

Opportunities and Challenges of China and Angola Energy Cooperation in the Context of the Belt and Road Initiative

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Abstract

This paper focuses on introducing the importance of China and Angola energy cooperation under the Belt and Road Initiative. There are some opportunities that China and Angola can continue going further in the energy strategy cooperation, while as the international environment and other issues that also bring challenges to China and Angola.

Keywords

Belt and Road Initiative, Angola, China, Energy, Oil

1. Introduction

1.1. Background

Benefiting from the liberal world order dominated by the United States after World War II, China has experienced rapid economic growth and international political influence in the past three decades (Hodzi, 2018). With the continuous increase in China's energy demand, the gap between domestic oil supply and demand is getting more expansive, and the dependence on foreign oil is increasing. Energy issues have increasingly become the "bottleneck" of China's economic take-off, which provides a rationale for China to implement the energy "going out" strategy through the diversification of energy supply and the internationalization of energy cooperation (Cui, 2019). The grim reality determines that while China takes "energy saving" as an essential measure to solve the shortage of oil resources, it also needs to "open source" through various channels, accelerate the implementation of the "going out" strategy, and actively participate in the development of the world's oil resources—competition and coop-

eration in the field.

There are various types of Energy, and they continue to expand with the development of human society and technological progress. Energy includes petroleum, natural gas, solar, geothermal, etc. Among them, oil occupies a significant position, an indispensable and important resource in modern industrial society. Oil is 90% political and 10% economical. As a strategic commodity, oil is closely intertwined with national strategy, global politics, and national power and has become a tool and weapon in the game between countries (Horta, 2011). Kissinger also pointed out that oil is the biggest bargaining chip in the geopolitical game. In addition, oil is an important strategic material. It is not only affected by market supply and demand, but also more infiltrated by politics, military, and diplomatic factors. Based on the above reasons, this paper will mainly focus on the oil cooperation between China and Angola.

2023 is the tenth anniversary of the joint construction of the “Belt and Road” initiative. The Belt and Road Initiative is a new model of globalization China advocates. It aims to strengthen international cooperation, promote trade and investment growth, and expand the depth and breadth of the market by strengthening policy communication, facility connectivity, unimpeded trade, financial integration, and people-to-people bonds (Mehdi & Yang, 2012). “One Road” has marked a new stage of China’s “going out,” encouraging Chinese enterprises to go abroad to find new markets and investment opportunities.

From the perspective of energy geopolitics, the Belt and Road Initiative is closely related to China’s energy security. The “Belt and Road” is the leading distribution area of the world’s conventional oil and gas resources and the concentrated consumption area of oil and gas energy (Wang, 2016). Implementing the Belt and Road Initiative has provided a new opportunity for the in-depth advancement of China-Africa energy cooperation. Africa is one of the critical areas for investment by international oil companies.

As one of the first African countries to join the “Belt and Road” initiative, Angola has excellent potential. Angola is Africa’s second-largest oil producer after Nigeria and has become sub-Saharan Africa’s third-largest economy. In 2017, Angola ranked third among China’s crude oil sources. Moreover, it has the “Angola model” of oil for loans.

According to Yong, Angola is important to China’s “Belt and Road” initiative. As the “Belt and Road” construction enters a new stage of comprehensive and pragmatic cooperation, the scale and level of energy cooperation between China and Angola also increase. In addition to broad prospects for cooperation, it is also facing challenges.

1.2. Research Objectives

This article will answer the following three questions:

- 1) Discussing the role of the “Belt and Road” mechanism in the energy cooperation between China and Angola.

- 2) Discussing opportunities for energy cooperation between China and Angola.
- 3) Discussing the challenges of energy cooperation between China and Angola.

1.3. Methodology

This paper will use a systematic literature review regarding research methods. Take Angola as an example. Based on the research and interpretation of relevant literature on energy cooperation between China and Angola by online media, relevant scholars, and some official media, different viewpoints on energy cooperation between China and Angola in the article are discussed and sorted out.

This paper will first review the background of China's energy policy and the challenges faced by China's energy security. Then, in the context of the "One Belt, One Road" Initiative, the energy distribution of Angola, the history of energy cooperation between China and Angola, as well as the opportunities and challenges faced in the cooperation process will be elaborated, and the risks encountered in the cooperation will be put forward in the end. The above content is formed after reading relevant literature, sorting out, analyzing, and summarizing. By quoting and comparing authors' views from different positions, this paper provides readers with a comprehensive and different perspective of thinking.

1.4. Significance of the Study

The deepening and development of China-Africa energy cooperation is the inevitable result of developing China-Africa political relations and economic and trade exchanges to a particular stage. With the expansion and deepening of the international operation of Chinese oil companies, China's influence in Africa has been continuously enhanced. China-Africa energy cooperation has been further developed, and Western powers have further increased concerns and doubts about China-Africa relations. In order to better understand the intricate energy cooperation, we choose Angola as a case to analyze the opportunities and challenges of energy cooperation between China and Angola under the background of "One Belt One Road." By analyzing the opportunities and challenges in cooperation, this study will help Chinese overseas companies and policymakers face challenges and avoid risks as much as possible to ensure investment returns.

