of sufficient commercial stocks.

2.2.2.1 Framework for Strategic Stocks Management and replenishment

The amount of strategic stocks maintained by Rwanda has significant economic implications on the cost of infrastructure (capital and operating) and the budgetary implications of financing the supply and replenishment of those stocks. It is very important therefore that the level of strategic stocks be correctly determined to reflect the most probable risks of product runouts. The proposal is to have a two-months strategic stocks for the government and one month of strategic stocks for the private sector as this takes into account the supply risks associated with the current products sourcing processes and logistics.

2.2.2.2 Custody, Management and financing of Strategic Stocks

For consistency with existing arrangements, it is recommended that MINICOM continues to procure and manage government petroleum strategic stocks and assets. The financing costs will continue to be borne by the consumer through a levy that is collected on every liter of light fuel (PMS and AGO) to finance rehabilitations and construction of strategic storage facilities, their management and procurement of strategic reserves of fuel. The required levy, which is able to cater for the aforementioned infrastructure development needs, will be determined by the revised petroleum law and/or instructions by the regulator. Other sources of funding such as rental fee(s) from the lease of Government petroleum infrastructures could also supplement the levy.

2.2.2.3 Release of Strategic Government Stocks

The release shall require written authority from the Minister in charge of petroleum trade. The Minister shall authorize draw-down of national strategic stocks to licensed oil marketing companies and distributors on the occurrence of the following situations: -

- ❖ Established situations of low stocks of petroleum products that threaten economic disruption in the country;
- ❖ To stabilize local petroleum products prices and the economy when situations of severe global price volatility arise;
- ❖ When products have over-stayed in storage tanks beyond the time required by quality control requirements to avoid product quality deterioration; and
- ❖ At the time of storage tanks renovation, rehabilitation and /or for cleaning purposes.

Strategic stocks drawdown involving any sale of products to licensed companies shall take into account the factor of market based replacement cost of the product at CIF landed in Kigali to establish the transfer price or such a sale price for the month (t) at hand during product transfer or any other months (t+2) that shall guarantee fair price for strategic stocks replenishment.

2.2.3 Promoting and achieving a cost-effective supply mechanism of petroleum products for Rwanda

2.2.3.1 Petroleum Products and LPG Pricing

Rwanda Utilities Regulatory Authority (RURA) regulates prices of the three transport fuels (Gasoline, Gas Oil, Kerosene and Jet A1). Prices of domestic LPG are not regulated. A price formula that approximates actual average landed costs is used as the basis for price adjustments which are done at intervals varying between one and three months. The LPG market has been allowed to mature before any regulation of prices can be considered. As the need shall be determined however, LPG prices may also be set by RURA.

2.2.3.2 The Petroleum Pricing Formula

Rwanda shall keep the existing petroleum price calculation formula but needs to gradually and on a case by case basis adapt it to the ever evolving global trade circumstances. The guiding principle for the price formula is that it shall be transparent, predictable, timely and shall reflect all genuine petroleum costs.

Specific Policy actions

1. Advocate for regional cooperation for the development of petroleum strategic infrastructures so as to achieve suitable transport infrastructure solutions for petroleum products;
2. Develop and operationalize a Fuel Marking System for Rwanda to minimize risks in transportation, storage and distribution; and
3. Ensure an appropriate pricing methodology of regulated petroleum products including LPG.

2.2.4 Establishing qualitative and quantitative control mechanism of supplied and redistributed petroleum products.

2.2.4.1 Quality control, assurance and compliance mechanisms for petroleum products including LPG

Quality control and testing shall be performed to accepted industry standards such as but not limited to ASTM, ISO, IP, DIN, NOM and other international protocols. Controlling the composition of vehicle and industrial fuel usage can

reduce pollutant emissions from combustion and more importantly, enable the use of advanced emission control technologies. Achieving best-practice vehicle emission performance therefore depends on having standards for fuels in place that complement standards for vehicular emissions.

