
Abstract

With the IPCC's 1.5°C special report and COVID-19 as a momentum, awareness of the climate crisis is heightened, and countries around the world are expanding their carbon neutrality efforts. Net-zero related regulations, including the introduction of a Carbon Border Adjustment Mechanism by the EU, herald the reorganization of a new decarbonized economic order. The private sector's carbon-neutral response, such as participation in RE100 and expansion of ESG investment, is also in full swing. The Korean government declared carbon neutrality in October 2020, enacted the Carbon Neutral Basic Act this year and announced the '2050 Carbon Neutral Scenario' and '2030 NDC(Nationally Determined Contribution)'.

As the role of local governments for carbon neutrality is emphasized, all local governments in Korea have declared 2050 net-zero. However, the regional capacity and infrastructure are weak, so most of them are at the level of declaring the target. In order to achieve the goal, policy direction and investment over the next 10 years play an important role. The purpose of this study is to suggest strategies and policy challenges that Gyeonggi-Do should prepare and implement toward carbon neutrality.

Gyeonggi-Do emits the most greenhouse gases in the country due to high development pressure, and the rate of increase is rapid. Carbon sink continues to decrease due to the development. Due to the nature of the industrial structure, the impact of the transition to carbon neutrality is unlikely to occur rapidly. However, there are many SMEs with high transformation costs and their impact is linked to jobs, so preparations for a just transition are needed along with the industrial

decarbonization.

In particular, the key to carbon neutrality is the electrification of all types of energy and to produce renewable energy based electricity. Renewable energy supply is also related to the global competitiveness of Gyeonggi-Do industry. In addition, green retrofit of buildings, strengthening regulations on new buildings, traffic demand management, expansion of electric and hydrogen vehicles and charging stations, and transition to a green transportation system are also important tasks.

Although Gyeonggi-Do has entered the weak decoupling stage between economic growth and greenhouse gas emissions, the transition to a carbon-neutral path is not expected to be easy without fundamental changes. It also has great potential to take advantage of the new opportunities, but lacks strategies and awareness to respond to it.

Therefore, in this study, 10 policy tasks were selected under three policy directions: 1) industrial decarbonization and a just transition, 2) expansion of renewable energy and creation of green infrastructure, 3) mainstreaming of net-zero and establishment of implementation basis. 57 action tasks in short-term(within 3 years) and mid-term are suggested. In order to carry out them, it is important to establish an implementation system, and promote public discussion. Green financing, innovative success models, cooperation with local governments, R&D and database construction are also needed.

Keyword Carbon Net-Zero, Gyeonggi-Do, Industrial Decarbonization, Renewable Energy, Green Infrastructure, Implementation Basis