

Responses to Ukraine Crisis and Their Impacts on Decarbonization

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More than two months have passed since Russia launched its invasion into Ukraine. Russia might have initially planned to quickly take control of Ukraine with blitzkrieg assaults, but the plan has failed to be realized. Ukraine's strong resistance and Western support for the country have led fierce battles to continue in Eastern Ukraine to which Russia has shifted attack priority from the Ukrainian capital of Kyiv. Western countries have gradually enhanced economic sanctions on Russia, forcing the Russian economy to be isolated and plunge into difficulties.

International energy markets are concerned that further energy-related sanctions on Russia could come after an embargo on Russian coal by the Group of Seven industrial democracies and the European Union. As Russian energy exports have grown uncertain, international energy prices have remained high and unstable. Mainly in Europe that depends heavily on Russian energy supply, energy security enhancement has become an urgent priority. The world has turned around from the first half of 2021 when global energy issues were very much focused on climate change responses, decarbonization and carbon neutrality. The Ukraine crisis has led energy security to attract global attention as the most important energy issue.

As the Ukraine crisis has become the most important issue, exerting great impacts on global stability and security and shaking energy markets, it is natural for the world to focus on energy security enhancement initiatives. Attracting global interest are how energy security would be enhanced and how and whether energy security enhancement would contribute to stable energy supply and international energy markets.

Meanwhile, how and whether responses to the Ukraine crisis and energy security enhancement through such responses would impact global decarbonization initiatives are also attracting great interest. As noted above, decarbonization or carbon neutrality initiatives had been a focus of interest among energy issues in the world. As the Ukraine crisis has turned the international situation around, however, how the world would tackle decarbonization initiatives has become an issue. While the Ukraine crisis is undoubtedly an urgent challenge, climate change remains as a grave global challenge. Questions in the current situation may be whether the prioritization of energy security through the Ukraine crisis would influence the promotion of climate change countermeasures and whether energy security enhancement would contribute to accelerating or decelerating such countermeasures.

I think that an analysis of the complicated global situation is indispensable for answering the questions. In the following, I would like to indicate and discuss relevant issues.

First, global energy security measures over the short term may bring about a possible increase in CO₂ emissions due to energy choices for stable energy supply. In this sense, these measures may be unfavorable for climate change countermeasures. All options must be utilized to address

emergencies such as significant disruptions to Russian energy supply. As it is difficult to increase renewable and nuclear energy supply rapidly over the short term, the world may have no choice but to expand coal and other fossil fuel supply in emergency situation. In the event of natural gas price spikes subjected to serious concerns, the expansion of coal consumption may be chosen to tide over the emergency. Although it must be considered that an economic slowdown and energy savings through the Ukraine crisis would lead to an energy demand plunge to reduce CO₂ emissions, short-term changes in the energy mix may be destined to expand CO₂ emissions.

Second, relevant issues may be further complicated over the medium to long term. As symbolized by the REPowerEU plan to boost Europe's energy independence, a pillar of energy security measures is the acceleration of renewable energy spread and energy efficiency improvements that have been given priority for decarbonization. The EU plan includes the acceleration of electrification and hydrogen use that will contribute to decarbonization. In addition, growing interest in nuclear energy is attracting attention. In Europe, France and the United Kingdom have announced plans to construct new nuclear power plants, as is well known. Such moves may spread to East European countries that depend heavily on Russian energy supply. Moves to promote nuclear energy as a stable baseload electricity source free from CO₂ emissions have emerged, including the extension of service lives for existing nuclear power plants. Although Russian attacks on nuclear power plants in Ukraine have increased concerns on a new risk regarding nuclear energy, Europe is likely to promote nuclear energy further. Nuclear energy spread will increase non-fossil energy sources' share of the energy mix to contribute to both energy security and climate change countermeasures. Energy security enhancement through the Ukraine crisis will thus contribute to promoting climate change countermeasures in Europe.

In this regard, the energy issue accompanying the Ukraine crisis may enhance the perception that the problem is dependence on fossil fuels, contributing to decarbonization in a different way. If fossil fuels are considered "evil", a breakaway from fossil fuels may be positioned as "good". Then, thorough suppression of fossil fuel consumption and relevant investment may be justified. If the abovementioned perception is enhanced through the Ukraine crisis after the decarbonization trend accelerated until 2021 in a manner to suppress investment in fossil fuels, energy-related initiatives through the crisis may further accelerate the decarbonization trend.

Meanwhile, the abovementioned decarbonization promotion is likely to be countered by an adverse or contradictory trend, complicating the issues. As stable energy supply is given priority, initiatives may be enhanced to promote domestic energy resources including coal and other fossil fuels for stable supply of fossil fuels that are the most important at present and may remain important over a considerably long time. In particular, developing and emerging market economies may enhance initiatives to develop domestic energy resources. Even in the United States, a new priority may be given to the development of shale energy sources including gas and LNG. Depending on policies after the midterm congressional election in November and the next presidential election results, shale energy development could be promoted further. Opinions for jumpstarting a breakaway from fossil fuels may be asserted along with those for a realistic steady energy transition. The potential impacts of a global economic slowdown through the Ukraine crisis may also attract attention.

Anyway, decarbonization initiatives may make progress in various ways in the world where energy security is given priority amid the Ukraine crisis. Gaps between a potential increase in CO₂ emissions and a medium to long-term goal of decarbonization and between the enhanced decarbonization of the energy mix and the promoted development of domestic fossil fuel resources available for the immediate future, as well as changes in and gaps between national and regional

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initiatives, may diversify decarbonization initiatives in the world. We must pay much attention to future relevant developments.

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