Further still, intentional addition of off-specification fuel or contaminants can occur during distribution and is difficult to identify unless the fuel is analysed or the fuel quality is carefully monitored. The challenges are particularly daunting for countries with less mature programs, multiple and often overlapping regulatory authorities, less enforcement resources and enforcement capacity are limited. An effective fuel quality inspection and assurance program shall be established. This program shall also include an integrated common data collection system that shall be used for economic and strategic planning and for regulatory compliance monitoring.

Specific Policy Actions

1. Develop/update petroleum standards for products, equipment and facilities to ensure that the petroleum sector complies with defined international, regional and national codes of practice;
2. Establish a National calibration rig;
3. Establish accredited public and private fuel testing services;
4. Provide Government fuel quality certification; and
5. Create a quality control plan.

2.2.5 Establishing a clear legal and adequate regulatory regime

This policy shall be followed by a revision of the existing legal and regulatory texts and further work on the standards and technological features to ensure that the petroleum legal and regulatory framework is complete and effective. The following shall be undertaken:

2.2.5.1 Petroleum Law

The Downstream Petroleum Law was enacted as Law No 85/2013 of 11/9/2013 for Regulating Petroleum and Petroleum Products Trade in Rwanda. The law encompasses all petroleum products including LPG and industrial petroleum products. The petroleum law shall be revised to capture policy recommendations. The Petroleum Law shall also give power to the regulator to monitor the market requirements and the trade operations and determine the procedures and regulations to be introduced.

It is recommended that a separate law governing the trading of Methane Gas and other gaseous products such as natural gas products be developed separately to complement the LPG provisions that are catered for by this policy.

2.2.5.2 New Petroleum Regulations

The enactment of the revised Downstream Petroleum Law will also be supplemented by relevant regulations to facilitate implementation of the various elements of the Petroleum Policy and law. The following regulations have been identified as the immediate regulatory requirements for the downstream petroleum sector. Further regulations shall be developed as and when the market requirements so dictate.

- The Petroleum Trade Licensing Regulation;
- The Petroleum Products Pricing Formula Regulation.
- The Petroleum Information & Statistics Regulation;
- Petroleum Service Stations regulation;
- Liquefied Petroleum Gas (LPG) regulation;
- Aboveground petroleum storage facilities and importation of petroleum products in Rwanda regulation;
- Road transportation of petroleum products regulation; and
- Fuel Marking, Inspection and Testing Regulation.

Specific Policy actions

1. Amend and operationalize the Petroleum Law;
2. Develop and implement a capacity building development plan;
3. Review and update existing lease agreements for the Government owned depots to ensure proper management and standards compliance; and
4. Develop an information sharing platform by the concerned stakeholder institutions involved the downstream petroleum activities;

2.3 Implementation framework

This policy establishes the development framework for 2020-2035, with an initial five-year implementation plan, updated every 5 years to inform necessary improvements.

2.3.1 Institutional Framework

The Downstream Petroleum Policy describes the roles to be played by various institutions and organizations. In any institutional framework, there should be clear separation between policy making, management of government assets (products and facilities) and regulation. This is necessary to avoid conflict of roles. In view of the growth of the downstream petroleum sector, further review and harmonization in respect of roles in the downstream petroleum infrastructure developments, policies, management, and regulation among various institutions is needed. The review of the existing policy and laws, in part, also focuses on resolving existing and or potential conflict of roles among the following institutions—MINICOM, MININFRA, REG, RURA, REMA, RSB, RRA, RDB and local administration authorities—who currently have more or less overlapping mandates in respect of regulation.

2.3.2 Regulatory and Institutional Frameworks in EAC Countries

In order to improve competitiveness in the sector, it is Important to create same level playing field for local companies by benchmarking or making reference to the regional regulatory climate.

Table 8: Comparative Review of EAC Legal & Institutional Frameworks.

