Research on the Overseas Investment Innovation Model of Chinese Enterprises in the Power Industry

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Abstract. The power industry is the key direction of international capacity cooperation, and it is also a key area of overseas investment by state-owned enterprises in the power industry. At present, central electric power enterprises are facing different situations and problems in investing in developed countries and countries along the “Belt and Road”. This article proposes investment model innovation measures and policy recommendations to provide reference for relevant government departments and enterprises.

1. Introduction
In recent years, transnational investment in the power industry has continued to grow and has become one of the most active areas of international investment. Power transnational investment in different regions of the world has its own characteristics. Developed countries in Europe and the United States have sound laws and many opportunities for mergers and acquisitions, but trade and investment protectionism is on the rise, and restrictions on foreign investors have increased; investment demand for greenfield projects in the Asia-Pacific region, South America and Africa is strong, which is an important Potential market. Chinese power companies have become important international investors, competing with European and North American energy and power companies and international investment funds on the same stage.

Power state-owned enterprises have initially achieved a global layout, and their asset types and investment methods have become increasingly diversified, becoming an important force in promoting international production capacity cooperation. According to statistics from the power enterprise website and annual report, there were 116 investment projects carried out by power state-owned enterprises overseas in 2019.

2. The Trends of Overseas Investment of Chinese enterprises in the power industry
From the perspective of regional layout, power companies have the most investment projects in Asia, accounting for about 46%, followed by Europe, America, Oceania and Africa.1) According to the country ranking, Brazil has the largest number of projects, with a total of 17 projects; followed by Pakistan, Australia, the United Kingdom, Indonesia and Laos. From the perspective of regional distribution, countries along the “Belt and Road” are the main target markets for overseas investment by power central enterprises (as Table1).
Table 1 Overseas Investment of China Power Enterprises

| Serial number | Company name                  | Overseas asset types          | Asset layout                                                                 | Number of projects |
|---------------|-------------------------------|-------------------------------|-------------------------------------------------------------------------------|--------------------|
| 1             | State Grid Transmission and distribution | Transmission and distribution, thermal power, hydropower, gas and electricity | Philippines, Hong Kong, Pakistan, Australia, Italy, Greece, Portugal, Brazil | 16                 |
| 2             | Southern Power Grid           | Transmission and distribution, thermal power, hydropower, gas and electricity | Viet Nam, Laos, Hong Kong, Malaysia, Chile, Luxembourg                         | 7                  |
| 3             | Huaneng Group                 | Thermal power, hydropower, gas and electricity | Pakistan, Cambodia, Myanmar, Singapore, Australia, United States               | 6                  |
| 4             | Huadian Group                 | Thermal power, hydropower, gas and electricity | Russia, Spain, Indonesia, Cambodia, Viet Nam                                  | 7                  |
| 5             | Datang Group                  | Transmission, thermal power, hydropower | Myanmar, Cambodia, Indonesia, Laos                                            | 6                  |
| 6             | National Energy Group         | Thermal power, wind power     | Canada, Indonesia, Australia, South Africa                                    | 7                  |
| 7             | National Electricity Supply   | Hydropower, Gas, Wind, Photovoltaic | Pakistan, Japan, Myanmar, Brazil, Malta, Australia                           | 9                  |
| 8             | Three Gorges Group            | Hydropower, wind power, photovoltaic | Portugal, Germany, United Kingdom, Italy, Greece, Poland, Brazil, Peru, Pakistan, Laos, Nepal | 26                 |
| 9             | CGN                           | Nuclear, gas, wind, photovoltaic, biomass | Singapore, Hong Kong, Malaysia, Australia, United Kingdom, France, Belgium, Sweden | 17                 |
| 10            | China Investment Group        | Thermal power, wind power     | Indonesia, United Kingdom                                                     | 3                  |
| 11            | China Power Construction      | Thermal Power, Hydropower, Design Consulting Company | Laos, Cambodia, Nepal, Pakistan, India, Zimbabwe, Bangladesh, Italy            | 9                  |

Source: according to the company's official website published information collation.