2. Literature Review

2.1. China Energy Policy Background

Security is critical to China's global rise as the world's largest energy consumer. Domestic energy shortage has become a major weakness in China's development, which provides a rationale for China to implement the energy "going out" strategy through diversification of energy supply and internationalization of ener-

gy cooperation (Cui, 2019). The rapid development of economic globalization has brought about the globalization of resources.

2.2. Challenges Facing China's Energy Security

Energy, especially fossil energy has always been a strategic asset for the survival and development of nations. In 2021, because of the economic rebound and the Russia-Ukraine War, the price of oil and natural gas reached a pretty high record and this circumstance brought pain to European countries and even other countries. The high energy prices usually accompany the high inflation and high cost for the society. For instance, high energy prices may force factories to shut down and even cause a shortage of goods and unemployment. Moreover, it also may negatively influence the global supply chain. (IEA)

China is the world's largest primary energy consumer, and energy security is the strategic fulcrum for China's global rise. Energy security means reliable import sources, safe transportation routes, and reasonable import prices. Energy security for China means ensuring a stable oil supply to maintain the country's economic growth and social development. (IEA)

According to geopolitics, energy security can be separated into "absolute security" and "relative security" (Li et al., 2014). A form of "cooperative" safety is "relative safety." On the one hand, it refers to energy security attained through an international collaboration between energy-consuming nations and energy-producing nations through bilateral oil and gas exploration and development, investments in oil and gas projects, building oil and gas pipelines, and international mergers and acquisitions of oil and gas companies. China cannot choose "absolute security"; hence the only method for it to guarantee the "relative security" of its Energy is through "cooperative" security (Liao & Wei, 2010).

2.3. The Belt and Road Initiative and Energy Cooperation

Under the slow recovery of the global economy background, promoting regional and global corporations has become the crucial energy for developing the economy. In 2013, Chinese President Xi Jinping proposed the strategy of building the Silk Road Economic Belt when he visited the Middle Asian countries. This initiative has been responded to by several Asian, African, and European countries (Qi, 2015).

The Belt and Road Initiative is the most critical design for China's long-term economic growth, development, and integration with Eurasia and Africa. Energy cooperation It is one of the critical areas of China-Africa strategic cooperation. The energy cooperation between China and Africa is mainly reflected in four major sectors: oil trade, investment in oil and gas exploration and development, oil engineering contracting, and oil financial loans (China National Petroleum News Center, 2018).

The Belt and Road Initiative has provided a new opportunity for China-Africa energy cooperation. Africa is one of the critical areas for investment by interna-

tional oil companies. Since 1993, Petro China has implemented the “going out” strategy for international operations. “From a geographical point of view, most of the loans are invested in Angola, Nigeria, Zambia, Uganda, South Africa, and Sudan (Liu & Yang, 2019).

2.4. Energy Distribution in Angola

Angola is rich in oil resources. Since the first commercial oil was discovered in Angola’s Kwanza Basin in 1955, the country’s oil industry has continued to develop. Regarding oil distribution, oil fields in Angola are relatively concentrated, and offshore oil platforms have a large output (Mehdi & Yang, 2012). Most of the exploration activities in Angola are carried out in the ocean at a depth of more than 1,200 meters. Exploiting deep-sea oil has also contributed to the oil industry in Angola’s Prosperity. Due to the long-term civil war in the past, Angola’s onshore oil industry has yet to develop, but its production is gradually increasing (Shen, 2022).

At the same time, the commercial development of natural gas in Angola is even more backward. Due to the lack of technology and infrastructure necessary for commercializing natural gas, most of the natural gas currently produced in Angola is directly discharged, burned, or re-injected into oil wells. Only 11% of the natural gas is used commercially (Wang, 2020).

2.5. History of Energy Cooperation between China and Angola

The energy cooperation between China and Angola is highly complementary and has a particular political foundation. Angola, which has abundant oil resources, needs more capital and technology for exploration and exploitation, while China has the capital, talent, and technology (Bilgen, 2014). Politically, the similar historical circumstances of being colonized and invaded by China and Angola have become the bond of friendship between the two countries. Since the establishment of diplomatic relations in 1983, the relations between China and Angola have gone well, with frequent high-level exchanges. In 2010, the two countries established a strategic cooperative relationship (Wang & Lin, 2022).

China and Angola’s collaboration in Energy are primarily divided into three stages:

The first stage is the cooperation exploration period before 2002:

Angola exported oil to China since 1992, the export volume was only 203,800 tons, and it increased to 1,224,500 tons in 1993 (Chen, 2012).

The second stage is the period of rapid development from 2002 to 2008:

After the civil war in 2002, the Angolan government introduced a policy of relying on oil resources to attract foreign investment to promote post-war reconstruction. When Western countries were unwilling to provide loans to Angola, China did not. Aiding Angola with any political conditions attached has created the “Angola model” of exchanging loans for oil. Oil cooperation between China and Angola is carried out through the cooperation of oil companies and

the provision of financial loans. In 2004, New Bright International Development and Sonangol jointly established China Sonangol (Dong et al., 2017). In 2006, Angola Petroleum and Sinopec jointly established Sinopec-Petroleum Angola, an International Company (Hanauer & Morris, 2014).