Country	Petroleum Law	Regulatory Agency	Petroleum Regulations	Management of National Oil Reserves
Kenya	The Energy Act 2019	Energy and Petroleum Regulatory Authority (EPRA)	In place	National Oil Company Of Kenya (NOCK)
Tanzania	Petroleum Act 2008	Energy Water Utilities Regulatory Authority (EWURA)	In place	Tanzania Petroleum Development Corporation (TPDC)
Uganda	Petroleum Supply Act 2003	Petroleum Supply Division (Ministry Of Energy& Minerals Development)	In Place	National Oil Company (In process of formation)
Rwanda	<ul style="list-style-type: none"> • Downstream Petroleum Law 2013 • Law establishing RURA 	Rwanda Utilities Regulatory Authority (RURA)	Regulations in place	Ministry of Trade and Industry

The institutional framework for Rwanda’s downstream petroleum policy needs to be streamlined for the proper functioning of the sector in order to create synergies

and avoid potential dysfunction. A more dedicated and focused institutional framework with a clear division of roles and responsibility will be established to address the current challenges for the purposes of efficiently and prudently monitoring and managing the fast growing sector.

The rapid growth in the downstream petroleum sector requires the involvement of the Government in directing resources and leading all sector actors towards a desired development direction. Therefore, in addition to the traditional roles of developing policies, laws and regulations, the Government shall either directly or indirectly participate by investment in and ownership of strategic infrastructure. The Government shall perform the following roles through different Institutions:

2.3.3 The role of the Ministry of Trade and Industry

The Ministry shall be responsible for the development and oversight of the downstream petroleum subsector policy, establishing and developing downstream petroleum-related legislations, setting the strategic petroleum reserve requirements and managing the strategic reserves, monitor the proper maintenance of Government Petroleum Facilities as well as creating an enabling environment for petroleum products trade.

2.3.4 The role of the Ministry of Finance and Economic Planning

The Ministry will ensure the provision of the necessary funding to support the development of the downstream petroleum infrastructure requirements, constitution of the Government strategic reserves and any related replenishments as well as maintenance of Government petroleum facilities. The ministry shall also participate in the liquidation process of the infrastructures and shall be represented in any potential nationalization and or privatization proceedings.

2.3.5 The role of the Ministry of Infrastructure

The Ministry shall support and/or lead the planning and development of required physical infrastructures and provide technical guidance on engineering and commissioning aspects.

2.3.6 The role of the Revenue Authority

This policy recognizes the important role of the Rwanda Revenue Authority (RRA) and shall continue to be as stipulated under the law number 08/2009 of 27/04/2009 determining its organization, functioning and responsibilities and as per the adopted EAC Customs Management Act 2004 and as they shall be amended from time to time. Specifically, RRA will continue to assume the role of granting,

renewing, suspending and cancelling licenses of petroleum bonded warehouses in consultation and consensus with the Ministry in charge of petroleum trade.

2.3.7 The roles of the Environment Management Authority

The authority in charge of environment management shall undertake the following functions within the downstream petroleum sector:

- a) Prepare petroleum sector environmental guidelines including waste and spills management, related to petroleum products and facilities;
- b) Carry out environmental monitoring and audits of petroleum activities;
- c) Ensure and monitor compliance of petroleum activities with environmental guidelines;
- d) Harmonize national environmental performance standards with international standards;
- e) Ensure that petroleum activities are carried out in a manner that preserves and enhances biodiversity, water catchments and wetlands.

2.3.8 The role of the Standards Authority

The authority in charge of standards shall undertake the following functions within the downstream petroleum sector:

- a) Development, harmonization and adoption of petroleum related standards;
- b) Provide training services on petroleum standards;
- c) Provide calibration and verification services;
- d) Carry out complete quality testing of petroleum products;
- e) Designation of quality testing laboratories owned by depot operators; and
- f) Put in place regulations related to metrology services used in petroleum and petroleum products trade.

