Special Bulletin

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Problems Caused by Supply Overdependence in Strategic Commodities

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Energy is an indispensable necessity for everyday life and economic activities in general. It is also indispensable for military and defense activities. In this sense, energy has historically often been regarded as a strategic commodity. When energy supply is plentiful and abundant, and available to everyone without problems, with prices being affordable and stable, we do not think about any energy problem. In such a case, energy is a commodity that exists as a matter of course, just like air or water. Due to the indispensability of energy, however, the tightening of the energy supply-demand balance and subsequent price hikes make stable energy security a top priority. Of particular significance in this respect are problems that arise when the energy supply is physically short or when serious concerns emerge on such shortages.

Looking back at the history of the international energy market, we find that physical energy shortages or serious concerns about them have not been so frequent. Even though the frequency is small, the impact of such an event may be tremendous, leading energy issues to be treated as the world's most important priority. When such an event occurs, the focus is often on supply-side problems. For example, wars, revolutions, terrorism, and accidents cause large-scale energy supply losses, bringing about market chaos that may attract public attention. However, it should be noted that in such a situation, there may be moves on the consumption or demand side that may further exacerbate market turmoil. Consumers and distribution players may overreact to supply shortages, resorting to panic buying or hoarding that may cause serious problems. They may buy up or hoard energy for themselves competitively, triggering a sudden increase in demand. The so-called “consumer hoarding” may plunge a market destabilized by supply losses into even greater chaos and lead to a vicious cycle of destabilization.

During the first oil crisis half a century ago, Japanese and other Western oil companies went on a risky buying spree in the international oil market shaken by the Arab oil embargo and crude oil price hikes by the Organization of the Petroleum Exporting Countries, as described by “Bidding for Our Life” in Daniel Yergin's “The Prize: The Epic Quest for Oil, Money and Power.” Consumers also lined up at gas stations to fill up their vehicle tanks. At the outbreak of the Ukraine crisis three years ago, Europe, which had relied heavily on Russian pipeline gas supplies, faced a sharp decline in gas supplies and desperately scrambled to secure gas supplies, paying higher prices for U.S. LNG, which had been destined for the Asian market. In both cases, such actions were driven by a fear that energy would not be available if nothing was done.

A closer look at the background and structure of these problems reveals the problem of overdependence on specific supply sources for energy as a strategic commodity and that of the weaponization of the strategic commodity amid the overdependence. In the case of the oil crisis, there was the problem of overdependence on Middle Eastern or Arab oil. In the Ukraine crisis, there was the problem of overdependence on Russian energy, especially in Europe. As for the weaponization of strategic goods, the Arab oil embargo during the oil crisis is the most symbolic and clear case. A tight

supply-demand balance and soaring energy prices are required for the weaponization to be activated and function effectively. In both the oil and Ukraine crises, the above two requirements were fully met. When the supply-demand balance for strategic goods is easing, with prices being stable at low levels, however, their weaponization does not work sufficiently.

As there is a great deal of uncertainty about the future of the international energy situation, it is difficult to predict exactly what will happen, when, and how. Regarding future energy problems, however, there is a common understanding that if the energy transition progresses and promotes the shift to clean energy, demand for critical minerals as essential commodities for the shift will increase. Demand for critical minerals will accelerate significantly depending on the nature and speed of the energy transition for the shift to clean energy. The more we step up our efforts to achieve ambitious decarbonization targets such as carbon neutrality, the more demand for these minerals will increase.

The problem, which is now well known, is that only a few countries, including China, have an extremely high share of these critical mineral supplies. In particular, China and some other countries have a significantly higher share in the midstream sector that refines or processes these minerals than in the upstream sector that develops and produces them. They thus dominate the market for critical minerals, including rare earths. This is the reality in today's world.

In this situation, an increase in demand for critical minerals is expected to accelerate significantly, depending on the details and speed of the global energy transition in the future. Then, supply growth may fail to catch up with the demand increase, leading to a tighter supply-demand balance and price hikes. If the supply-demand crunch and price hikes materialize for critical minerals as strategic commodities, the presence of their dominant suppliers may heighten concern about their weaponization. This may not be an issue related directly to energy supply security, but it is a broadly defined energy security issue associated with the energy transition. At a time when energy security issues have become more complex and encompass a wider range of issues, however, how to secure a stable supply of critical minerals should be regarded as an energy issue for which response strategies should be considered.

However, it is not easy to respond to this issue. This is fundamentally because the geographical overconcentration of critical minerals suppliers is structurally based on the reality of their dominant competitiveness. The world's overdependence on Middle Eastern oil, highlighted by the past oil crisis, has stemmed from the dominant cost competitiveness of oil produced in the Middle East. While countries around the world have tried to diversify oil supply sources and reduce their dependence on the Middle East, the region's oil has continued to occupy the most important position in the international market. Europe's heavy reliance on Russian pipeline gas was attributable to the Russian energy source's high cost competitiveness. Having lost Russian pipeline gas supplies and being forced to replace them with other energy sources, Europe has been left to suffer from high energy costs. While the future is completely uncertain due to the unpredictability of the outcome of the war in Ukraine, I sometimes feel that Europe remains interested in the Russian energy supply.

Even in the case of critical minerals, the superiority of highly competitive suppliers remains unchanged. Given the oil crisis case, responses to the geographical concentration of critical minerals suppliers must be extensive and comprehensive. Such responses may include not only the diversification of critical minerals supply sources, but also the development of technologies and alternatives to reduce their consumption, global initiatives to expand their supply, their recycling, and the creation of stockpiling systems and international cooperation frameworks to strengthen emergency response capabilities. In the oil crisis case, the sense of crisis that life-risking and desperate measures

were required led to comprehensive responses. Whether or not comprehensive responses to the critical minerals supply issue will be implemented depends on what may occur in the real world in the future and the severity of the relevant sense of crisis. At the same time, however, we are required to consider what we can learn from the lessons of history.

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