The third stage is the stable development period from 2008 to the present:

After the outbreak of the world financial crisis in 2008, due to the production reduction and technical factors of old oil fields, coupled with the sharp drop in oil prices since 2014, the prosperity of Angola's oil industry has gradually faded, and China-Angola energy cooperation has entered a period of stable development.

Overall, China-Angola energy cooperation started late but has already achieved specific achievements, and there is still much room for future development. (IBID)

2.6. Research Limitations

There are few studies on energy cooperation between China and African countries along the Belt and Road, and there needs to be more studies on energy relations between China and Angola.

Firstly, the existing studies mainly elaborate on the current situation of China-Angola oil cooperation in a case-by-case manner and need to sufficiently explore the new development brought by new policies to China-Angola cooperation.

Secondly, the existing studies need to consider the energy cooperation between China and Angola in a global context, ignoring the influence of international powers on their cooperation. In general, many areas of energy cooperation between China and Angola still need to be studied in depth.

3. Finding

3.1. What Role Does the Belt and Road Mechanism Play in the Energy Cooperation between China and Angola

3.1.1. The Belt and Road Initiative Provides a New Opportunity for the Deepening of China-Africa Energy Cooperation and Ensures China's Energy Security

The Economist magazine called Africa the "continent of no hope" in 2000, but since the new century, the continent has been stabilizing from chaos, with rapid economic growth for many years, and the peace dividend and demographic dividend being released, Africa is gradually becoming the global "continent of hope" (Wang, 2018). A think tank, the Brookings Institution (2019), said in a report, "About half of the world's fastest-growing economies in 2019 are located on the African continent, and 20 economies will expand at an average rate of 5% or higher in the next five years. "President Xi Jinping's speech (2018) at the opening ceremony of the Forum on China-Africa Cooperation pointed out that "Africa's development is unlimited, and Africa's future is full of hope." In recent years, China has continued to increase its investment in Africa, and China-Africa trade cooperation has developed rapidly. As of 2017, China's stock of various

types of investment in Africa exceeded US \$100 billion (Wang, 2020), and China has been Africa's top trading partner for ten consecutive years (Dong, Sun, Li, & Jiang, 2017). China-Africa energy cooperation is an important part of China-Africa economic and trade cooperation, and strengthening China-Africa oil and gas cooperation is conducive to solving China's energy shortage problem and is also in line with the spirit of the "Belt and Road" initiative and national development interests. The good political foundation between China and Africa and the cooperation platforms such as China-Africa Forum and "One Belt, One Road" will provide a strong guarantee for China-Africa oil and gas cooperation.

Africa is one of the most important areas for international oil companies to invest in. Since implementing the "Going global" strategy in 1993, PetroChina has been engaged in international oil and gas cooperation and development by adhering to the concept of "mutual benefit and win-win cooperation." After the "Belt and Road" Initiative were put forward, PetroChina strengthened its oil and gas resources cooperation with Africa, increasing its business scale and strength. Africa has become China's second-largest source of crude oil imports. Energy cooperation between China and energy countries along the Belt and Road has been enhanced through infrastructure construction, trade, and investment financing to promote regional connectivity and integration. In the long run, the Belt and Road Initiative will benefit the economic growth and political stability of oil-producing countries along the routes and effectively reduce the vulnerability of China's energy security.

As the world's largest energy consumer, energy security is the cornerstone of China's rise, and oil security is at the core of China's energy security. The reliability of oil supply sources, the safety of oil transportation routes, and the affordability of oil prices are three major concerns for Chinese policymakers (Cui, 2019). While China has sought to diversify its oil supply for nearly a decade, it remains overly dependent on Middle Eastern countries for its oil imports. Over the next few decades, China will steadily diversify by reducing the proportion of oil it imports from the Middle East and expanding its imports from Russia, Africa, Central Asia, and Latin America.

3.1.2. The Belt and Road Initiative Provides a Basic Consensus for Energy Cooperation between China and Angola

In the decade since the end of the civil war in Angola, relations between China and Angola have developed rapidly. The two countries established a strategic partnership in 2010, with increasingly frequent high-level visits and deepening economic and trade cooperation between the two countries. The background of Belt and Road cooperation, Angola, as one of China's main partners in Africa, has signed cooperation documents with China on Belt and Road cooperation. The rise of President Joao Lourenco has brought about a series of changes in the development of bilateral relations. With the acceleration of China's "Going global," the Belt and Road Initiative promotion, and the successful holding of the Beijing Summit of the China-Africa Forum, China-Angola strategic cooperation

has been increasingly deepened recently years. The two sides uphold the basis of equality, mutual trust, mutual benefit, and mutual win. Cooperation in economic, political, cultural, and other fields, especially in the oil and gas field, has been booming.

