

India's New and Renewable Energy Market: Opportunities and Challenges



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The importance of new and renewable energy has been drawing attention since the Paris Climate Agreement was adopted in 2015. The Paris Agreement aims to keep the average temperature rise below 2°C compared to the pre-industrialization era and to limit the future temperature rise to 1.5°C or less. Since its adoption, many countries have become active in using eco-friendly energy, such as new and renewable energy, and providing policies to support the ecosystem of low-carbon industries.

In response to the Paris Climate Agreement, the Korean government declared carbon neutrality by 2050 and announced policy plans to create a low-carbon ecosystem in 2020. However, the domestic new and renewable energy market is limited, making it difficult to mass-produce power generation devices. In addition, the international community's transition to a low-carbon ecosystem is rapidly taking place. To achieve 2050 carbon neutrality, it is necessary to secure Nationally Determined Contributions (NDC) through various overseas cooperation projects. Thus, it is believed that energy cooperation with developing countries is needed to expand domestic markets and to achieve overseas NDC reduction targets.

Considering India's recent market expansion and active policy in the area of renewable energy, it can be a good partner for Korea in the sector. India is highly active in expanding the new and renewable energy sector to address its serious air pollution problem, and demand for energy from renewable sources is expected to continue in the long term. Currently, the size of India's renewable energy sector is second place in the world, right behind China.

From International Energy Agency (IEA) quantitative data, we find that India's energy imports are increasing faster than domestic production due to its rapid economic growth and increasing domestic demand. Specifically, import dependence on coal is intensifying. The trends indicate that the use of non-renewable thermal energy is increasing in India, overtaking the supply of new and renewable energy. Meanwhile, when we look at India's final energy consumption market, secondary energy consumption such as electricity is rapidly increasing. This trend partially comes from the fact that electricity production based on new and renewable energy is expanding. Indeed, the Indian government has been active in supplying new and renewable energy generation facilities to solve its air pollution and foreign energy dependence issues. Since the National Action Plan for Climate Change in 2008, India's policy toward fostering new and renewable energy markets has been steadily progressing.

So, when we consider India's fast-growing renewable energy market and its overseas cooperation with various global countries, India's renewable energy sector can be a major area for cooperation with Korea in the near future. Also, there are many Clean Development System (CDM) projects in India, representing numerous opportunities for Korea to secure NDC reduction through projects with India. In addition, there is significant demand for products such as electric vehicles, batteries, hydrogen, and secondary batteries in India, so Korean firms can expand their markets in India through various Korea-India energy cooperation.

However, there are many obstacles to realizing Korea-India cooperation in new and renewable energy. First, Korea and India have no regular channels for the renewable energy sector. Second, we observe that India's trade and investment policies for the renewable energy market are quite protective for domestic firms. Third, it is difficult for a foreign firm to benefit from the Indian government's investment in incentives in the renewable energy sector when considering the huge scale of these projects and how incentives are provided after the completion of the projects. Fourth, price competition in the Indian renewable energy market is intensifying, lowering the price of electricity from renewable energy.

Therefore, to strengthen Korea-India cooperation in new and renewable energy, it is necessary to establish a Korea-India energy dialogue and reach a Korea-India climate change

cooperation agreement with discussions on reducing NDCs and conduct large-scale Korea-India new and renewable energy pilot projects such as solar and wind power generation, and hydrogen ammonia production.

Since the relationship between Korea and India was upgraded to a strategic partnership in 2010, economic and human exchanges between the two countries have been rapidly expanding. However, compared to India's cooperation with other foreign countries in the renewable energy sector, only a few cooperation cases between Korea and India have taken place. Of course, the two governments of Korea and India exchanged dialogues for future energy cooperation during the 2015 and 2018 summits, but it is difficult to say that Korea-India renewable energy cooperation has been activated. From this perspective, building a regular discussion channel between Korea and India could be the first step to fostering renewable energy cooperation between Korea and India.

Also, Korea can secure NDC overseas reduction through renewable energy cooperation projects with India. Under the Paris Agreement, carbon reduction using a cooperative approach between countries is defined as Internationally Transferred Mitigation Outcome (ITMO). To secure ITMO through the cooperative approach, it is essential to discuss the long-term goals of cooperation, target NDC, and the long-term low-carbon development strategy within the participating parties. Therefore, to secure overseas NDC reductions under the Paris system, it is necessary to reach a bilateral climate change cooperation agreement between Korea and India.

Lastly, considering the large size of power generation projects and the high level of market competition, we can think of a large-scale new and renewable energy project between Korea and India. Through the project, Korea can secure overseas NDC reduction, and renewable energy firms in Korea can participate in the large Indian renewable energy market. The project finance could be supported by public funds, such as ODA funds, or other funds from multilateral agencies, such as the ADB and the GCF. **KIEP**