

# UNDERSTANDING FUEL PROCUREMENT IN ZAMBIA



Zambia's total petroleum requirements are met through imports because the country does not have any proven reserves of crude oil. The petroleum industry in Zambia is made up of TAZAMA Pipelines Ltd, which is owned, by the Governments of Zambia and Tanzania, INDENI Refinery, Ndola Fuel Terminal, Bulk fuel storage depots and the Oil Marketing Companies (OMCs). The major activities that take place in the petroleum sector are; procurement, transportation, refining, distribution and supply petroleum products to various customers at a reasonable cost.

## THE PROCESS

Zambia imports a mixed petroleum feedstock consisting of crude oil, naphtha and diesel from the Middle East. This petroleum feedstock is processed at INDENI Petroleum Refinery and sold to OMCs as finished petroleum products. On behalf of the OMCs, transporters distribute the petroleum products mainly by road to the service stations and commercial customers.

The basic business activities involved in the petroleum sector are:

- Procurement and financing of petroleum feedstock;
- Transportation of petroleum feedstock from Dar-es-Salaam by pipeline to INDENI Refinery in Ndola;
- Refining of petroleum feedstock by INDENI Refinery; and
- Storage and distribution: The OMCs uplift the refined products from the Ndola Fuel Terminal and bulk fuel storage depots for distribution and sale to service stations and commercial customers.

## Extract: PETROLEUM IN THE NATIONAL ENERGY POLICY 2008

Petroleum is wholly imported and subject to ever increasing international prices and uncertain supply. The high cost of petroleum imports affects the costs of production and development programmes.

### 5.4.1 OBJECTIVE

The policy seeks to ensure an adequate, reliable and affordable supply of petroleum products at competitive and fair prices and also the reduction in importation costs.

### 5.4.2 POLICY MEASURE AND STRATEGIES

- a) Enhance security and cost effectiveness of supply of petroleum by:
- Attracting investment in the exploration and development of hydrocarbon resources;
  - Facilitating the acquisition of geological and geophysical data for assessing the petroleum potential of the country;
  - Building capacity in the relevant institutions to monitor and regulate petroleum exploration and development;
  - Diversifying the shareholding structure in the petroleum refinery to include other investors;
  - Establishing and maintaining strategic stocks of petroleum feedstock and refined products;
  - Enhancing regional cooperation in the importation of petroleum to improve security of supply;
  - Accessing alternative international sources of petroleum supply as well as alternative procurement and pricing mechanisms to reduce cost and supply vulnerability;
  - Facilitating the blending of petroleum products with biofuels like bio diesel and ethanol;
  - Effective management of the Single Point Mooring (SPM) through Government-to-government cooperation between Zambia and Tanzania;
  - Increasing petroleum, infrastructure capacity including storage facilities;
  - Rehabilitating the existing petroleum infrastructure and running them on commercial basis; and
  - Ensuring that the pipeline continues to be governed, and operated as agreed between the Zambian and Tanzania Governments.

- b) To promote the participation of Zambians in the Petroleum Industry through:
- Ensuring that Zambians hold shares in OMCs and given priority to participate in all stages of supply, transportation, storage and distribution.

