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EREA TECHNICAL RESEARCH PROPOSAL

**RESEARCH ON REGULATION OF STRATEGIC RESERVE
MODEL FOR EAC**

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RESEARCH ON REGULATION OF STRATEGIC RESERVE MODEL

1. Abstract

The subject of strategic petroleum reserves is of immense interest to governments. The real issue is arriving at an optimal size of strategic petroleum reserves. With an optimal size, many factors come into play such as how much capital should be set aside for infrastructure, how much working capital should be employed for the stocks and how much should be set aside for the operations and management of the stocks. At the heart of this issue lies the need to undertake a proper risk assessment of the country's exposure to adverse factors that can impede on its ability to receive petroleum stocks.

This research work is intended to analyse the factors that NRIs should consider when proposing a strategic petroleum reserve to their countries. It shall further propose regulatory instruments to develop and enforce in the partner states to ensure that, where a strategic petroleum reserve is employed, it works efficiently without relying too much on the government's fiscal budget.

2. Introduction

Due to the importance of petroleum as a primary source of energy in the transport industry, countries in the region have put in place measures to ensure there is no scarcity of this key product. Managing petroleum supply resource effectively can make the difference between profound societal suffering or prosperity. It is the key to political stability in the region.

As a result, sovereign states have resorted to strategic petroleum reserve (SPR) in the form of stockpiles. The United States of America is well known for keeping vast strategic petroleum reserves since the oil crisis of the 1970s. Physical petroleum stockpiles in a country give assurance of security of supply.

In the East Africa region, only Rwanda has an accurate model of an SPR with about 50,000 M³ of storage capacity. This is due to its inherent challenge of being landlocked. However, the size of the SPR is not adequate to give it a stock cover of over six (6) months based on its consumption patterns. The rest of the countries, namely Kenya and the United Republic of Tanzania, uses regulations to enforce the maintenance of minimum operational stocks.

3. Problem Analysis

For an SPR to be set up, “optimal” answers to the key issues below must be provided to maximise economic efficiency and to minimising capital waste:

- (i) How much of a reserve is appropriate to achieve a desired economic outcome;
- (ii) What is the best way to build a reserve to the desired level;
- (iii) What is the best way to release or consume the reserve in the event of a scarcity scenario;
- (iv) How does a country manage and pay for inherent losses due to:
 - a. Evaporation and measurement errors;
 - b. Natural and human-made calamities such as earthquakes, fires and arson/ terror attack;
 - c. Trust issues amongst the SPR administrator;
 - d. Cyclic price fluctuation of petroleum products;
 - e. Devaluation of local currency; and

f. Devaluation of working capital/ stock replacement capital due to inflation.

(v) Based on the selected optimal size of the strategic reserve, what is the optimal size of SPR infrastructure; and

(vi) Due to security concerns, which is the best location of the SPR facility.

4. The objective of the Research on SPR

The main objective is to ensure the security of supply of the main petroleum products in case of a significant disruption that would take more than three (3) months to recover. The other objectives are:

(i) Enhance efficiency in the supply and distribution of petroleum products;

(ii) Cushion the consumers against the steep rise in petroleum products;

(iii) Reduce costs incurred due to overstocking or understocking such as demurrage and speculative pricing; and

(iv) Cushion the country against foreign exchange exposure risk by ensuring a predictable forex budget for use in the importation of petroleum products.

5. Proposed Methodology

It is proposed that the research be conducted as follows:

(i) Collect data on the supply and demand forecast of petroleum products for each of the five (5) countries in the East African region (for Premium Motor Spirit, Automotive Gasoil, Jet A-1, Fuel etc.);

(ii) Collect and verify data on the exact petroleum storage capacities in the region;

- (iii) Identify possible locations for the location of SPR facilities in the different countries bearing in mind issues of safety and security;
- (iv) Design and propose a suitable storage capacity for the different demands in the region bearing in mind supply modes (road, pipelines, rail or marine);
- (v) Develop a financial model for a typical SPR indicating the financial and social Rols;
- (vi) Propose and analyse the possible options for financing the infrastructure and the oil stockpiles;
- (vii) Propose and analyse the possible options of operating SPR;
- (viii) Undertake a detailed risk assessment of constructing and operating an SPR and come up with a proposed risk mitigation measures;
- (ix) Develop a set of rules that may be used in the regulations of SPR facilities and bearing in mind Common User/ Open Access principles; and

Propose an acceptable Workplan for the execution of the assignment.

Comparative table of strategic reserve model between each country of the NRIs

Country	Burundi	Kenya	Uganda	Rwanda	Tanzania	Zanzibar
Model description	N/A	The Energy (Petroleum Strategic stock) regulations adopted in April 2008. According to the regulation the strategic stock shall be maintained in respect of each of the following petroleum products at a level equivalent to up to ninety days of consumption of each product namely: Premium Motor Spirit, Illuminating Kerosene, Automotive Gasoil and Liquified Petroleum Gas	N/A	No strategic reserve regulations were adopted; however, Rwanda's planned strategic fuel reserves to cushion the country against supply shocks for 3 months by 2024 on each product namely Premium Motor Spirit, Illuminating Kerosene, Automotive Gasoil.	No strategic reserve is established in the country. Regulations 6 of the Petroleum (General) regulations, 2011 made under the petroleum act cap. 392 requires every wholesaler to maintain 15 days of commercial stock based on its market share	N/A