

Energy Transition and the Importance of Industrial Policy

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This week, I had various opportunities to discuss developed countries' initiatives regarding relations between decarbonization and energy transition, and growth strategies or industrial policies. At a morning question corner of the NHK radio program "My Asa Radio" from 7:30 a.m. on March 30, I had an opportunity to make comments related to the topic. In the following, I would like to panoramically review Japanese, North American and European conditions regarding the topic looming as a key matter of concern to the world.

Decarbonization or carbon neutrality initiatives are a key challenge to prevent global warming and conserve the global environment. Every country is required to make maximum efforts to prevent various serious climate change problems, such as frequent global extreme climate events, desertification, adverse impacts on agriculture and food production, and sea level rises, and protect the survival of mankind. In 2020, major countries around the world announced carbon neutrality goals one after another, accelerating the decarbonization trend. As the Ukraine crisis has made energy security a top urgent priority, short-term crisis response actions such as a comeback to coal have been seen. From the middle to long-term perspective, however, striking a balance between decarbonization and energy security enhancement has been recognized as significant again.

Meanwhile, decarbonization remains a tough challenge. Given that the world, including developed countries, depends on fossil fuels for some 80% of energy supply and that social and economic infrastructure and supply chains for fossil fuels are long-life assets or stocks, revolutionary changes may be required to achieve global carbon neutrality by 2050. This challenge may be difficult for developed countries and even far more difficult for developing countries. As a matter of course, the basic prescription for decarbonization has been understood globally and sufficiently. It calls for promoting energy conservation to the maximum extent, for accelerating the use of renewable energy, nuclear and other non-fossil energy sources, for decarbonizing fossil fuels, for promoting electrification and for reducing emissions from power generation. However, this prescription alone is not necessarily sufficient. Contributions from innovations such as CO₂-free hydrogen use and negative emission technologies are indispensable. The world is now attempting to enhance efforts to tackle the tough challenge.

Energy transition to strike a balance between decarbonization and energy security enhancement amounts to a revolutionary structural change in energy supply and demand and exerts broad impacts on economy, industry and society. In this respect, energy transition's relationship with industrial policies and growth strategies has become a focus of attention in many countries. Significant relevant initiatives include the European Union's Green Deal. The EU has concluded that clean energy investment towards the 2050 carbon neutrality goal will contribute to preventing climate change and drive a long-term growth strategy. Investment in climate change prevention is positioned to produce new economic growth and achieve long-term growth in Europe. When

COVID-19 was rampant in 2020, the EU additionally positioned clean energy investment to contribute not only to long-term growth but also to economic reconstruction from the COVID-19 disaster. Decarbonization investment was recognized as a significant contributor to both long-term growth and reconstruction from the COVID-19 disaster.

At the same time, however, another interesting development has come in the EU. There has been concern that if climate change countermeasures are enhanced further, it will increase costs for regional industries including the manufacturing industry, damaging their international competitiveness. The EU has thus devised and considered a Carbon Border Adjustment Mechanism to protect EU industries and prevent industrial outflow and carbon leakage by imposing some kind of charges on imports of manufactured goods from countries that fail to implement climate change countermeasures equivalent to those in the EU. In this way, the EU has planned a defensive industrial policy in some sense to address problems that may arise when decarbonization is promoted.

However, the next major development indicated an offensive industrial policy in contrast with the defensive EU industrial policy. In 2022, the United States under the Biden administration enacted the Inflation Reduction Act (IRA). I will not go into the details of the act herewith. But, in summary, IRA attempts to promote clean energy investment with \$369 billion in fiscal support mainly in a form of tax credits. The size, detailed guidelines and flexibility of the fiscal support are highly attractive for the business community, having remarkable impacts. Fiscal support under the act is predicted to stimulate investment in the United States and attract investment from European and other foreign countries. Clean energy investment expansion is expected to contribute to decarbonization, vitalize the U.S. economy and industry, and increase employment. These big impacts have led the EU to worry about the outflow of European companies to the United States.

Coming next in the EU were the Green Deal Industrial Plan announced in February 2023 and the Net-Zero Industry Act proposed by the European Commission in March as a key pillar of the Plan. The proposed act for carbon neutrality is designed to promote the local production of key technologies and components/goods and attract investment in such production by giving priority to Net-Zero Strategic Projects that will benefit from shorter permitting timelines and streamlined procedures. The act will be materialized through coordination and deliberations at the EU Council and the European Parliament. In a sense, these European initiatives can be interpreted as checking and countering the U.S. IRA.

In such a situation, a green transformation promotion bill is under consideration at Japan's parliament known as the National Diet. Japan is required to promote energy transition in pursuit of carbon neutrality in 2050. The problem is how to promote investment in various clean energy technologies that is indispensable for energy transition. To promote green transformation (GX), the government is required to materialize the GX Roadmap discussed at the GX Implementation Council. The GX Roadmap envisages a total of 150 trillion yen in investment. The government plans to invest 20 trillion yen over 10 years first in order to induce 130 trillion yen in private sector investment. A growth-oriented carbon pricing framework has been proposed to raise financial resources for 20 trillion yen in government investment. The government plans to issue GX transition bonds to back up the investment. Annual government investment is projected at 2 trillion yen. As a percentage of gross domestic product, the annual government investment seems to be comparable to that under the U.S. IRA envisaging some 5 trillion yen in annual investment. The key point is how to materialize clean energy investment in GX Roadmap. A detailed investment design with clear, transparent and reliable guidelines like those in U.S. IRA and the attractiveness for businesses holds the key to the

future.

As explained above, how to secure economic growth and maintain and develop the industry sector amid the promotion of decarbonization and energy transition has become an extremely important issue in the world in particular in developed countries as of now. The issue indicates both positive contributions to growth and the risk of negative impact of excessive nationalistic and “me-first” approach. This is likely to become one of the key issues involving future decarbonization initiatives and should be watched closely.

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