In terms of asset types, overseas hydropower projects accounted for the highest proportion, accounting for about 28%; followed by wind power, grid and thermal power projects. The overseas investment of electric power central enterprises is mainly based on clean energy, which has contributed to the global energy low-carbon transformation.

From the perspective of investment methods, the proportion of greenfield investment methods accounted for about 54%, slightly higher than that of stock asset mergers and acquisitions. The demand for new power investment in developing countries is strong, and central power enterprises in developing countries mainly adopt greenfield investment; the demand for new investment in developed countries has slowed down, and investment opportunities are mainly stock asset mergers and acquisitions.
3. The main problems faced by the overseas investment of Chinese enterprises in the power industry

3.1. Prominent problems of power investment in developed countries

Investment review has become increasingly strict. The Committee on Foreign Investment in the United States (CFIUS) has continuously strengthened its national security review of foreign investment, especially Chinese investment, and China has become the country most reviewed by CFIUS for four consecutive years. In the context of Sino-US trade frictions, the US-China Economic and Security Review Committee (USCC) under the US Congress recommended that Congress further expand its authorization to CFIUS, and even suggested prohibiting Chinese state-owned enterprises from acquiring controlling rights in US companies. EU countries such as Germany and France have strengthened the review of foreign investors, and promoted the introduction of unified investment review measures at the EU level to review and intervene in foreign acquisitions in key industries and restrict investment and acquisitions from non-EU member states.

Imposing additional restrictions on my country's state-owned power companies. As an important infrastructure, the power industry is related to the lifeblood of a country's economy. All countries are more cautious about foreign investors participating in the investment and operation of their own power industry. Developed countries have misunderstandings and prejudices about Chinese state-owned enterprises, and are very cautious about Chinese state-owned enterprises investing in their own power industry, and usually impose additional restrictions.

3.2. Prominent problems of power investment in countries along the “Belt and Road”

Lack of construction funds. Countries along the “Belt and Road” have poor financial strength, imperfect capital markets, and lack of funds are important issues that restrict power investment. The Chinese government has continuously increased its financial support for overseas business of Chinese enterprises through various forms such as policy-based preferential loans, policy funds, and new international financial organizations. However, the financing of power investment projects along the “Belt and Road” of central power enterprises is still facing certain problems, it is mainly reflected in the high cost of indirect financing such as loans, the more complicated direct financing procedures such as overseas bond issuance, and the limited amount of preferential loans.

Internal competition is prominent. Due to the large number of enterprises, scattered projects, and limited government coordination, the internal vicious competition among Chinese enterprises, including power central enterprises, is prominent. Even when project bidding occurs, most of the participants are Chinese power companies, which affect each other’s prices. Image and interest.

The risk situation is grim. Affected by multiple factors such as geopolitics, ethnic conflicts, terrorism, and other major powers, some countries along the “Belt and Road” are politically unstable and have serious political and security risks. Affected by factors such as insufficient maturity of the market, insufficient laws, insufficient transparency of supervision, and insufficient coordination of policies, the economics of some power investment projects in the “Belt and Road” countries are relatively poor.

4. Innovative measures for overseas investment models of Chinese enterprises in the power industry

4.1. Innovation of investment models in developed countries

Actively respond to investment barriers through measures such as small equity investment, cooperation with local partners and financial investors. During the due diligence process, pay close attention to whether the target assets involve sensitive technology or have a national defense and military background, promptly exit the acquisition of sensitive assets, or separate sensitive assets from the target of the acquisition. Strengthen third-party cooperation and reduce transaction attention by co-investing with investment funds, local companies and other partners. Actively consult with regulatory
agencies before M&A transactions and actively clarify the misunderstandings that regulatory agencies have about Chinese companies.

Use overseas existing assets as a platform to carry out investment and achieve rolling development. At present, most central electric power enterprises have acquired local assets or set up local companies overseas, using local assets as a platform to carry out international mergers and acquisitions using local company brands, which can reduce the sensitivity of transactions.

