



Excess electricity produced from associated gas will be sent to the national grid

How will Uganda's gas resource be used?

By Billy Rwothungeyo

Far too often, one only hears about Uganda's oil endowment. Uganda's "black gold" reserves stand at 6.5 billion barrels of oil and 1.4 to 1.7 billion barrels of this resource is recoverable.

What about oil's lesser talked about product? Alongside oil, Uganda has gas deposits; both associated and non-associated gas. Associated gas is the gas that is present together with crude oil in a reservoir. Non-Associated Gas, on the other hand, is a natural gas found in a reservoir that does not contain crude oil.

Current estimates put the gas resource at 500 billion cubic feet (BCF) of non-associated gas and 173 BCF of associated gas.

HOW WILL THIS GAS BE USED?

The Tilenga upstream project, operated by Total E and P on the northern side of Lake Albert, will deliver the most hydrocarbons in the Lake Albert development area when production starts. An estimated 190,000 barrels of crude oil per day will be produced by this project at peak.

Alongside this oil, Tilenga will produce associated gas to a tune of 30 million standard cubic feet per day at peak for approximately two years after which production levels will gradually decline.

Anita Kayongo, the head of communications at Total E and P Uganda, says the project will not handle non-associated gas.

"All gas that will be produced along the production of the oil in the Tilenga project is termed as associated gas. We do not envisage the production of non-associated gas at this stage of the project," she told the *New Vision*.

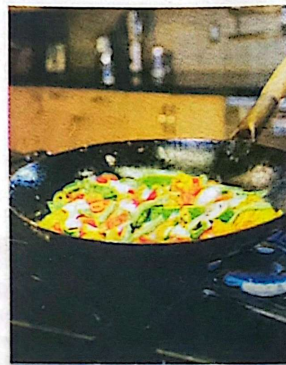
So what will this natural gas be used for after it is evacuated from the ground?

32 sq km Kingfisher Oil field

The associated gas that will be produced will be used for powering a CPF and heating pipelines feeding the CPF with oil from well pads. The excess gas will be treated for LPG by recycling propane and the butanes.

Primarily, the natural gas from the Tilenga project will be used to produce electricity to power the project's central processing facility (CPF), which will be located in Kasenyi village in Ngedwo sub-county in Buliisa district.

Electricity generated from Tilenga using gas will also be used to heat pipelines, meet the energy needs of well-pads, water-treatment plants, camps and other facilities and infrastructure. The excess electricity if any, will be sent to the Uganda Electricity Transmission Company Limited through the national grid.



LPG gas can be used in homes

Will some of the natural gas from the Tilenga project be used to produce Liquefied Petroleum Gas (LPG), which can be used to cook in homes? Kayongo reckons not.

"The chemical composition of the associated gas from the Tilenga project is not suitable for LPG production," she explained.

Kayongo ruled out the possibility of flaring some of the natural gas, a controversial practice which simply refers to the burning of oil or gas into the air. Environmentalists say this practice harms the atmosphere.

"Since 2000, Total has completely eliminated routine flaring in new projects. Indeed in Uganda, we will apply a zero-flaring policy. Therefore, we are concentrating on alternatives to flaring and particularly on using associated gas to produce electricity," she says.

The second project that will deliver hydrocarbons is the Lake Albert Development Area on the southern side of lake is the Kingfisher, operated by the China National Offshore Oil Corporation (CNOOC) Uganda in Kyangwali sub-county in Hoima district.

Estimates indicate that 35,000 to 40,000 barrels of oil per day will be produced in the Kingfisher oil field when production finally starts.

The Kingfisher oilfield, which spreads over a 32 square kilometres area, will also produce associated gas, and like the Tilenga project, the gas will be used to produce electricity for internal power needs of the project, which includes powering a CPF and heating pipelines feeding the CPF with oil from well pads.

Unlike the Tilenga project, excess gas from Kingfisher will be treated for LPG by recycling propane (C3), and the butanes (C4), as per the field development plans of CNOOC.

So one could be using some gas in their kitchen from the Albertine region in the near future, courtesy of the Kingfisher project.

Tanzania's natural gas plant a game changer

Last week, Tanzania opened a new \$544m, 167.82-megawatt natural gas power plant outside of the nation's commercial capital, Dar es Salaam, marking a turning point in the nation's push toward industrialisation.

The plant, already running at full capacity, is one part of Tanzanian President John Magufuli's initiative to transform the country's economy into an industrial powerhouse by 2025. Based on the combined-cycle technology, the plant uses gas and steam to generate electricity.

Up until this point, Tanzania has been the furthest thing from an energy frontrunner, with a population of 54 million, skyrocketing demand for power, and just 1,400MW of installed grid capacity.

In the past, much of Tanzania's energy has come from hydropower, leading to frequent shortages in a region with persistent droughts.

The inauguration of the new Kinyerezi II natural gas plant will be an undeniable game-changer for the nation.

The new natural gas infrastructure will be complemented with a hydropower generation project slated for July.

The 2,100MW hydropower project, to be built at the Stiegler's Gorge in the Selous Game Reserve located in the south of the country, will be the largest dam in Tanzania by the time it is finished in 2021.

Combined with the new natural gas plant, Tanzania is expecting to solve the nation's previous power woes with this massive development in the nation's power generation capabilities. Soon they may even be able to sell off surplus energy to other countries.

Europe's biggest gas field to close over quake risk

Europe's biggest gas field - Groningen in the north of the Netherlands - has been pumping gas for more than half a century and supplies gas to 98% of the Dutch population. But the field has been causing earthquakes that have become a growing concern for residents and authorities.

After years of debates and measures to curb production at the field, the Dutch government decided this week that output at Groningen will be terminated by 2030, with a reduction by two-thirds until 2021-2022 and another cut after that. The authorities have already limited production from the field because of the earthquakes, but now they have decided that the risks and costs are no longer acceptable.

"Safety perception as well as actual safety can only be guaranteed for the near future in Groningen by fully eliminating the source of the earthquake risk. The Dutch Cabinet, therefore, is taking measures for natural gas extraction from this gas field to be reduced to zero, as soon as possible," the government said, noting that the consequences of natural gas extraction "are no longer socially acceptable."

Prospects