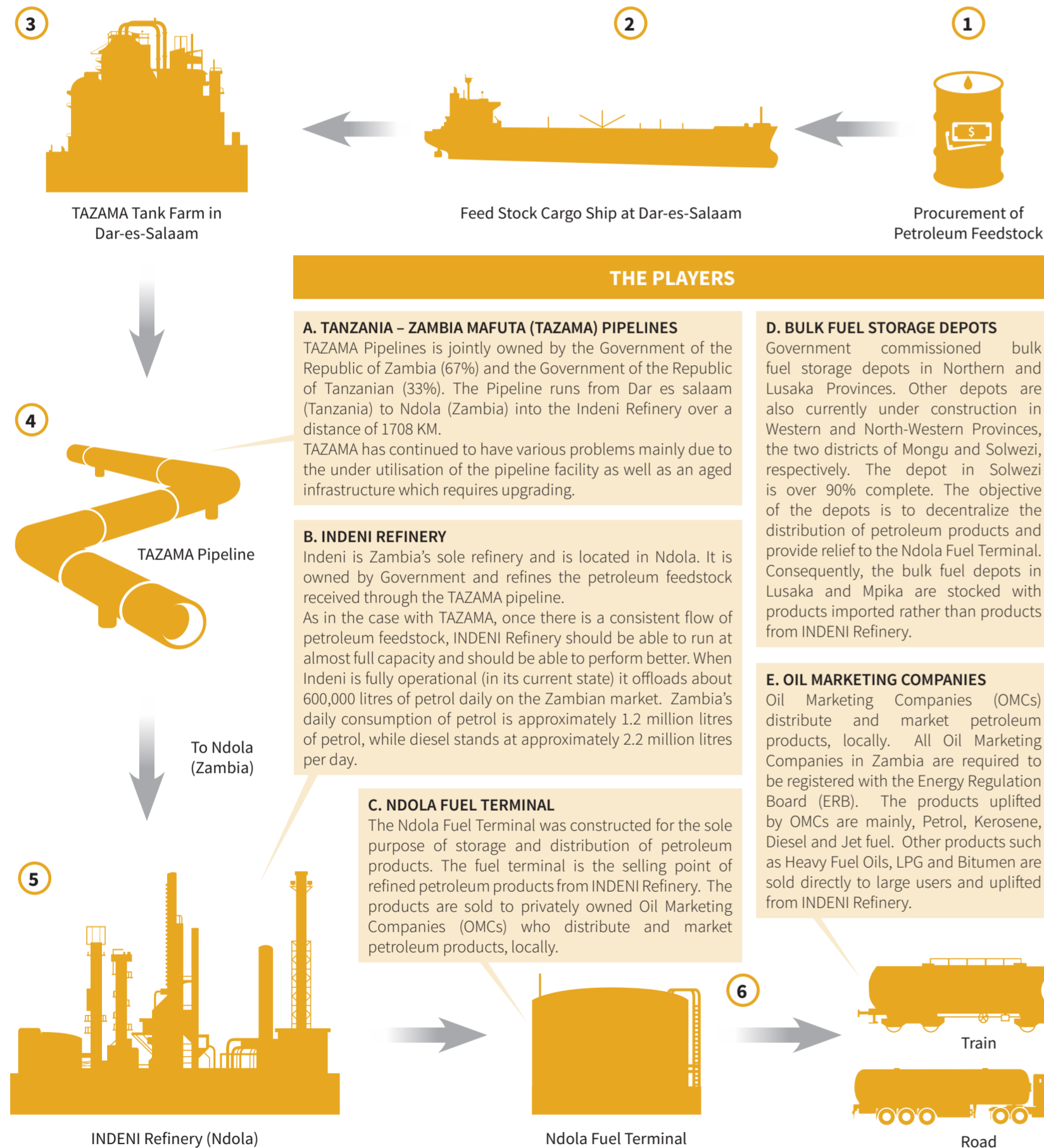
- c) Improve efficiency in the petroleum industry by:
- Ensuring full capacity utilisation of existing petroleum infrastructure; and
  - Encouraging investment in the modernisation of the petroleum infrastructure through appropriate incentives.

- d) Promote health and environmental safety in the petroleum sector through:
- Transitioning from leaded to unleaded petrol in line with regional and international commitments;
  - Promoting the use of bio-fuels as a fuel additives;
  - Ensuring the operations of the Refinery and Pipeline are environmentally friendly;
  - Formulating policy and standards on the quality of fuels including reducing sulphur content in diesel; and
  - Ensuring retail outlets adhere to environmental, safety and service standards.