The Cabinda Water Project is one of the most critical infrastructures that China helped Angola improve its livelihoods and eradicate poverty through the Belt and Road Initiative. Moreover, in recent years, China has helped to build up a number of projects in the fields of water, transport, energy, etc., which provide more opportunities and conditions for Angola to improve the lives of people and develop its domestic economy (Huang, 2023).

Angola's oil and gas exploration and development market has long been monopolized by international oil companies such as BP, Shell, Total, Exxon Mobil, Eni, Petrobras, etc. In order to obtain equity oil which is related to national energy security, Sinopec has successfully entered into the exploration and development of its deep-sea field through cooperation with world-class companies such as B.P. and Total and has become one of the largest oil and gas investors and block holders in Angola. Sinopec owns five deepwater and ultra-deepwater exploration and development blocks offshore Angola, with a total equity investment of U.S. \$15 billion. In 2015, equity oil and gas production was 5.49 million tons (Cui, 2019).

The energy cooperation between China and Angola started late, but it has made specific achievements so far, and there is still a large room for development in the future. Since the Arab Spring, the Middle East has witnessed political turmoil and frequent civil unrest. Reducing energy risks in China largely depends on developing stable supply sources in the Middle East. The oil trade between China and Angola has a substantial development momentum and broad space for expansion. In the future, African oil-producing countries represented by Angola will undoubtedly be the first choice for China to accelerate the energy supply diversification strategy, and the two countries will have broad prospects for future cooperation.

3.2. Opportunities for China and Angola Energy Cooperation

3.2.1. The Angola Model, Collaboration in the Oil Industry

As described in an article on "Leapfrog Trends in China-Angola Oil Cooperation" written by scholars from the China Institute of International Studies (CIIS), Angola has one of the largest oil reserves in Africa. It has a long history of cooperation with China in the oil industry, especially since the end of the civil war in 2002; China and Angola have created the "Angola model." This model is characterized by the fact that Angola can offer its resource—oil in exchange for economic loans from China.

Angola model has two features, contract and foreign direct investment. Firstly, contract means that all corporations between Angola and China are based on voluntary and equal conducts. Angola and China can discuss different projects based on their own interest. Secondly, most of corporations under the Angola

model are foreign direct investment (FDI) such as investing in constructing factories, power stations, reservoirs, and so on.

Under the Angola model, Angola and China have their own consideration: Angola hopes China to invest in the infrastructure construction and promote the urban development, while China hopes to import more raw material resources especially petrol and other fossil resources to maintain its domestic energy safety (Zongwe, 2010).

Some scholars explain that the Angola model operates in four steps: signing the agreement, identifying the contractor, implementing the project, and closing the loan. The first step is for the Angolan government to submit an application, which is assessed by the Export-Import Bank of China and submitted to the Ministry of Commerce of China. After approval by the Ministry of Commerce, the application was returned to the Export-Import Bank of China for signing the framework with the Angolan government. In the second step, Chinese enterprises will participate in the bidding of Angolan projects, the winning enterprises will further discuss the contract details with Angola, and the bank will sign a loan agreement with Angola. In the third step, during the construction phase, the materials and equipment required for the project will be procured by Chinese enterprises, the Export-Import Bank of China will pay the salaries of the Chinese, and third-party supervisors will report the progress to the Angolan government. In the final repayment phase, Angola needs to provide CNPC with about 1×10^4 barrels of oil per day, and CNPC has priority in Angola's oil exploitation. At the same time, the loan is paid by PetroChina (Liu & Yang, 2019).

China's Angolan model provided China with more energy supplies and guarantees for industrial development. In turn, Angola received preferential economic loans and economic income from China, providing economic support for other aspects of national construction.

3.2.2. The Green and Clean Energy Collaboration

The opportunities for China-Angola energy cooperation are not limited to traditional petroleum energy but also have good prospects in green and Clean Energy. In an article in the People's Daily, Chinese companies helped light up Angola's "light of hope" and mentioned opportunities for new energy cooperation between China and Angola. Angola is located in a sunny environment and has abundant solar energy resources. However, although Angola is actively developing solar photovoltaic power generation projects and plans to power 60% of its electricity by 2025, due to Angola's low population density and low national grid coverage, it isn't easy to guarantee a stable supply of electricity throughout the country. The EPC project combines diesel and photovoltaic power generation: in remote rural areas with abundant sunlight and land, the company uses photovoltaic power generation as the primary power supply method; In densely populated cities with tight land resources, the company uses environmentally friendly diesel power generation. The company uses environmentally friendly, low-emission diesel power generation methods in densely populated cities where land resources

are scarce. This electricity supply model helps Angola shift to clean and environmentally friendly energy sources and ensures that the country's electricity needs are met (Shen, 2022).

