Opportunities and Challenges Faced by China in Renewable Energy Investment Abroad——Case Study

Executive Summary(Vietnam)
Executive Summary

It is predicted that by 2040 the energy demand in Southeast Asia will increase by two thirds. The question about how best to promote the sustainable development of the energy system poses an important issue for Southeast Asian countries. As an emerging economy that has been actively promoting green investment and energy transformation, Vietnam may offer some replicable solutions for its peers in Southeast Asia. China, as the largest developing country in the world, has acquired rich experience in industrial restructuring, energy transformation, the promotion of renewable energy development and efficient responses to climate change. As the “Belt and Road Initiative” (BRI) enters the stage of its in-depth implementation, China has an opportunity to impart its experience in green development through close cooperation and exchange with Southeast Asian countries on specific policies and industries, and "import" their experience and lessons learned in the process of foreign investment. This would be to further promote domestic green and low-carbon development.

With Vietnam as an example, this report analyzes the status quo and trend of renewable energy development by thoroughly developing its energy and power planning (mainly renewable energy), action against climate change, environmental laws & regulations and governance objectives, and cooperation with China in the field of energy and power under the BRI. It also discusses the barriers, risks and opportunities faced by China in its investment in renewable energy in Vietnam. The report also analyzes Vietnam’s Intended Nationally Determined Contributions and construction of a green financial system, which provides a reference for Chinese investors in considering the host country’s environment, and climate and energy risks. When investing in Vietnam’s and other countries energy, in order to meet the countries’ environmental and climate development goals and effectively manage potential risks, while also providing practical suggestions for the Chinese government, financial institutions, enterprises and the Vietnamese government on policy support, action is needed to promote China’s investments in renewable energy in Vietnam. The main findings are as follows:
Three strategic tasks are proposed in Vietnam’s National Green Development Strategy. The first of which is to reduce the intensity of greenhouse gas emissions and promote the use of clean and renewable energy according to relevant targets. GGAP specifies the national action plan for green development in four main actions. An example is the second direction which is just “to reduce the intensity of greenhouse gas emissions and promote the use of clean and renewable energy”. Such action plans specifically include:

<table>
<thead>
<tr>
<th>Actions/Measures</th>
<th>Renewable energy related items</th>
<th>Leading agency/cooperating agency</th>
<th>Sources of funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>To develop relevant policies and give priority to the development of clean energy/optimization system (2013-2014)</td>
<td>To review and revise the master plan of hydropower development; promote the production and consumption of new energy with economic policies; monitor the implementation effect of policies.</td>
<td>MoIT/Ministry of Planning and Investment/Ministry of Science and Technology/Ministry of Natural Resources and Environment/Ministry of Finance/Provincial and Municipal PPCs</td>
<td>State budget</td>
</tr>
<tr>
<td>To support new energy research and development, including related technology, innovation and structural adjustment (2014-2020)</td>
<td>To provide support for new and renewable energy utilization projects, such as surveys, research and production experiments and best practices; protect intellectual property rights and technological innovations that promote the commercial development of renewable energy, give priority to providing tariff preferences for the import of new technologies and equipment; support investment in new energy production equipment and the provision of domestic services.</td>
<td>MoST/Ministry of Planning and Investment/Ministry of Industry and Trade/Ministry of Agriculture and Rural Development/Ministry of Finance/Provincial and Municipal PPCs/Vietnamese Energy Association</td>
<td>State budget/Enterprise investment/International technical assistance</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Actions/Measures</th>
<th>Renewable energy related items</th>
<th>Leading agency/cooperating agency</th>
<th>Sources of funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>To improve the construction of clean air legal system; implement greenhouse gas inventory, monitor GHG emissions and manage GHG mitigation measures/ institutional improvement (2013-2015)</td>
<td>To investigate, evaluate and establish a legal framework for clean air; support the establishment of regular greenhouse gas emission inventory; strengthen inter-departmental coordination, monitor greenhouse gas emissions on a regular basis, and manage greenhouse gas mitigation measures.</td>
<td>MoNRE/Ministry of Science and Technology/Ministry of Industry and Trade/Ministry of Transport/Ministry of Construction/Ministry of Agriculture and Rural Development/Provincial and Municipal PPCs</td>
<td>State budget/International technical assistance</td>
</tr>
</tbody>
</table>