- e) Improve petroleum pricing by:
- Constantly reviewing petroleum pricing to reflect existing arrangements in the market;
  - Engaging in long-term supply contracts;
  - Ensuring full price deregulation and competition at the pump;
  - Setting up an incentive mechanism to mitigate high petroleum prices in rural areas; and
  - Encouraging low cost petroleum retailing in rural areas.

- f) Ensure prompt response to and minimisation of possible emergencies and disasters by:
- Putting in place early warning systems and mitigation measures; and
  - Regular reviewing of emergency systems.

## THE FUEL SUPPLY CHAIN IN ZAMBIA



## THE PLAYERS

**A. TANZANIA – ZAMBIA MAFUTA (TAZAMA) PIPELINES**  
 TAZAMA Pipelines is jointly owned by the Government of the Republic of Zambia (67%) and the Government of the Republic of Tanzania (33%). The Pipeline runs from Dar es salaam (Tanzania) to Ndola (Zambia) into the Indeni Refinery over a distance of 1708 KM. TAZAMA has continued to have various problems mainly due to the under utilisation of the pipeline facility as well as an aged infrastructure which requires upgrading.

**B. INDENI REFINERY**  
 Indeni is Zambia's sole refinery and is located in Ndola. It is owned by Government and refines the petroleum feedstock received through the TAZAMA pipeline. As in the case with TAZAMA, once there is a consistent flow of petroleum feedstock, INDENI Refinery should be able to run at almost full capacity and should be able to perform better. When Indeni is fully operational (in its current state) it offloads about 600,000 litres of petrol daily on the Zambian market. Zambia's daily consumption of petrol is approximately 1.2 million litres per day, while diesel stands at approximately 2.2 million litres per day.

**C. NDOLA FUEL TERMINAL**  
 The Ndola Fuel Terminal was constructed for the sole purpose of storage and distribution of petroleum products. The fuel terminal is the selling point of refined petroleum products from INDENI Refinery. The products are sold to privately owned Oil Marketing Companies (OMCs) who distribute and market petroleum products, locally.

**D. BULK FUEL STORAGE DEPOTS**  
 Government commissioned bulk fuel storage depots in Northern and Lusaka Provinces. Other depots are also currently under construction in Western and North-Western Provinces, the two districts of Mongu and Solwezi, respectively. The depot in Solwezi is over 90% complete. The objective of the depots is to decentralize the distribution of petroleum products and provide relief to the Ndola Fuel Terminal. Consequently, the bulk fuel depots in Lusaka and Mpika are stocked with products imported rather than products from INDENI Refinery.

**E. OIL MARKETING COMPANIES**  
 Oil Marketing Companies (OMCs) distribute and market petroleum products, locally. All Oil Marketing Companies in Zambia are required to be registered with the Energy Regulation Board (ERB). The products uplifted by OMCs are mainly, Petrol, Kerosene, Diesel and Jet fuel. Other products such as Heavy Fuel Oils, LPG and Bitumen are sold directly to large users and uplifted from INDENI Refinery.

## PRICING

In determining fuel (Petroleum) prices, the Energy Regulation Board (ERB) uses the Cost-plus Pricing Model, (CPM), which operates on the principle that the final price of petroleum products should cover all the costs incurred in the supply chain. Using the CPM model the ERB determines the wholesale prices and pump prices of petroleum products. OMCs rarely import finished products due to the high import duty of 25% on petrol and diesel.

## INTERNATIONAL OIL PRICES AND ZAMBIA

**Determinants of fuel prices:** Important to note that the domestic prices of petroleum products are mainly affected by a rise or fall in international oil prices and the exchange rate of the United States dollar to the Zambian Kwacha. Also worth noting is that increases in the local fuel prices have a tendency to trigger a general rise in the cost of goods and services i.e. inflation.

## STATUS ANALYSIS

Fuel remains one of Zambia's largest import products.