2.3.9 The role of the Rwanda Development Board

The board shall undertake the following functions within the downstream petroleum sector:

- ❖ Attract investors in the development of petroleum facilities;
- ❖ Set up the investment incentives and negotiate investment contracts;
- ❖ Coordinate the conduct of environmental impact assessments and facilitate their approval processes and clearances to the investors;
- ❖ Participate in the privatization of Government petroleum infrastructure;
- ❖ Advise on the business reforms required in the downstream petroleum sub-sector to ensure its efficiency.

2.3.10 The role of the Utilities Regulatory Authority

The rapid increase of petroleum downstream operations and the recent increase in the usage of Liquefied Petroleum Gas (LPG) call for the establishment of a strong and focused regulatory regime in the downstream petroleum subsector to effectively regulate and monitor the sectoral activities in the country. The role of the regulator shall include:

- Performing the functions conferred to it by the respective sector legislation including licensing and enforcement of related laws and regulations;
- Advise the Ministry responsible for the downstream petroleum trade activities on the elaboration or update of the national petroleum trade policy and related legal texts;
- Put in place all necessary regulations to operationalize the Law regulating petroleum and petroleum products trade in Rwanda;
- Facilitate the resolution of complaints between the licensees and consumers and disputes between licensees;
- Cooperating with other regulatory agencies /government authorities involved in the downstream petroleum sector to create synergies and efficient regulation of the sector;
- Setting prices for petroleum and petroleum products including LPG as may be required; and
- Put in Place quality control regulations in line with the quality plan established.

2.4 Development of Human Resource Capacity

Developing the right human resource capacity is essential for the operationalization of the Petroleum Policy. Trainings will be fast tracked so as to increase the inventory of petroleum skills within the Rwandan public service and the private sector.

To effectively undertake various tasks outlined in the petroleum policy, it will be necessary to urgently embark on a comprehensive petroleum training program. An inventory of petroleum skills available within the government ministries and regulatory agencies shall be undertaken to facilitate preparation of a relevant training program. Currently Rwanda does not have petroleum training institutions, and as such training support will require to be outsourced.

To allow as many officers to be trained, it is proposed that structured petroleum trainings be undertaken locally in Rwanda by outsourced experts. Training in Rwanda will be less expensive and will allow many officers to benefit from the training. Officers to be trained shall be drawn from the regulatory and stakeholder institutions such as MINICOM, RURA, RSB, REMA, REG and MININFRA. Other candidates from different institutions and organizations will also progressively be invited to attend different courses as the main regulatory institutions become fully equipped. Such other institutions shall include but not limited to Universities and Vocational and Technical Schools in Rwanda. The ultimate target would be to eventually create a sizable body of knowledgeable experts in the petroleum sector and in the future, be able to introduce the courses in Rwandan universities and technical schools such as integrated polytechnic Regional Colleges (IPRCs).

2.5 Monitoring and Evaluation of the Policy

This policy proposes that the system of results and outcomes monitoring and evaluation be adopted at the national level. This system shall be based on minimal indicators that can be tracked at the policy level but be adequate to give key signals about the implementation agenda of the downstream petroleum policy.

Although some of the issues encountered will be solved administratively, others will have to be taken to the policy level for appraisal and decision making. Issues like the levels of investment made in the sector, social, economic and environment impacts will require to be monitored at the policy level, thereby necessitating availability of a monitoring and evaluation (M&E) framework. It is noteworthy that the different stakeholders articulated in the institutional framework may develop separate M&E frameworks to suit their specific expectations and interests in respect to their areas of concern and regulatory mandate.

The downstream petroleum policy M&E plan will be developed through a consultative process as part of the policy implementation strategy and outline milestones and key performance indicators. While the main responsibility for monitoring and evaluation framework will be vested in the Ministry responsible for downstream petroleum trade, a coordinated mechanism will be established to allow for multi-stakeholder consultations involving key stakeholders including (MINICOM, MINECOFIN, MININFRA, REG, REMA, RSB, RURA, RDB, RRA, and ASIMPER).