Vietnam’s Green Development Policy

Vietnam attracts investment, promotes domestic sustainable development and enhances its ability to cope with climate change through institutional reform. According to information which is publicly available, Vietnam’s green and low-carbon development policies mainly include: 2012-2015 National Target Program to Respond to Climate Change (NTPRCC), 2012-2015 National Target Program for Energy Efficiency (NTPEE), Support Program to Respond to Climate Change (SPRCC), Vietnam’s National Green Development Strategy (September 25, 2012), Resolution on Vietnam’s National Green Growth Action Plan in 2014-2020 (GGAP, March 20, 2014), and Vietnam’s NCCS (October 28, 2016).
Vietnam’s Green Finance Policy

In support of the implementation of GGAP, the State Bank of Vietnam (SBV) has implemented three green finance regulations and guidelines, all of which are currently effective:

In 2015, the SBV released the Directive on Promoting Green Credit Growth and Environmental and Social Risks Management in Credit Granting Activities\(^1\) and the Action Plan of the Banking Sector to Implement the National Green Growth Strategy until 2020\(^2\), with an aim to encourage credit institutions\(^3\) to develop a set of environmental and social risk management systems in Vietnam, and regularly monitor and supervise the customers’ environmental and social risk management, while giving priority to project activities that can effectively save, develop and utilize natural resources in terms of financial support. This is along with supporting the development of green credit products, and developing credit incentives for projects, production and commercial activities that promote green development.

In 2016, the SBV released the Circular Prescribing Lending Transactions of Credit Institutions or Foreign Bank Branches with Customers\(^4\) clearly stating that compliance with environmental laws and regulations must be obeyed in order for credit institutions to grant loans to customers. In 2017, the SBV released supplementary initiatives, including the Green Project Catalogue\(^5\) (which defines green projects and industries), Guidelines and Requirements for Green Credit Statistics of Credit Institutions and Master Credit Program\(^6\) (which provides financial preferential policies, such as interest rates or preferential terms, for green projects).

---

\(^1\) Directive on Promoting Green Credit Growth and Environmental and Social Risks Management in Credit Granting Activities

\(^2\) Action Plan of the Banking Sector to Implement the National Green Growth Strategy until 2020

\(^3\) Including commercial banks, cooperative banks, non-bank credit institutions, insurance companies, real estate transactions, people’s credit funds and branches of foreign banks

\(^4\) Circular prescribing lending transactions of credit institutions or foreign bank branches with customers

\(^5\) Green Project Catalogue

\(^6\) Master Credit Program
Equally, Vietnam declared a series of fiscal and taxation policies to promote the green transformation. For example, the Environmental Tax Law, which was published in 2010, and came into effect in 2012. It formally introduced an environmental protection tax to cover refined fuels, coal and other substances harmful to the environment in the form of enterprise consumption taxes. Environmental protection fees were levied on sewage, solid waste and extractive industries in 2003, 2007 and 2008, respectively. In addition, consideration is given to developing an implementation roadmap to identify more effective fiscal incentives, such as levying of carbon taxes and diversion of public investment to energy efficiency and renewable energy. This is to further drive green development strategies and achieve the economic and environmental goals set out.

**Vietnam’s Energy and Electricity Development Goals and Policies**

- Vietnam’s intended Nationally Determined Contributions
- Vietnam’s Energy Development Plan 2020 and Outlook 2050
- The Electricity Law (promulgated in 2004 and revised in 2012)
- Renewable Energy Development Plan 2016-2030 and Outlook 2050


<table>
<thead>
<tr>
<th>Renewable energy</th>
<th>2015</th>
<th>2020</th>
<th>2030</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output (Mtoe)</td>
<td>25</td>
<td>37</td>
<td>62</td>
<td>138</td>
</tr>
<tr>
<td>Proportion of primary energy in total consumption</td>
<td>31.8%</td>
<td>31%</td>
<td>32.3%</td>
<td>44%</td>
</tr>
<tr>
<td>Power generation (GWh)</td>
<td>58 (35%)</td>
<td>101 (38%)</td>
<td>186 (32%)</td>
<td>253 (43%)</td>
</tr>
<tr>
<td>Hydropower (GWh)</td>
<td>56</td>
<td>90</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>Pumped storage capacity (MW)</td>
<td>N/A</td>
<td>N/A</td>
<td>2400</td>
<td>8000</td>
</tr>
<tr>
<td>Bioenergy (toe)</td>
<td>0.3</td>
<td>1.8</td>
<td>9</td>
<td>20</td>
</tr>
<tr>
<td>Wind energy (GWh)</td>
<td>180000 kWh</td>
<td>2.5 (1%)</td>
<td>16 (2.7%)</td>
<td>53 (5%)</td>
</tr>
<tr>
<td>Solar energy (GWh)</td>
<td>0.01</td>
<td>1.4 (0.5%)</td>
<td>35.4 (6%)</td>
<td>10 (20%)</td>
</tr>
</tbody>
</table>

