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Prospect Analysis of Chinese Oil Companies' Investment in Kenyan Oil and Gas

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Abstract: Kenya is China's comprehensive strategic and cooperative partner. In recent years, under the common concern and guidance of the two heads of state, China-Kenya relations have entered the best period in history, with political mutual trust deepening and practical cooperation leading the way in China-Africa cooperation. Kenya is gradually building and developing its own oil storage and transportation infrastructures. Meanwhile, Chinese oil companies should seize the "Golden Twenty Years" of China-Africa cooperation, for jointly pursuing common development, facing challenges, and sharing opportunities; make progress in the oil and gas investment and cooperation; and participate in the oil and gas exploration and development throughout Kenya. By this means, it will not only ensure the stable supply of domestic oil and gas, but also inject strong impetus into Kenya's development.

1. Introduction：Analysis of development situations related to oil and gas in Kenya

China began to provide assistances to Kenya in the 1950s. Since the resumption of diplomatic relations at the ambassadorial level in 1974, China-Kenya relations has gained ground smoothly. China and Kenya signed an investment protection agreement in 2011, and established a joint committee on bilateral trade, investment and economic and technological cooperation. Kenya introduces favorable policies for foreign investors in terms of currency exchange and capital mobilization. Therefore, Chinese investors can exchange Kenyan shillings (KES) into RMB-denominated amounts and remit them back to China[1]. In addition, Kenya promulgated the *Foreign Investment Protection Act* in 1964, and implemented some preferential policies for overseas investors. In addition, Kenya can enjoy preferential import and export tariff rates as a member of the East African Community (EAC) and Common Market for Eastern and Southern Africa (COMESA). On this basis, the economic and trade relations between China and Kenya have developed by leaps and bounds over the past two decades, which have remained stable in recent years (see Figure 1). The bilateral trade value between China and Kenya has increased from KES 13.78 billion in 2004 to USD 6.961 billion (equivalent to about KES 821.398 billion) in 2021[2].

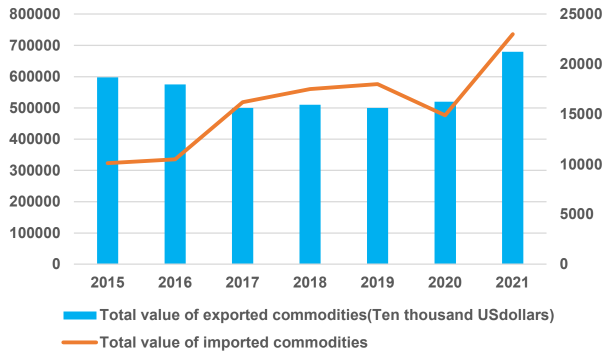

Fig 1: Data of China-Kenya Import and Export Trade
Data Source: China Customs

Under the "Belt and Road" Initiative, Kenya has profoundly broadened the room for development. Kenya highly recognizes Chinese investment and spares no effort to intensify the cooperation with China. Kenya's status as a regional financial and transportation hub makes it an important node of the "Belt and Road" Initiative in Africa. As for the cooperation between China and Kenya, the initial China-aided construction has gradually given way to direct investment. The content of mutual cooperation has also changed from infrastructure investment to energy resource investment, in echo with the discovery of oil and gas in Kenya[3].

At present, China is Kenya's largest trading partner, source of engineering contractors, and source of investment. Furthermore, China-Kenya trade will further outreach to petroleum and energy sector. In 2013, China National Petroleum Corporation (CNPC) and the Ministry of Energy and Petroleum (MoEP) of the Kenyan Government signed Memorandum of Understanding between China National Petroleum Corporation and the