3.2.3. China and Angola in Belt and Road Initiative

In China's One Belt, One Road project, Portuguese-speaking countries are the key targets of China's development. Macau, a former Portuguese colony, has strong ties with other Portuguese-speaking countries worldwide, including Angola. Angola has set up an office in Macau's OneBelt One Road Office, which is responsible for attracting investment to China and helping Angolan companies market in China. China has taken advantage of Macao's unique historical background to strengthen economic cooperation with Angola. For China, it can promote Macao's economic and industrial transformation, provide a way out for Macao's economic diversification, and promote the further development of Macao's economy. At the same time, the help of Portuguese-speaking talents in Macao will help to make investments and exchanges in Angola more convenient. As far as Angola is concerned, Macau is an excellent geographical springboard to open up the Chinese market. Through Macau, Angolan energy companies can more easily contact and cooperate with Chinese energy investment companies and have more favorable loan assistance to apply for China. With the help of the "Angola model," China and Angola have issued a development model of energy economic cooperation suitable for Angola's national conditions. By exchanging Energy for preferential economic loans and economic income, it can provide economic support for the development of other economic projects in Angola, such as education, transportation, medical care, etc., which breaks through the traditional unilateral handout aid model, strengthens mutually beneficial economic exchanges between donors and recipients, and promotes the economic development of both sides (Xinhua-China, 2018).

3.2.4. Conclusion of China and Angola Energy Collaboration Opportunities

Environmental protection and energy conservation are the directions of future world energy development; Angola can focus on developing the oil industry and plan the construction of new energy projects. Angola needs more new energy technology and funding; China has been making progress in developing new Energy, which has also prompted Angola to work with China to develop new Energy. Chinese enterprises design and build new energy projects suitable for Angola's local operation and development according to local conditions, ensuring a smooth transition of Angola's energy industry. Among them, Angolan energy companies and workers learned China's new energy planning, construction, operation, and maintenance technology; and China is also using Angola's new energy market to help Chinese new energy companies reduce production capacity and expand revenue sources, achieving a win-win situation.

Finally, the Belt and Road Initiative has been one of China's critical global

strategies in recent years. Cooperation with Portuguese-speaking countries is one of the critical links in the Belt and Road Initiative. China intends to draw economic cooperation between Portuguese-speaking countries through Macao's unique role in the Portuguese-speaking Countries Cooperation Project along the Belt and Road Initiative, and Angola is one of the targets; at the same time, China also hopes to promote diversification and further development of Macao's economy. Angola can also facilitate cooperation with Chinese energy companies under the cooperation framework between Macao's Portuguese-speaking countries and promote the development of Angola's energy industry.

3.3. Challenges of Energy Cooperation between China and Angola

As mentioned above, implementing "One Belt, One Road" has brought the development of China-Angola relations to a new height and ushered in new opportunities for China-Angola cooperation. However, China-Angola cooperation still faces many obstacles. Angola's internal political environment is manageable, and its economic structure is single, while externally, China is facing competition from many international powers. Hence, all these internal and external pressures make China-Angola cooperation not smooth. Many challenges are waiting to be solved.

3.3.1. Angola's Domestic Political Environment Is Unstable and Corrupt

Angola has a severe corruption problem, with inefficient government administration and evident bureaucratic performance. According to Transparency International's 2017 data, Angola ranks 167th out of 180 countries or territories with a clean score of 19. It is one of the most corrupt countries. In terms of administration, Angola's administrative system could be more efficient. In the World Bank's "2018 Doing Business Report", Angola scored 41.49, ranking 175th out of 190 countries and territories. This measure, which combines the cost and time to start a business, get approval, secure protection, enforce a contract, and exit, shows how good a country is for doing business (*The World Bank, 2018: p. 4*).

At the same time, due to the long civil war, Angola is flooded with guns, and although the Angolan government has carried out several large-scale weapons collection operations since 2007, the results have been minimal. At present, social problems such as drug abuse, the proliferation of weapons, and robbery are prominent in Angola, and social security continues to deteriorate. In recent years, there have been frequent violent robberies and other vicious cases against foreigners, including Chinese and employees of Chinese enterprises, and Angola fell out of the top 100 in the global peace index ranking in 2013 and 2014 (*Pestana, 2020*), which is a significant decline from previous years.

Angola's deep-sea and ultra-deep-sea oil and gas fields are concentrated in Cabinda province, which will be the most important oil and gas producing area in Angola in the future. Cabinda is an enclave between Congo-Brazzaville and Congo-Democratic Republic (DRC) and is the scene of ongoing conflict, which the Angolan government acknowledges could lead to a reduction in oil produc-

tion. There are local separatist forces in Cabinda, and although the leaders of the Front for the Liberation of Cabinda reached a peace agreement with the government in 2006, a large number of militants are still seeking what they call independence and statehood. As oil and gas production in the province increased, some people became discontented with the lack of benefits, and resource nationalism rose, leading to attacks against employees of Angolan and foreign oil companies. The Democratic Republic of Congo (DRC) listed the Front de Libération du Cabinda (FLC) as a terrorist organization in 2010. Tensions in Blocks 15, 17, and 18, which China is involved in acquiring, are close to Cabinda and have affected Chinese employees (Zhang et al., 2011) who have recently been targeted by the FLC.