4.2. Innovation of investment models in countries along the "Belt and Road"
Innovate investment and financing models, expand financing channels, and solve the problem of insufficient funds for power investment in countries along the route through integration of construction and operation, and RMB financing. In response to the lack of funds and imperfect financial markets in the countries along the route, we will expand funding sources and use my country’s policy-based preferential loans and funds from international financial institutions such as the World Bank, Asian Infrastructure Investment Bank, and the Silk Road Fund to leverage domestic and foreign social capital to participate in the "Belt One Road" power investment. Under the premise of controllable risks, innovate project financing methods, use BOO, BOOT, BOT, BLT and other broad PPP models to participate in power projects, and improve project sustainability through the integration of construction and operation. Expand the use of RMB in the areas of settlement, financing, and foreign exchange reserves in countries along the “Belt and Road”, carry out RMB investment and financing, reduce financing costs, and avoid exchange rate risks.

Upgrade the business model and build comprehensive advantages through business synergy between upstream and downstream industry chains, overseas park power project development, and localized operations to enhance overall competitiveness. Give full play to the advantages of the upstream and downstream industrial chain of central enterprises, participate in the “Belt and Road” power project through investment, project contracting, equipment export, operation management, technical consulting, etc., to provide customers with a package of solutions to achieve business value-added and value chain extension. Enhance global resource allocation capabilities, combined with local resource endowments and business development, and overall consideration of the construction of overseas R&D platforms, planning and design centers, raw material production and equipment manufacturing bases, and enhance the ability to respond to local market demand and customer service.

Integrate into local economic and social development, actively fulfill social responsibilities, and achieve common development, rolling development and long-term sustainable development through power project investment and operation. Practicing the concept of “consulting, co-construction, and sharing”, further improve the quality of construction and operation of power projects along the “Belt and Road”, improve local economic development conditions through power project investment and operation, promote local employment and employee skills, and improve local people’s livelihood. Abide by local laws, strengthen communication with local governments, communities, customers and other stakeholders, support local environmental protection and green development, enthusiastically participate in local public welfare undertakings, strengthen cultural integration, establish a responsible corporate image, and promote the "Belt and Road" people-to-people bond.

5. Conclusion
At present, state-owned enterprises in the power industry are facing different situations and problems when investing in developed countries and countries along the "Belt and Road". In response to outstanding problems, from the government level, the following points should be paid attention to.

Strengthen the competition and coordination of overseas business of electric power central enterprises, and support electric power central enterprises to promote overseas power investment in an orderly manner. Explore the establishment of a national-level coordination center for overseas competition of Chinese companies, responsible for the formulation, supervision and evaluation of overseas competition policies and coordination rules for Chinese companies, establish internal
coordination and early warning mechanisms, and guide central electric power enterprises to invest in overseas power assets in an orderly manner.

Intensify efforts in finance, approval, fiscal and taxation to support central enterprises in overseas power investment, and further reduce corporate costs. In terms of finance, it is recommended to set up a special fund for major power projects along the “Belt and Road” of strategic significance, expand the scale of overseas policy loans, applicable countries and applicable projects, and further reduce the financing costs and insurance rates of overseas power projects. In terms of approval, it is recommended that relevant ministries and commissions unify the requirements and format of the approval materials for overseas projects to further shorten the approval process. In terms of finance and taxation, part of the foreign exchange reserves are converted into overseas investment funds to provide low-cost funds for enterprises; to give full play to export tax rebates, special funds for foreign investment cooperation and other fiscal and taxation tools to increase support.

Strengthen guidance and supervision to improve the quality of overseas business and risk control capabilities of electric power central enterprises. Guide power central enterprises to establish and improve overseas asset management and risk prevention systems, and issue guidelines for overseas power investment and construction and risk prevention based on successful experience. Establish a fault-tolerant mechanism in the assessment system, establish an exemption mechanism for investment failures caused by uncontrollable risk factors, and take overall consideration of losses incurred when undertaking national strategic tasks in the assessment. Extend the assessment cycle and encourage central enterprises to make long-term investments in strategic power projects along the “Belt and Road”.

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