Exclusive Interview

LEADERS IN JAPAN

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Vice Chair, Keidanren (Japan Business Federation)
Yumiko Noda



Leading a Circular Economy That Supports Economic Security, the Environment & the Economy

By Naoyuki Haraoka

In our Leaders Interview for this issue, we spoke with Keidanren Vice Chair Yumiko Noda, who compiled the federation's policy proposals on the circular economy.

With rising geopolitical risks, we asked Ms. Noda, who plays a key role in steering Japan's economy, about the circular economy, which is expected to help address three major challenges: securing resources and energy, dealing with environmental constraints, and achieving economic growth.

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Significance of the Circular Economy

Haraoka: You have played a leading role at Keidanren in formulating policy proposals on the circular economy, which have been submitted to the Japanese government.

To begin with, I would like to ask about the significance of the circular economy. Given the current geopolitical situation, the oil supply crisis surrounding the Strait of Hormuz has drawn attention to the importance of the circular economy from a national security perspective. While this is certainly an important aspect, could you explain the broader implications of the circular economy, including its wider economic and environmental positive impacts?

Noda: The tightening of China's export controls on rare earths and the instability in crude oil supplies through the Strait of Hormuz since the beginning of this year pose serious risks for Japan, which relies heavily on overseas sources for its natural resources. In particular, any disruption to the supply of critical mineral resources, including rare earths, would jeopardize Japan's high-tech industries, from automobiles and wind power equipment essential to the green transformation (GX), to medical devices, defense equipment, and semiconductors. Manufacturing simply cannot be sustainable without raw materials.

Disruptions to supply chains can have a profound impact on business operations. Against this backdrop, the utilization of "urban mines" is attracting growing attention. The circular economy is now attracting considerable attention as a key solution to securing resources, for example, by extracting raw materials from end-of-life products through recycling technologies and reusing them as secondary resources.

Originally, the significance of the circular economy lay in addressing environmental challenges. In October 2020, Japan declared its commitment to achieving carbon neutrality by 2050. Achieving this goal, however, requires a multifaceted approach. One key component is GX, which involves transitioning to energy sources that do not emit greenhouse gases (GHGs), such as renewable energy and nuclear power. However, the energy transition alone will not be sufficient to achieve carbon neutrality. Approximately half of the emissions reductions needed to achieve net zero can be achieved through the energy transitionthe, while the other half is considered to require a fundamental transformation in the way industries and products are designed, manufactured, consumed, and disposed of. Without shifting away from the conventional economic structure that

relies on primary and natural resources, achieving carbon neutrality will be extremely difficult.

Given all this, Japan gradually came to recognize the need for a circular economy alongside GX. In 2021, in my capacity as chair of Keidanren's Committee on the Environment, I reached an agreement with then Environment Minister Shinjiro Koizumi that Keidanren and the Ministry of the Environment would work together to promote the circular economy. This marked a groundbreaking turning point. Until then, environmental measures had often been viewed by businesses as constraints. For the first time, the public and private sectors joined forces to address these challenges.

As I explained, efforts to promote the circular economy initially began as part of environmental measures, particularly those aimed at achieving carbon neutrality. However, following Russia's invasion of Ukraine in 2022, the importance of securing a stable supply of resources grew significantly. In February 2023, Keidanren issued its Proposal for Realizing a Circular Economy, calling for the promotion of a circular economy from the perspective of linking efforts to secure resources and reduce environmental impacts with strengthening corporate competitiveness and advancing growth strategies.

Furthermore, in November 2023, Keidanren dispatched its first fact-finding mission to Europe to observe firsthand the region's advanced circular economy initiatives. This experience deepened the recognition among Japanese companies that they, too, should promote the circular economy to reduce resource and environmental constraints.

Europe, too, faces geopolitical and security challenges, including those arising from the Greenland issue. Accordingly, Keidanren organized its second mission to Europe in January 2026, with 37 participants representing 22 companies and organizations visiting Finland and Germany. Through exchanges of views with policymakers, ministers, and business leaders, the mission sought to gain a deeper understanding of the latest developments and emerging trends of the circular economy in Europe.

The mission returned to Japan with a strong sense of urgency, recognizing that Japan needed to swiftly reflect these developments in its policymaking and take concrete measures. Keidanren immediately began formulating a set of proposals. Following approval by Keidanren's Policy Board on March 17, the proposals were submitted to the Ministry of Economy, Trade and Industry and the Ministry of the Environment. As an island nation with limited natural resources, Japan has developed on the strength of its manufacturing industries. It therefore needs to strengthen its resource security measures through a circular economy on a national scale, even more so than Europe. Accordingly, Keidanren has proposed measures to the government to promote the strategic use of secondary resources, in addition to securing primary resources.

In response to these proposals, the Japanese government announced its Circular Economy Action Plan in April. In June, the importance of the circular economy was also incorporated into the Basic Policy on Economic and Fiscal Management and Reform. Furthermore, measures to promote the circular economy were incorporated into the budgetary requests for the following fiscal year.

Haraoka: What about from the perspective of economic growth?

Noda: An economic structure that relies on primary resources will eventually face supply chain disruptions, making it impossible not only to manufacture products but also to sustain economic growth. Rather than driving growth, such disruptions could lead to an economic slowdown. To break free from these constraints and achieve sustainable growth, it is essential to establish production systems that make use of secondary resources, or recycled materials. I believe this is a key solution, and it is the first point I would like to emphasize.