Since 2016, the crisis in the Kasai region has forced refugees from the DRC to seek refuge in Angola, and the number is expected to rise to 50,000 in the future. This could lead to a new crisis in Angola and the DRC. For China, the tense situation between Angola and the DRC is not suitable for the smooth implementation of the Belt and Road construction in the region, especially since China wants to use the Angolan port of Lobito to transport Congolese mineral resources.

3.3.2. Angola Has a Single Economic Structure and Is Vulnerable to External Shocks

Although Angola attaches importance to economic development and has become a popular investment country in Africa by virtue of its oil and gas resources, the country's economy is too dependent on the oil industry. The international market greatly influences the country's domestic economy, and its economic development faces the "resource curse." When oil prices are high, Angola can enjoy the dividends brought by high oil prices. However, the "one and only" oil industry inhibits the development of other industries. The development level of agriculture, manufacturing, and service industries seriously needs to catch up, and the economic structure needs to be healthier. When oil prices hovered low, the Angolan economy faced a severe test. After the financial crisis, the global oil trade dropped in volume and price for a time, and Angola's fiscal revenue shrank, foreign capital returned, and foreign reserves decreased. Recognizing this problem, the Angolan government launched the "Made in Angola Plan" in 2012 to promote industrial diversification and set up a sovereign wealth fund with oil revenues to support the development of other industries (<http://ao.chineseembassy.org/chn/agljj/aglgk/t631474.htm>). However, with the fall in international oil prices, Angola has experienced domestic inflation since 2014; its foreign currency has depreciated, the government has cut investment, and some projects have been halted. The fragile economic structure has increased macroeconomic uncertainty in Angola, and external shocks from the international community can be easily transmitted to Angola domestically.

Angola has been overly dependent on its oil production and has yet to develop an effective economic reform strategy to deal with the financial crisis. According to Jensen (2018), these constraints complicate government decision-making and

undermine the country's financial flexibility from 2018 to 2022. Angola's economy grew at an annual rate of 9.1 percent from 2004 to 2014. However, the government should have seized the opportunity to make the necessary reforms to diversify the economy to cope with the crisis caused by the volatility of the oil sector. Because of this, Angola is in a crisis of currency devaluation, inflation, and rising public debt (Jensen, 2018).

3.3.3. The Operating Pressure of Chinese Oil Enterprises Themselves

First of all, Chinese companies entered the oil and gas field in Angola late, and there is a gap between them and Western oil majors in terms of technology, scale and operation, and management. Most of the discoveries in Angola are deep-sea and ultra-deep-sea oil fields, which require high offshore exploration and development technology, precisely the weakness of Chinese oil companies.

Secondly, the localization level of Chinese enterprises is limited, and most employees are Chinese. In order to protect the rights of its citizens, Angola has set rules on the proportion of local employees employed by foreign enterprises and the working hours to create more job opportunities for Angolan employees. However, wages are high, and the quality of workers varies. In order to overcome this difficulty, Chinese enterprises try to select domestic employees to work in Angola. The reason is that compared with Angolans, Chinese workers have lower wages, lower absenteeism rates, professional skills, and the ability to do multiple jobs (Guerrero & Manji, 2008). However, the non-employment of local people has caused dissatisfaction among Angolans against Chinese-funded enterprises, many of whom feel that they need to get real benefits. The Angolan government also hopes that Chinese investment will increase employment and benefit the community. The Angolan Immigration Bureau has restricted the issuance of work visa invitations since 2015, which has slowed the visa process for Chinese employees working in Angola. China and Angola have diverging interests on the issue of employees, and this phenomenon will continue in the short term.

Thirdly, there is the language barrier. According to a survey, the biggest challenge for Chinese enterprises in Angola is the language problem (Guerrero & Manji, 2008). The official language of Angola is Portuguese, and in the local Owenbundu, only a small number of educated elites can speak French and English. Most people have yet to learn of Chinese, and the overseas staff of Chinese oil companies generally speak English as a second language, which leads to severe barriers in communication between the two sides and affects the cooperation and production of enterprises. At the same time, it also intensifies the estrangement between Chinese oil companies and the surrounding environment, making it difficult for them to integrate into Angolan society.

3.3.4. Geopolitical Competition for Energy

Oil has three attributes of resources, economy, and politics at the same time, and is an important tool for adjusting international economic interests and an im-

portant grasp of international political struggle (Liang & Li, 2019). Liu et al. (2021) pointed out in their study that Energy is the primary material guarantee of national economic, political, and military security, especially oil resources, which are not only an ordinary energy commodity, but also a political commodity and in the political arena of multinational games, oil has become the target of competition among countries around the world. The geopolitics of oil is becoming increasingly complex, and the U.S., with its own increased oil power, actively seeks dominance in the world oil landscape, expecting to influence the situation in major oil-producing countries through monetary policy and other means, to serve its own national political and economic interests. In the 2017 U.S. National Security Strategy, the Trump administration placed terrorism at the bottom of the threat rankings, said the United States faces a “competitive” world, and viewed Russia and China, among others, as U.S. “competitors,” arguing that the United States and China would The U.S. and China are seen as “competitors” to the U.S. The U.S. and China fight and clash in places like Africa. With such a strategic judgment, the U.S. will not sit back and ignore the cooperation between China and Angola. It will use various means to pressure or obstruct cooperation between China and Angola.