2.6 Financial implications

Financial Resources will be required for putting in place the proposed policy framework together with the necessary economic and strategic infrastructure. The overall cost of implementing this policy is estimated to be 144,602 million RWF. This amount is subdivided into 75,812 million RWF (52%) cost for the infrastructure development and upgrade; 64,089 million RWF (44%) cost for procurement of strategic fuel reserves to last two months and 4,700 million RWF (4%) cost for other policy actions. It is expected that most of these investments will be preferably undertaken jointly with the private sector – for instance attracting private funds to build the storage depots. Public Private Partnerships shall also be encouraged where necessary to put in place some of the required infrastructures. The private sector will also be required to participate in financing the development of social infrastructure especially in the areas where the oil companies will be undertaking oil and LPG operations and this is in line with ensuring basic environmental and safety standards are respected.

2.7 Legal implications

There will not be major legal changes to the existing legal framework governing the downstream petroleum sector in particular. However, the Law No 85/2013 of 11/9/2013 for Regulating Petroleum and Petroleum Products Trade in Rwanda will be updated. The law encompasses all petroleum products including LPG and industrial petroleum products. The petroleum law shall be revised to capture new policy recommendations. The Petroleum Law shall also give power to the regulator to monitor the market requirements and the trade operations and determine the procedures and regulations to be introduced.

It is recommended that a separate law governing the trading of LPG and other gaseous products such as natural gas products be developed separately to complement the LPG provisions that are catered for by this policy.

2.8 Impact on Business

Petroleum is a strategic growth incentive to business activities and the policy impact on businesses through the streamlining of petroleum business infrastructure and operations will boost economic performance due the petroleum energy supply reliability and predictability. This policy is fundamental as it ensures better linkages between private sector businesses and the public sector stakeholders which add value to business operations stability through the priority actions and strategic interventions expected. This in turn will be crucial for investor confidence because it envisages proper legal, regulatory, licensing systems and a resource management and development in the sector and in the wider economy.

2.9 Handling plan (communication plan)

A clear communication between lead and supporting stakeholders will be important in ensuring effective implementation. Issues and challenges will be dealt with as they arise and new opportunities will be identified and, where appropriate, adopted. The Regulator and MINICOM will be provided a sector wide forum to discuss progress and raise concerns. Specifically, communication will be maintained through:

- Regular meetings will be held with sector stakeholders to assess the performance of the sector and policy implementation progress.
- MINICOM website will be updated quarterly, with significant information about the policy and key sector achievements, opportunities as well as plans in pipeline, accessible to the public.
- Local media (newspapers, radio and television) will be used to communicate the status of projects and key developments. This will be particularly useful in raising awareness of end-user initiatives such as efficiency of alternative energy sources such as LPG for cooking purposes.
- The policy and other related documents shall be distributed during seminars and workshops to be held with stakeholders.

2.10 The Policy Implementation Plan

The current policy is estimated to require a total budget of 144,602 million Rwandan francs to implement. The biggest share of this budget goes to new infrastructure development and upgrade (52%) and procuring strategic fuel reserves (44%).

The following table outlines a detailed implementation plan for the downstream Petroleum Policy actions, together with the cost estimates of these activities. The implementation plan focuses on policy choices to be executed by the identified GOR stakeholder(s) – while leaving room for possible public private partnerships where necessary. This is initial five years implementation plan updated every 5 years to inform necessary improvements.