Table 1 Electric Power Development Plan of Vietnam

Note: kWh: kilowatt hour; Million tons of oil Source: Compiled based on EIA data

In 2016, Vietnam ratified the Paris Agreement, promising that by 2030, it will cut its greenhouse gas emissions by 8% from the baseline scenario, and its carbon emissions per unit of GDP by 20% from 2010. If it secures international financial and technical support, by 2030 Vietnam ensures to cut its greenhouse gas emissions by 25% from the baseline scenario and its carbon emissions per unit of GDP by 30% from 2010. Vietnam NDC has clearly defined its measures and actions planned to achieve the emission reduction targets, including strengthening government guidance, improving the effectiveness and efficiency of energy utilization, reducing the total amount of energy consumption, promoting the development and application of renewable energy and enhancing international cooperation.
private of the electricity market while driving the development of renewable energy, so as to meet the national energy planning and NDC objectives. Although the domestic and foreign investment in renewable energy in Vietnam is increasing and the electricity market is gradually opening up and liberalizing, investors still face many difficulties:

- Economic barriers: Excluding the negative external costs, most renewable energy projects are still unable to compete with traditional fossil fuel power generation projects.
- Legal and administrative barriers: It is more challenging to negotiate power purchasing contracts with EVN due to its complicated and opaque management procedures, financial obstacles and lack of credit guarantee. The complex and time-consuming planning and approval process of the renewable energy sector increases investors’ capital and time cost and unpredictability of industry development.
- Financial barriers: It is difficult to obtain financing funds with acceptable costs, and banks lack experience in project evaluation.
- Technical barriers: Vietnam lacks human resources with regards to knowledge and skills related to renewable energy, its overall industrial chain and technology supply chain have yet been developed, and there are few suppliers of renewable power generation equipment.

---

**Status quo of Renewable Energy Investment in Vietnam**

According to Vietnam’s overall plan for renewable energy development, the installed wind power capacity is expected to increase from its current level of 140 MW to 800 MW in 2020, and 6,000 MW in 2030; the installed solar power capacity is expected to increase from 850 MW now to 4,000 MW in 2020 and 12,000 MW in 2030; the proportion of renewable energy in power supply is expected to rise to 5.6% in 2020 and 9.4% in 2030. In addition, preferential policies are available for renewable energy projects, such as credit access, fixed feed-in tariff mechanisms, tax and land rent relief. In order to ensure continuous returns for investors, EVN is required to give priority to renewable energy projects in terms of grid connection and dispatching, and electricity purchasing at approved prices.
In June 2011, Vietnam released the No.37 Decision on Wind Power Development Mechanism, raising the price of wind power feed-in tariff to 7.8 cents/kWh. In mid-April 2017, Vietnam released the No. 11/2017/NQ-qtg Decision on the Incentive Mechanism for Solar Power Generation Projects in Vietnam, which promised to purchase electricity generated by solar power generation projects at a guaranteed price of 9.35 cents/kWh for 20 years. For example, if a project operator signs a power purchase agreement with EVN in June 2019, it will enjoy fiscal and tax incentives such as capital, corporate tax, equipment and venues. Encouraged by this policy, as of September 2018, 121 solar power generation projects had been approved, with a total installed capacity of 9,200MW, and 211 projects were under review and approval, which have a total installed capacity of 16,800MW.

**Barriers and Opportunities for Chinese-funded Enterprises in Renewable Energy Investment in Vietnam**

Vietnam has planned and approved a number of renewable energy projects, but the conversion rate is very low due to insufficient funds. Most projects are funded through international banks, while local banks only get involved in project investment by providing guarantees. By sorting out the solar energy and wind power projects in Vietnam which involve Chinese enterprises’ investment in various forms as of June 2019, it was discovered that Chinese enterprises held few power generation projects and invested mainly through equity investment, asset acquisition, equipment export and assembly, and EPC engineering services. At the same time, there are few renewable energy projects which are invested in by Chinese financial institutions.