The energy cooperation between Portugal and Angola can also be viewed politically. Angola was previously a colony of Portugal, and the two countries have a certain historical connection. As major energy-consuming countries, China and India are inevitably competing in the energy field, and the two countries have had many collisions in foreign oil acquisitions; whether successful or not, such economic games will not only increase China’s acquisition costs but also hinder Sino-Angola energy cooperation to a certain extent. South Africa has an inherent geographic advantage and has more convenient transportation conditions than Angola. At the same time, South Africa’s oil shortage is huge, so it is the trend of South Africa’s energy development to import more oil from Angola nearby.

China hopes that through good cooperation with Angola, it can show its friendly attitude to African countries and further develop cooperation with other African countries in various fields and get support from them in international affairs. The four countries mentioned above are very close to Angola in terms of Energy, whether for economic or political purposes, and are strong competitors for China in its cooperation with Angola.

3.3.5. Angola’s Low Level of Integration in Regional Organizations

The construction of “One Belt, One Road” requires the active participation of individual countries and the importance of playing the role of various international and regional organizations (Pestana, 2020). Besides playing an important role within the African Union, Angola is also a member of the Southern African Development Community and the Economic Community of Central African States. However, there are indications that Angola needs to be more integrated into these regional organizations. According to the African Integration Index,

compiled by the African Development Bank, the African Union Commission, and the Economic Commission for Africa, Angola has a distant relationship with its regional partners, which could make the implementation of the Belt and Road difficult.

For Angola, its regional partners are insignificant exporters. According to the *Africa Regional Integration Index (2019)*, from 2011 to 2013, Angola's exports to the Southern African Development Community and the Economic Community of Central African States accounted for only 2% and 0.39% of its GDP, respectively. Only 1.5 percent of Angola's imports come from the Southern African Development Community and 0.31 percent from the Economic Community of Central African States. Angola is also estranged from its regional partners in areas other than foreign trade.

Back in 2013, Angola had the highest inflation rate in the Economic Community of Central African States and the second highest in the Southern African Development Community, after Zimbabwe (<https://www.integrate-africa.org/rankings/country-profiles/angola/>, 2019). The situation has worsened recently, with inflation reaching 16.8% of GDP in September 2019 (<https://tradingeconomics.com/angola/indicators>, 2019).

It should also be noted that the Belt and Road vision also includes improving the environment for the movement of goods and people. However, Angola has a long way to go in this regard. It has yet to ratify the legal mechanisms of the Southern African Development Community and the Economic Community of Central African States, which would facilitate the movement of people, especially labor. Only 7% of citizens in SADC hold Angolan visa-free passports, while none of the ECCAS member states have been approved for Angolan visa-free passports (Pestana, 2020).

4. Discussion

In the new energy construction, China and Angola are the strategic partners. Angola has requirements and a market to build up new energy projects. Angola administration would like to upgrade domestic energy industries from fossil energy to clean and green Energy, but they need the relevant technology and fund. China has developed its green energy technology in recent ten years. Such as solar power, wind power, and even nuclear power are overgrowing, while these new energy technology enterprises need much huge market to earn more profit. Hence, China and Angola have enormous potential for new energy collaboration. China can provide technology and building experience to Angola's local energy enterprises, and Angola can provide enough huge market for Chinese enterprises to run their business. This is a win-win cooperation.

Angola is also one of the most crucial member countries in the Belt and Road Initiative. Macau, which was a Portugal colony before 1999, has a close economic and cultural relationship with the Portuguese countries, and Angola is one of the Portuguese-speaking countries. Chinese central government has set up the

Portuguese Belt and Road Initiative research center in Macau universities and Macao SAR Government. All Portuguese countries have set up trade and investment offices in Macau to facilitate investment and funds from the Chinese government and enterprises. Hence, Angola also can attract more Chinese energy companies to make construction and investment through the Macau office. For China, on the one hand, it can enhance the One Belt One Road influence in the world to compete with the U.S. global strategy; on the other hand, it also will provide more opportunities for Macau's economic development by creating trade opportunities with Portuguese countries.

Compared with the export effect of Western countries' values, rich diplomatic experience, strong military backing, and the technical strength, financing capabilities, and management experience of Western multinational companies, China and Chinese multinational companies have no obvious advantages. China's energy strategic game in Angola must be severe.

All countries recognize that energy competition is the most natural and crucial competition, and cooperation under competition is the primary development trend of the energy pattern in the 21st century.

African energy countries have stimulated a certain amount of economic growth through the development and utilization of oil and other resources, but to a large extent, they still need to bring social development to the country. Interest groups in African countries have ganged up to redistribute oil wealth and internal Oil resource game. The direct result of the game is political turmoil in some oil-producing countries; the people are in dire straits.

Lacking internal control and cohesion, many countries in Africa are in turmoil. Especially under the impact of the wave of globalization, the political structure of African countries has caused their internal political forces to be unable to bear the temptation of Energy, an international trading commodity, and start fierce internal games.

