

## LOCAL CRUDE OIL REFINING FOR ACHIEVING ENERGY SECURITY IN KENYA

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**Abstract:** *Energy security is the basis for a stable civilization. While imprudence will argue for the exportation of the Kenyan crude oil only to import oil for its own use at a colossal price, I make a case for local oil refining. Indeed, prudent natural resource management for collective development in Kenya is nothing other than deployment of locally available resources and technologies to meet local and national challenges such as energy and security while fostering the strongholds of intergenerational equity, national unity, revenue generation, inclusive economic development, and transparency.*

**KEY WORDS:** local oil refining, inclusive economic development, national unity, intergenerational equity.

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### The African Dilemma

It does not matter that 16 out of 54 African countries are major oil producers. African villages, towns, and cities are in the dark. Moreover, schools, healthcare centres, businesses, homes, and the industry are under severe power rationing. The average tariff of US\$ 0.13 per kilowatt hour in sub-Saharan Africa is highest in the world; some 25 sub-Saharan countries are hit by severe rolling blackouts. In the twenty-first century, Africa is still the largest importer of her own oil. And as Africa's proven oil resources have grown by over 120% over the past thirty years, the African oil industry is run by *more than 500* foreign upstream oil and gas conglomerates (Clarke, 2009).

Africa's power supplies are unreliable; per capita energy consumption in the continent is falling while rising in other parts of the developing world; many national grids in Africa are consistently inaccessible. These problems are complicated by a lack of local content (LC) and value addition in the energy industry. In 2010, for instance, Africa only produced 13% of global oil. Like most other raw materials, Africa's crude oil is exported/shipped out of the continent while being traded cheaply in the global market. Africa has thus lost it all. In 2014, over 70% of citizens of African countries with active extractive industries were in deep poverty, had no electricity, were jobless, had no running water or sanitation services, no healthcare, education, passable roads, or clean environment.

High energy prices in Africa have worsened the continent's unemployment situation and overall competitiveness. The EU is the largest importer of African crude oil, followed closely by Asian Giants—led by China, followed by India and the Republic of South Korea—and the Gulf States. The EU imports over 7% of African crude oil and the Asian Giants import between 4% and 6% of the African crude oil. While there is hope for a changed and prosperous Africa, it is true that the African extractive industry is hit with inter-community conflicts such as those in the delta, and exacerbated by other problems such as spills, theft, and corruption. Given the gloomy picture, will Kenya's extractive industry follow suit? In the following sections I argue for a divergent path guided by the principles of ecological integrity, national sovereignty, and reduction of inequality and poverty. I then conclude the paper by discussing the way forward.

### Toward a Divergent Path

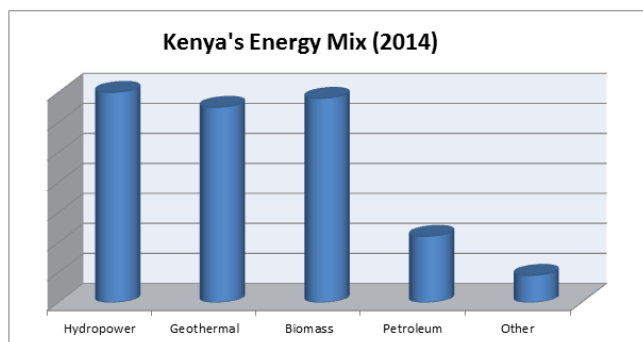
Kenya has been prospecting for oil and natural gas since 1937. But the country's first oil finds were discovered in 2012 in the Lamu Basin on the Kenyan Coast. In 2014, Kenya reported over 20 oil wells in Northern Kenya alone, holding over 1 billion barrels of oil resources. Some of the identified oil wells include those in Lokichar basin (worth over 600 million barrels), the Ngamia-1 and Ngamia-2 finds, Twiga-1, Paipai-1 and Mbawa-1, Agete-1, Amosing-1, Etuko-1, Ewoi-1, and Sunbird-1. Explorations are ongoing.