Ministry of Energy and Petroleum of the Kenyan Government on Promoting Geothermal Development and Power Generation in Kenya. In 2019, Chinese companies were preferably chosen in the first batch of Kenyan crude oil exports, and ChemChina UK Co., Ltd. became one of the first buyers. The new *Energy Act 2019* and *Petroleum Exploration, Development and Production Act 2019* came into force in Kenya, serving as the institutional foundations for international capitals to launch energy development in Kenya. National Oil Corporation of Kenya (NOCK) has also expressed its willingness to expand the scope of cooperation with Chinese oil companies and join hands in competitive bidding. Moreover, Kenya is gradually building and developing its own oil storage and transportation infrastructures. Up to now, a modern oil and gas loading and unloading terminal has been put into use, laying a foundation for the unimpeded oil and gas exploration and development in Kenya. Therefore, Chinese oil companies should seize the "Golden Twenty Years" of China-Africa cooperation, for jointly pursuing common development, facing challenges, and sharing opportunities; make progress in the oil and gas investment and cooperation; and participate in the oil and gas exploration and development throughout Kenya. By this means, it will not only ensure the stable supply of domestic oil and gas, but also inject strong impetus into Kenya's development.

2. Current situations of oil and gas development in Kenya

Kenya boasts abundant oil and natural gas. In recent years, the Kenyan Government has been accelerating the oil and gas development; and has listed "energy, infrastructure and construction" as development priorities in Kenya Vision 2030. Upstream licenses takes the form of product sharing contracts in Kenya, and NOCK usually holds a 10%-20% stake in commercial development projects. In terms of policy, Energy Act 2019 and Petroleum Exploration, Development and Production Act 2019 stipulate that oil companies shall acquire blocks by way of competitive bidding, and set forth a framework for oil and gas operations. The country, regional governments and local communities shall share the upstream revenue, in accordance with the requirements of these new acts.

In 2012, Kenya successively met with onshore oil and offshore natural gas discoveries. As a result, Kenya has emerged as one of the hotspots for global oil and gas exploration, thereby embarking on the journey of oil exploration. Tullow Oil discovered the first oilfield in North-Central Gregory Rift Basin and exploited Kenya's onshore oil and gas. Afterwards, Tullow Oil, Africa Oil Corp and Total Energies jointly confirmed more than 550 million barrels of oil reserves in South Lokichar Oilfield. However, affected by oil price fluctuations, the oil and gas development and investment became sluggish in Kenya. It was not until 2016 that commercial development was conducted for oil and gas. Kenya originally planned to kick off oil exports in 2018, but the export plan was delayed until 2019 due to acute shortage of oil pipelines.

Currently, there is no oil and gas output in Kenya. No commercially valuable oil or gas has been discovered elsewhere in Kenya. Africa Oil Corp has discovered non-commercial reserves in Lamu Embayment Basin in Sala Oilfield. Apache Corporation and BG Group have discovered offshore reserves in Mbawa Oilfield and Sunbird Oilfield, respectively.

Upstream companies plan to develop in the basin areas where oil and gas are discovered. Revised development plans were submitted in February 2021, with a maximum output target of 120,000 barrels per day at this stage. Oil will be exported to Lamu Port on the Kenyan coast via an underground heating pipeline. At present, Eni, Total Energies, Tullow Oil, Maersk and Africa Oil Corp are mainly players in Kenya's oil and gas exploration and development. Net areas and reserves of resources, held by oil companies in Kenya, are as shown in Figure 3 and Figure 4. Eni and Total Energies tapped into Kenyan offshore blocks in 2012. Eni owns 100% of the three large deepwater blocks (Blocks L-21, L-23 and L-24). In addition, Eni, Total Energies and Qatar Petroleum devote to cooperative operation of Blocks L-11A, L-11B and L-12. In 2016, Maersk acquired a 25% stake in Blocks 10BB and 13T at the cost of USD 350 million in cash, by becoming a shareholder of Africa Oil Corp. Total Energies acquired Maersk's assets in Kenya at the cost of USD 4.95 billion. Currently, Tullow Oil, Total Energies and Africa Oil Corp hold 50%, 25% and 25% of Blocks 10BB and 13T, respectively. They made nine geological discoveries in the above-mentioned blocks during 2012-2017[5].