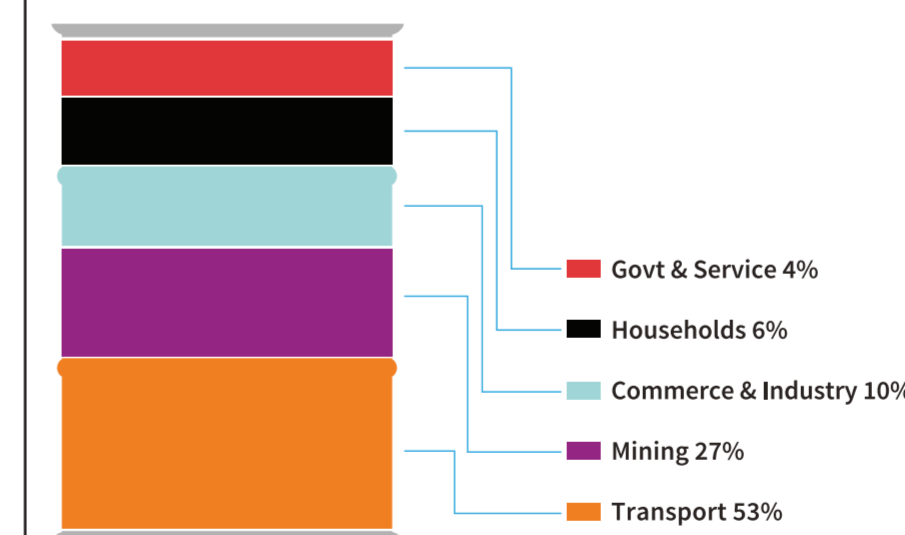
TAZAMA and INDENI Refinery are 100% dependent on the flow of petroleum feedstock that should ensure reasonable capacity utilisation in order to operate efficiently. Any inconsistency in the supply of petroleum feedstock would result in operating these facilities below minimum capacity levels and would demand an increase in the level of imports for fast selling products.

According to the Ministry of Finance, in order to deal with challenges in the petroleum sector, the Government is reviewing the petroleum supply chain and the financing options. Further, alternative sources of fuel supply are being pursued to reduce costs. Discussions at bilateral level with oil producing countries for the supply of crude and finished products have commenced to streamline the procurement process by eliminating middlemen, if any.

According to the Ministry of Mines, Energy and Water Development, INDENI Refinery was built with an installed refinery capacity of 1.1 million litres of petroleum per day. Currently, INDENI is only able to process between 300,000 litres and 700,000 litres of petroleum per day. This is an indication that the refinery has challenges in operating at full capacity.

## CONSUMPTION PER SECTOR

According to the 2014 statistics from the Energy Regulation Board (ERB), Zambia's average daily consumption in litres is as follows: **Petrol** (1.11 million litres), **Diesel** (2.28 million litres) and **Kerosene** (50,000 litres).



This consumption pattern is key for the purpose of setting appropriate policy to ensure that the productive sectors of the economy such as mining, agriculture and manufacturing remain at the focal point of sustaining the economic growth.

Source: ( National Energy Policy 2008 and Energy Regulation Board)

## CHALLENGES

**INFRASTRUCTURE:** The state of the major infrastructure in the petroleum supply chain; namely the refinery and the pipeline need to be addressed. These assets are all over thirty (30) years old and require some investment to make them more efficient. At present, the refinery's production can only meet about 50% of national demand.

## RECOMMENDATIONS

- The Government must revisit and reform the controls and taxes that govern the petroleum procurement system in order to allow greater competition in the market, which may ultimately eliminate any expensive procurement procedures.
- The long-term solution for the petroleum sector in Zambia is to liberalise it. OMCs or the private sector need to be responsible for the procurement of the country's petroleum needs. This may reduce the financial burden on the Treasury and possibly free up resources to other sectors.
- Government must stiffen measures to ensure that there is uninterrupted flow of petroleum products into the country to guarantee supply and ensure stable and predictable prices.
- Taxation: With respect to the taxes charged on fuel, Government must consider reducing the rate of taxes on petroleum products.