Following the stated oil finds, it is clear that:

- a) Kenya will certainly reduce her foreign oil imports of over 66,000 bbl/d flowing mainly from United Arab Emirates and over 11,000bbl/d from India and the Persian Gulf Nations.
- b) Although commendable efforts are being made to provide for cleaner, affordable, sustainable energy both to households and the industry as provided for under Kenya Vision 2030, Kenya's energy demand is unmet. The country has weak private sector involvement, weak transmission and distribution networks, limited capacity during peak demand, and high electricity tariffs. Local oil refining and value addition will reverse these trends, boost the country's power supply, generate revenue, create jobs, and support the ongoing growth that will certainly continue through the middle of the twenty-first century. Crucially, local oil finds will hasten Kenya's transition, if right measures and policies are put in place, to a middle-income economy earlier than predicted in Kenya Vision 2030.
- c) While at the national level, biomass still accounts for over 68% of the total energy consumption, petroleum accounts for over 80% of Kenya's commercial energy requirements, with Kenya's transport sector being the largest consumer of petroleum products, closely followed by manufacturing and agriculture. Other sources of energy in Kenya include geothermal in the Rift Valley, coal (categorized under "other" in Figure 1 below) from the Mui Basin in Mwingi and Kitui Districts and Taru Basin of Kwale and Kilifi districts, and hydro—which constitutes about 60–70% of the Kenyan total electric power. Importantly, Kenya and Ethiopia are Africa's main producers of geothermal power. Kenya

has geothermal installed capacity of about 200 megawatts and growing. Though lacking nuclear power, solar, wind, and biodiesel in her mix, local oil refining is a great boost for the economy.

- d) The East African giant is poised to refine over quarter million bbl/d only from her new finds, thereby reducing her growing energy demands currently being driven by economic growth and infrastructural development. Looking ahead, however, local refining will not come without cost. To internalize this cost, both policy and institutional environments will have to be tailored to reflect the reality of global warming and climate change, and local oil refining and value addition in Kenya will have to excel in the following critical areas.



**Figure 1.** Kenya's Current Energy mix  
(Source: Author's own Compilation)

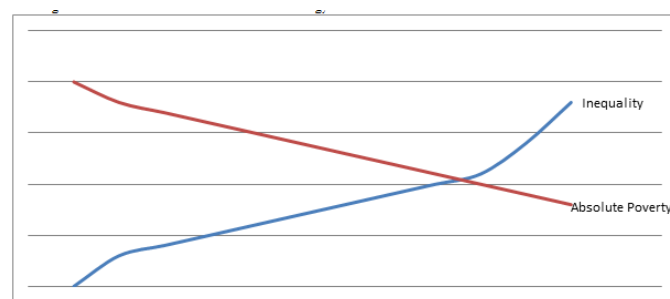
### Upholding Ecological Integrity

Experience now shows that corporate social responsibility (CSR) of oil producing multinationals in Africa is still weak (Baumuller, Donnelly, Vines, & Weimer, 2011). Nor is it robust in other developing areas. Kenya will not be an exception. Without a doubt, Kenya can remain ahead of the curve by learning from her peers: Kenya can for instance learn from the negative impacts of oil spills in the Niger Delta and unsustainable harvests of palm oil in Nigeria, the Congo, Gabon, Liberia, and Cameroon that have resulted in gross deforestation, huge losses of the great apes and other rare species, regrettable loss of Africa's rare habitat, increased greenhouse gas emissions, and unprecedented rates of abject poverty in the resource-rich African countries.

### Poverty and Inequality Reduction

Absolute poverty, inequity, and natural resource management in Kenya are inextricably linked. For example, rural poverty in Kenya is deeply linked with environmental degradation—poor water management, air pollution, declining soil fertility, soil erosion, climate change and overall land degradation. Crude oil extraction and refining in Kenya can have both positive and negative impacts on poverty and inequality. The bottom line, however, is that energy is a key component of good living, food production, heating, cooling, lighting, and refrigeration. Energy is a major driver of sustainable development and, consequently, poverty and inequality reduction (Toman, 2003). But energy is often drawn from the environment. Life is also dependent on the environment, and thus without environmental protection, it is indeed impossible to tackle the mire of poverty as well as boost economic and industrial development in Kenya today and in the future.<sup>1</sup>