Africa is a region with many political risks and conflicts due to competing interests in oil. These political events are manifested in two aspects: at the international level, they are mainly related to international economic sanctions, the intervention of external forces, and disputes among international enemies; the turmoil caused by religious contradictions and the threat of terrorism are related factors. The super economic characteristics of oil resources determine that oil-importing countries must face more significant risks in the process of engaging in transnational oil industry operations, and avoiding various risks and conflicts has become an essential issue of great concern to oil-importing countries."

Africa's natural energy endowment advantages and open energy foreign policy attract Chinese companies to invest in Africa's Energy and develop markets. Over the past ten years, Chinese companies have seized the opportunity to invest in Africa on a large scale. However, there have been fluctuations judging from the statistical data of China's annual investment in Africa. There are many potential challenges for Chinese energy companies to invest in Africa.

In recent years, non-traditional issues such as terrorism, food security, the proliferation of small arms and light weapons, the new crown epidemic, and climate change have increased threats to Angola and created a passive situation in which major powers expand their interests in Angola. This thorny issue has become the intersection of interests between China, the West, and African countries. The best way is to establish a cooperation mechanism between major countries, abandon unilateral interests, and jointly eliminate the negative impact of non-traditional issues. Obviously, China's efforts to promote the construction of cooperation mechanisms with significant powers have extensive and reliable possibilities and room for in-depth operations.

Generally speaking, China and Angola have some challenges in their economic relationships, but there are still many opportunities not only in oil energy industry cooperation but also in new energy industry collaboration for Sino-Angola energy cooperation. Like the energy collaboration between the E.U. and Kazakhstan, though they face the challenge of Russian political pressure, China's Belt and Road Initiative competition, and the Ukraine conflict, the E.U. and Kazakhstan still find a method to deepen their energy engagement (Umbach & Raszewski, 2016). Maybe the collaboration will have some complex challenges and obstacles, as China not only has some advantages in the energy industry and other infrastructure construction but also has maintained a friendly diplomatic relationship with Angola in the long term; China and Angola still have space to continue their energy collaboration projects.

Although China and Angola's energy cooperation has many challenges, the opportunities are still attractive and considerable. China can provide sustainable cooperation: the Angola model for Angola to promote energy market development. This cooperation model is different from the Western oil companies' running way. It can leave much more independence, business profit, and derived interest such as infrastructure construction, education, and so on for Angola. In turn, for China, this collaboration model can enhance the energy trade with Angola, guarantee domestic energy safety, and promote more energy cooperation projects with other African countries.

5. Conclusion

The Belt and Road Initiative taken out by President Xi in 2013 is the plan for China to be the global power and energy strategy, which is one of the crucial plans in the Initiative. Macau is a critical city for China's Portuguese-speaking country's cooperation in BRI, and Angola is one of the Portuguese-speaking countries. Cooperating with Angola and other Portuguese-speaking countries, on the one hand, can enhance Belt and Road Initiative's influence in the world; on the other hand, it can help China find a new economic growth point. Hence, under the BRI, the collaboration of Energy will be one of the crucial strategies for China and Angola's bilateral foreign relationship and economic connection.

From a challenging perspective, the domestic political environment of Angola

is still in dangerous circumstances, and corruption is very common in Angola. Moreover, Angola's economy relies on the energy industry, which means that it is very vulnerable when facing external shocks. For Chinese companies in Angola, the quality of labor in Angola could be better, and the communication barrier is challenging for their business. As Angola is rich in oil resources, not only China's energy enterprises are running there, but also the Western countries, especially the U.S., are building the corporation with local energy enterprises. Hence, China has to face direct competition with developed countries. The low level of integration in regional organizations is a negative perspective for Angola taking part in Belt and Road Initiative. The movement of people between Angola and the nearby countries still has many obstacles, and the economic connection needs to be stronger.

From an opportunity perspective, the "Angola model" symbolizes the cooperation that China and Angola have explored in a unique but pragmatic way to cooperate in the oil industry. This model benefits China and Angola and is a successful model for other African countries reference. Green Energy is the future direction for global energy development, and Angola must also develop it. Angola lacks money but has a potentially huge market, while China has advanced technology in new energy construction but needs more requirements in domestic. Hence, Angola and China have big space to collaborate in the green and clean energy industry. Although China and Angola are facing some challenges in energy cooperation, there are still a lot of opportunities for the two countries to continue the collaboration.

In general, China and Angola's energy cooperation topics have other viewpoints in the academic areas. This thesis presents some scholars' opinions on this topic, makes the conclusions of them, and discusses the main economic and political challenges and opportunities in Sino-Angola energy cooperation. The energy cooperation relationship between these two countries will have many aspects to research and explore how to make improvements for the challenges and how to seize the opportunities for China and Angola. From a green and clean energy perspective, China and Angola have made significant process. Angola and China's energy collaboration has many research directions that are worth for us to continue to research. Therefore, further research still needs to clarify whether the energy collaboration between China and Angola has more challenges or opportunities.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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