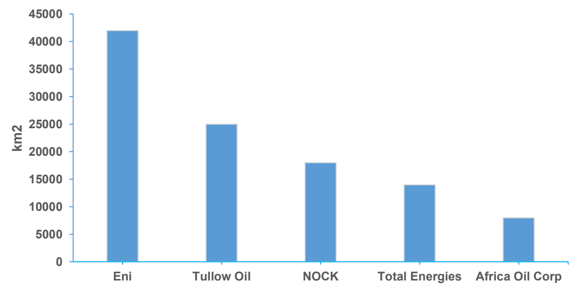

Fig 2: Net Areas of Resources Held by Oil Companies in Kenya

Data Source: Wood Mackenzie

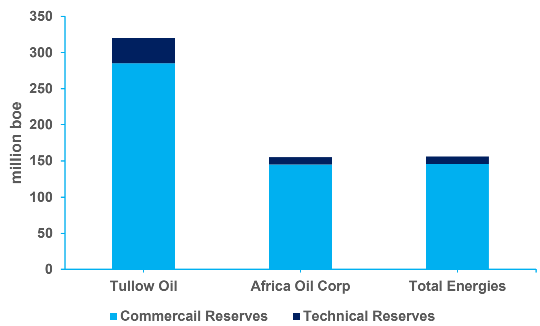

Fig 3: Reserves Held by Main Oil Companies in Kenya

Data Source: Wood Mackenzie

In Kenya, upstream licenses are granted under the provisions of the *Production Sharing Contract (PSC) 2017*. In March 2019, *Petroleum Exploration, Development and Production Act 2019* was signed into law. PSC contracts can be awarded through tendering or direct negotiation[6]. NOCK typically holds 10-20% of any commercial development project in Kenya, including carried interests in the exploration phase. The main production sharing terms refer to cost recovery and profit sharing associated with a fixed R Factor. Corporate income tax is also levied. All contracts are involved with bonuses, rents and expenses at small amounts.

3. Peer competition analysis of Chinese oil companies' oil and gas investments in Kenya

As Kenya's resources have not been fully exploited, a myriad of oil companies are making every effort to conduct exploration and appraisal. The historical and recent drilling situations are as shown in Figure 2[4].

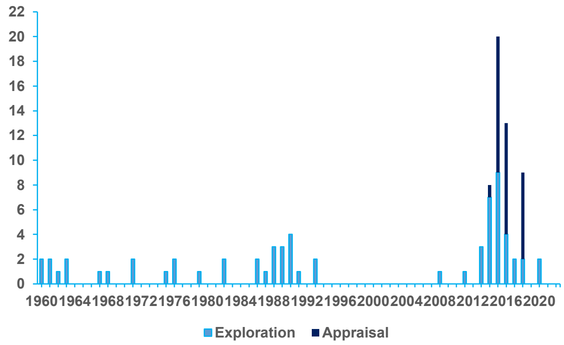

Fig 4: Historical and Recent Drilling Situations in Kenya
Data Source: Wood Mackenzie

In 2018, Midway Resources drilled Pate-2 Well, a follow-up to Pate-1 Well drilled by British Petroleum in 1970, and discovered natural gas. However, Pate-2 Well was plugged and abandoned in 2019. Tullow Oil launched further drilling activities for Erut-1 Well in 2016, and then drilled four appraisal wells in Amosing, Etom, Ngamia and Emekuya Oilfields in 2017. In the first half of 2016, CEPSA and EHRC drilled Tarach-1 Well in Block 11A, which was subsequently abandoned as a dry well. In 2015, Tullow Oil and its partners completed the development of 12 wells, including eight appraisal wells in Amosing, Etom, Ngamia and Twiga Oilfields, and three basin opening wells, namely, Cheptuket-1 Well, Emesek-1 Well and Engomo-1 Well. Among them, oil was discovered in Cheptuket-1 Well, while the other two wells were abandoned as dry wells. Taipan Resources drilled a well in Block Badada 2, but it was also abandoned[7].