According to IFC’s estimation, Vietnam’s investment demand for renewable energy by 2030 will be approximately 59 billion US dollars, of which the investment demand for solar energy projects will be 31 billion US dollars. Given the large demand for foreign capital in Vietnam’s renewable energy industry and the gradual improvement of the environment and speedy return on renewable energy investment in the country, Chinese investors should improve their renewable energy investment portfolio in Vietnam based on the reality and their own investment strategies. This would subsequently drive the development of global renewable energy under the framework of the BRI.

At present, although China and Vietnam have signed cooperation protocols related to energy, electricity, the ecological environment and response to climate change under the BRI, specific cooperation plans and guidelines are still to be improved. Chinese financial institutions have a lower presence in Vietnam in terms of business and investment and, therefore, do not have much knowledge and experience of the status quo and potential risks & opportunities of energy and power industry development in Vietnam. Chinese financial institutions have yet to formulate detailed and open industrial investment policies, which neither meets Vietnam’s basic requirements for financial institutions operating in Vietnam, nor enables them to provide financial support for Chinese investment enterprises in Vietnam. They may lose the opportunity as first mover in competing with financial institutions of other countries investing in Vietnam. With a relatively simple investment approach and few investment projects in Vietnam, Chinese companies are still in their infancy and lack much experience. At the same time, they have little knowledge of the overall planning and development trend of energy and power, related policies and actions in response to climate change, development of green financial system, concerns of local social organizations and related actions in Vietnam. Consequently, they are less sensitive to the potential environmental and social risks they might face.

**Conclusions and Suggestions**

- Vietnam

1) Further improvement of industry policy: Vietnam is advised to refine their renewable energy development plan, fully combining the energy planning with NDC, enhancing the implementation and enforcement of policies, and formulating environmental-related laws and regulations for the power industry.

2) Improvement of the investment environment: Vietnam is suggested to further open up the electricity market, reduce monopoly, and enhance competition and transparency; heighten the predictability of long-term development trend of the electricity price, improve the foreign investment law, formulate incentive policies
to attract foreign banks to enter Vietnam’s electricity market, and further solve the problems of capital shortages and financing channels.

3) Improvement of the efficiency and transparency of the management and approval process: Vietnam is recommended to introduce a bidding system to provide investors with a clear legal framework and a reasonable incentive system to formulate detailed and effective implementation rules for renewable energy and improve their transparency; also, providing guidelines for financial institutions in establishment of an environmental and social security system in line with national policies.

4) Promotion of collection and disclosure of industry research data: Vietnam is suggested to improve the quality of data sources of the renewable energy sector; strengthen capacity building; establish an open data and information platform for investors to keep updated with relevant policies and industry development status in a timely manner.

5) Construction and improvement of renewable energy value chain and supply chain: Vietnam is suggested to build complete

- China

**Government:** The Chinese government is suggested to improve their energy investment plan in the cooperation framework with Vietnam under the BRI, and provide Chinese-funded institutions with detailed state and industry-related investment cooperation policies and guidelines. Also, to improve the list of industries encouraged for investment abroad; cooperate with Vietnamese government in improving the latter’s energy and electricity planning and green and low-carbon development policy; carry out capacity-building and talent exchange activities to help upgrade human resources in Vietnam’s renewable energy sector; transfer China’s experience in dealing with climate change, energy transformation, green finance and carbon market construction to the Vietnamese government for reference through exchanges and dialogues.

**Financial institutions:** Chinese financial institutions are advised to establish and make public the industry investment strategies which are in line with relevant policies of China and host countries. This is by drawing on advanced international experience; formulate specific environmental and social risk management and climate investment policies on the basis of fully understanding the host country’s laws and regulations system, NDC and sustainable development goals, to provide basis and reference for project investment decision-making and risk management; study and develop portfolio of investment tools to provide sufficient financial support for Chinese enterprises in their investment in renewable energy abroad.

**Investment enterprises:** Chinese enterprises investing in Vietnam are suggested to keep abreast with the industry development status and current trends in the host country through active due diligence; by obtaining sufficient and stable financial support through various financing channels, verifying the feasibility of investment and operation modes through demonstration projects. They should also learn from and share experiences and practices, actively communicate with the government on the current difficulties and problems faced by them; analyze the host country’s industry laws and regulations, foreign investment regulations, environmental climate and energy targets, etc., and fully integrate the relevant contents into project construction, operation and ESG management of enterprises; actively communicate with banks to understand their environmental and social management policies and industry investment policies for customers and investment projects.