Absolute poverty in Kenya is declining, but inequality is rising (Figure 2). In 2000, about 52% of Kenyans lived in absolute poverty. In 2006, about 46% of Kenyans lived in extreme poverty; in 2013, about 34% of Kenyans lived in extreme poverty, a figure projected to decline to 26% by 2015. Reduction of extreme poverty in Kenya owes to several factors, chief among them is mainstreaming of MDGs and redirecting spending to high-priority areas as evidenced in both Kenya Medium Term Plans I and II. Inequality is pervasive in Kenya. High inequality in the country implies misallocation of critical resources in the economy and a missed opportunity. High inequality only benefits the wealthy but puts a kink in socioeconomic mobility and inclusive economic development.



**Figure 2.** The state of poverty and inequality in Kenya  
(Source: Author's own Compilation)

### Equity, Transparency and Local Development Considerations

Many oil-producing countries in Africa are presently lacking Extractive Industries Transparency Initiative (EITI). Many more have weak community involvement. Prudent natural resource management for collective development in Kenya is nothing other than deployment of locally available resources and technologies to meet local and national challenges such as energy and security while fostering the strongholds of intergenerational equity, national unity, revenue generation, and transparency.

Imprudence will argue for the exportation of the Kenyan crude oil only to import oil for its own use at a colossal price. This will be morally indefensible. Moreover, importing oil for its own use and oil by-products will promote vices such as corruption, subject Kenya to foreign control, rob Kenya of its new base for wealth creation for inclusive development, and make it impossible to fight poverty and want in the most pragmatic ways.

### National Sovereignty and National Security Imperatives

Energy is a major component of Kenya's national security. Arguably, excessive dependence on foreign oil presents Kenya with serious security challenges, and peak oil is an impending problem likely to be complicated by global climate change. Moreover, climate change may negatively impact hydropower, one of Kenya's most important energy source. Importantly, dependence on foreign oil will continue to undermine Kenya's economic stability, a critical component of national security and reduction of abject poverty.

### Looking Ahead

Energy security is the basis for a stable civilization. Energy fosters the potential for innovation, experimentation, and the rate of economic change. Therefore, nothing can be more

significant for the Kenyan economy in the twenty-first century than local oil refining for energy security and structural transformation. Local oil refining is good for poverty reduction, foreign investment, job creation, revenue generation, and inclusive economic development. Indeed,

- No country has ever attained industrial status in the face of excessive foreign oil dependence. Kenya is not and will not be an exception.
- Kenya must take its own path. Kenya has excellent business climate, a creative and proactive population, sound and pragmatic legal and policy frameworks, and proven crude oil reserves. Both the upstream and downstream levels must now be dominated by local mining and processing companies.
- Though the country has minuscule oil refining capacities, Kenya has one of the continent's most favourable longer-term development prospects. New oil finds can only help place Kenya as one of the continent's most competitive economies in Africa and globally. Oil is Kenya's "black gold"; petroleum is a critical input accounting for over 80% of Kenya's commercial energy supplies. Local crude oil refining will be the only path to power households, industry, and businesses.
- Unlike the natural resource bonanzas being experienced elsewhere in the continent, oil and

natural resource extraction in Kenya must enhance peace and stability, equity, social justice, human rights, democratic governance, economic development, and the country's geostrategic importance. However, the key challenge for harnessing oil and gas resources is making the right strategic choices and synchronizing their implementation in a context that supports fiscal prudence and minimises macroeconomic distortions. This should be backed by adequate institutional capacity and national and local level participation in oil and gas revenue management. Given that oil is a non-renewable resource, it is vital to reduce corruption, promote intergenerational equity, and negotiate more beneficial and transparent contracts with oil companies. (African Development Bank, 2009)

- Energy infrastructure can determine the breath and pace of industrial development and economic development in Kenya. Local oil refining is, without a doubt, the basis for stabilizing the country's power system for accelerated longer-term economic advance and competitiveness. Building and modernizing Kenya's oil refineries must, of course, take into account possible surpluses from her neighbours such as South Sudan—one with feeble infrastructure—and Uganda, a landlocked neighbour to the west.

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