Ngamia-1 Well in Block 10BB, operated by Tullow Oil, marks the first oil discovery in Kenya. Tullow Oil has been the most vibrant explorer in Kenya since 2012, with intensive drilling activities in Block 10BB and the adjacent Block 13T in North-Central Gregory Rift Basin. Drilling activities are mainly conducted in the core area of South Lokichar Basin. In addition to this fruitful mining, Kenya's mining results are generally disappointing. In 2014, Tullow Oil developed 16 wells, including five appraisal wells and seven exploration wells in Ngamia Oilfield; and made two commercial discoveries (Etom-1 Well and Amosing-1 Well) and a secondary commercial discovery (Ewoi-1 Well). Outside the high-yield South Lokichar, Tullow Oil has drilled only two exploration wells (Kodos-1 Well and Epir-1 Well), but no hydrocarbons have been discovered as yet[8].

Africa Oil Corp, a partner of Tullow Oil in Blocks 10BA, 10BB, 12A and 13T, has discovered Sala Oilfield which is classified as an emergency resource, in Block 9 of the onshore Lamu Embayment Basin. Sala-2 Appraisal Well has been closed and abandoned.

BG Group has discovered Kenya's first offshore oil project at Block L-10A in the coastal basin of Tanzania. Sunbird Oilfield is supposed to hold 32 million barrels of oil equivalent, and this well is the first liquid well discovered in the offshore East Africa. In 2013, Anadarko obtained 3D seismic data of offshore Blocks L-7 and L-11B, in which two exploratory wells (Kubwa-1 Well in Block L-7 and Kiboko-1 Well in Block L-11B) were drilled. Oil was discovered in both wells. Tullow Oil drilled four wells in Block 13T and discovered resources in Agete and Ekales. In 2012, Apache Corporation discovered natural gas in the Upper Cretaceous Deepwater Oil & Gas Reservoir from Block L-8 in Lamu Embayment Basin, but this Block was subsequently abandoned.

In the future, Ente Nazionale Idrocarburi (Eni) plans for field drilling and exploration of offshore oilfields in cooperation with Total Energies and Qatar Petroleum. This well was scheduled to be completed by the mid-2019. A contract was signed for Saipem 12,000 Rig, which missed the drilling window period due to the failure to obtain an import waiver in time. This well is scheduled to be drilled in 2022. Before that, a new contract must be signed for the development of a new drilling rig.

4. Conclusions and Revelations

1. Strengthening oil and gas cooperation between Chinese oil companies and Kenyan counterparts is conducive to diversifying energy investment risks

After the outbreak of the Russia-Ukraine Conflict, the international oil and gas market turbulences frequently occur, while oil and gas prices turn ever-increasingly volatile. China, a comprehensive strategic cooperative partner of Russia, may be threatened in terms of asset security. On the basis of greater prudence in overseas investment, Chinese oil companies should further develop more reassuring and trustworthy oil and gas projects. In this way, investment losses, arising from sanctions, can be avoided. In addition, from the perspective of national strategy, Chinese oil companies should make increased oil and gas investment in various continents, and reduce energy dependence on the United States and other countries, with a view to ensuring energy security. Kenya, a China's comprehensive strategic and cooperative partner in Africa, also sets a good example for China-Africa cooperation in joint construction of the "Belt and Road" initiative. Strengthening oil and gas cooperation with Kenya accords with policy orientation of the "Belt and Road" initiative, which is useful to help Chinese oil companies diversify energy investment risks and guarantee safe and stable oil and gas supply.

2. Chinese oil companies should broaden the depth of cooperation with international oil companies in exploration and development tides across Kenya

It has been ten years since Kenyan oil and gas were discovered. However, the progress in exploration and development has not achieved the desired effects. While tapping into the Kenyan oil and gas market, Chinese oil companies should vigorously seek the benefits, seize higher possibility of investment recovery, and improve the overall investment efficiency. At present, only international oil giants Tullow Oil and Total Energies have invested in Kenya, with relatively sluggish progress. As oil and gas development is on fast track across Africa, Chinese oil companies are advised to carry out in-depth cooperation and engagement with international oil companies, actively gain ground in the exploration and development of numerous projects in Kenya through technical exchanges and seminars, conduct risk management and control in a satisfactory manner, shorten the investment duration, recover capitals as soon as possible, and elevate the overall profitability.

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