Policy options	Policy Actions	Time-frame	Responsible institutions	Total Cost (RWF)
Develop a petroleum infrastructure master plan that strengthens infrastructure for fuel imports, storage, transport and redistribution.	1. Conduct feasibility study and design a petroleum infrastructure and redistribution master plan	2020-2022	MINICOM (Lead) MINECOFIN, MININFRA, RURA, RDB, REG, RSB	300,000,000
	2. Increase strategic storage facilities by 23.4 million liters and construct new storage of 38 million kgs for LPG	2020-2024	MININFRA(Lead) MINICOM, MINECOFIN, RDB, RRA, REG, RURA	64,897,624,812
	3. Ensure proper and efficient maintenance of existing government petroleum storage facilities.	2020-2022	MINICOM (Lead), MINECOFIN, MININFRA, RRA, RURA	60,000,000
	4. Promote Rwanda as a distribution center for petroleum products in the Great Lakes region by enhancing cross border trade.	2020-2024	MINICOM (Lead) MINECOFIN, MININFRA, RURA, RDB	-
	5. Upgrade the existing infrastructure facilities for storage and quality control (Slop tankers, complete laboratories, instrumentation system such as Automatic Tank Gauges)	2020-2024	MINICOM (Lead) MINECOFIN,MINI NFRA, RURA, RDB, REG, RSB	10,855,000,000
Ensure adequate minimum strategic reserves and availability of sufficient commercial stocks.	1. Establish a 2 months' government petroleum strategic stock reserve	2020-2024	MINICOM (lead), MININFRA, MINECOFIN, RURA, REG, PSF, RRA	64,089,950,480
Promoting and achieving a cost-effective supply mechanism of petroleum products for Rwanda	1. Advocate for regional cooperation for the development of petroleum strategic infrastructures so as to achieve suitable transport infrastructure solutions for petroleum products	2019-2024	MININFRA (lead), MINICOM, MINECOFIN, RURA, REG, PSF, RRA	-

	2. Develop and operationalize a Fuel Marking System for Rwanda to minimize risks in transportation, storage and distribution	2020-2024	MINICOM (Lead), RSB, MININFRA, MINECOFIN, RURA, REG, RRA, PSF	200,000,000
	3. Establish an appropriate pricing methodology of regulated petroleum products including LPG.	2020-2024	RURA (Lead), MINICOM, MINECOFIN	150,000,000
Establishing qualitative and quantitative control mechanism of supplied and redistributed petroleum products.	1. Develop/update petroleum standards for products, equipment and facilities to ensure that the petroleum sector complies with defined international, regional and national codes of practice	2020-2024	RSB (Lead), MINICOM, MININFRA, MINECOFIN, RURA, REG, RRA, PSF	200,000,000
	2. Establish a National calibration rig	2020-2024	RSB (Lead), MINICOM, MININFRA, MINECOFIN, RURA, REG, RRA, PSF	2,500,000,000
	4. Establish accredited public and private fuel testing services	2020-2024	RSB (Lead), MINICOM, MININFRA, MINECOFIN, RURA, REG, RRA, PSF	600,000,000
	5. Provide Government fuel quality control and certification	2020-2024	RSB (Lead), MINICOM, MINECOFIN, RURA, REG, RRA, PSF	200,000,000
	6. Create a quality control plan.	2020-2024	RURA (Lead), , MINICOM	165,000,000

			MININFRA, REMA, RSB, REMA	
Establishing a clear legal and adequate regulatory regime	1. Amend and operationalize the Downstream Petroleum trade Law	2020-2020	MINICOM (Lead), MININFRA, MINECOFIN, RURA, RRA	20,000,000
	2. Develop and implement a capacity building development plan	2020-2021	RURA(Lead), MINICOM, MININFRA, MINECOFIN, REG, RRA	165,000,000
	3. Review and update existing lease agreements for the Government owned depots to ensure proper management and standards compliance	2020-2024	RDB (Lead), MINICOM, RRA, RURA, RSB	50,000,000
	4. Develop an information sharing platform by the concerned stakeholder institutions involved the downstream petroleum activities	2020-2022	RURA(Lead), MINICOM, MININFRA, MINECOFIN, REG, RRA, RSB	150,000,000
Grand Total				144,602,575,292