Companies, too, are beginning to recognize that the mass production and mass consumption model is unsustainable. As resource supply disruptions can bring manufacturing to a halt, businesses are increasingly coming to understand that they cannot expect to achieve growth unless they fundamentally transform their manufacturing practices and production systems into circular ones.

Furthermore, digital technologies are essential to realizing a circular economy. Traceability systems are needed to connect the "veins" and "arteries" of the economy by identifying where waste is generated and where it is needed as a resource. To accurately track how resources contained in products circulate throughout the processes of production, consumption, and disposal, and to recover critical minerals and return them to the production system, digital tracking is indispensable. As a result, new platforms for managing digital traceability are emerging one after another.

In the venous industry, waste management operators have traditionally focused on treating waste appropriately while minimizing environmental impacts and promoting recycling to reduce the volume of waste sent to final disposal. Going forward, however, they will need to transition to new business models that recover more resources from waste and return them to the production system. In other words, the industry must transform from conventional waste treatment into resource recovery. This transformation is expected to create added value and contribute to economic growth.

Corporate revenue models are also changing. Companies are shifting away from the traditional model of making a profit by selling products toward a model in which they lease products to customers, retain ownership, and earn revenue from usage fees. By enabling customers to use products over the long term and generating revenue in return, companies can move away from one-time sales toward a steady stream of income over an extended period. There is also potential to increase revenue by encouraging customers to use high-quality products for longer, opening up new pathways to economic growth.

Encountering the Circular Economy

Haraoka: Had you been interested in the circular economy and working on related issues for quite some time?

Noda: I previously served as deputy mayor of Yokohama. In 2000, the Basic Act for Establishing a Sound Material-Cycle Society introduced the 3R (reduce, reuse, and recycle) framework, and Japan began implementing policies to promote waste reduction and recycling. In this context, Yokohama became one of the leading municipalities in Japan in advancing the 3Rs.

When I took office as deputy mayor in 2007, Yokohama's population was still growing. Nevertheless, we set a highly ambitious target of reducing the amount of waste by 30%. Specifically, we asked residents to sort their waste into 15 categories, recycle all materials that could be recovered, and reduce the amount of waste sent for final disposal by 30%.

Initially, many residents expressed concerns that sorting waste into 15 categories would be too burdensome. However, through environmental education programs in elementary schools and sustained public awareness campaigns, we ultimately succeeded in reducing the amount of waste by as much as 40%. This was a pioneering initiative by international standards, and it was even recognized with an award from the World Bank.

Following my experience in Yokohama, I became president and representative of Veolia Japan GK in 2017. As Veolia is a European company, I had a firsthand view of how the European Union rapidly developed and implemented a series of measures to promote the circular economy following the launch of its Circular Economy Action Plan in 2015. I became keenly interested in the differences between the 3R initiatives that Yokohama and Japan had previously pursued and the circular economy approach that emerged in Europe.

The European circular economy aims to do more than simply reduce the amount of waste sent to landfills. Its goal is to recover waste and make it available for reuse as a resource. As the global population grows toward 10 billion while primary resources, or natural resources, become increasingly depleted, securing a stable supply of resources is becoming a critical challenge.

For this reason, the EU began considering how to secure resources within its own borders as early as 2015. Recognizing the importance of utilizing secondary resources, it has strategically advanced policies to promote the circular economy. Japan, by contrast, has succeeded in reducing the amount of waste it generates, but its underlying dependence on natural resources remains unchanged. Although Japan has made efforts to manufacture products from primary resources and to recycle waste or recover energy from it as much as possible, rather than simply incinerating it or disposing of it in landfills, efforts to close the resource loop by recovering materials and reusing them in new products as secondary resources remain a work in progress. Japan needs to move away from its current reliance solely on primary resources, such as rare earth elements imported from China and crude oil transported through the Strait of Hormuz.

In Japan, the amount of waste requiring final disposal, including landfill, has been kept under control through recycling and energy recovery from waste incineration. However, the essence of the circular economy that Europe is striving to achieve lies in recovering resources in a form that allows them to be reused in products and ensuring that the materials needed for manufacturing are properly recovered and recycled.

To promote a broader understanding of this concept, I have introduced Europe's circular economy initiatives at committee meetings and advisory councils organized by Keidanren or METI. Japan has accumulated valuable expertise in the 3Rs, and Yokohama's experience has been particularly noteworthy. The major challenge ahead is to build on this knowledge and experience and take Japan's 3R initiatives to the next level by evolving them into a circular economy. I have devoted considerable effort to helping make this transition a reality.

The Two Study Missions to Europe

Haraoka: The Netherlands was selected as the destination for the November 2023 mission to Europe, while Finland and Germany were chosen for the January 2026 mission. Could you explain the reasons for selecting each of these countries?

Noda: On Nov. 27, 2023, Keidanren dispatched its first fact-finding mission to Europe. On that occasion, we visited the European Commission and the Netherlands. We chose the European Commission and the Netherlands because the Netherlands is one of the most advanced countries in Europe in terms of the circular economy. The Dutch government aims to achieve a fully circular economy by 2050. In other words, it has set a highly ambitious goal of building an economy in which waste is eliminated and resources circulate in a closed loop.

Against this backdrop, a growing number of startups focusing on the circular economy are emerging in the Netherlands. One of the best-known is Fairphone. The company manufactures environmentally friendly, ethically designed smartphones that allow users to replace only the components they need to. For example, if users want to upgrade their camera or if their battery no longer holds a charge well, they can replace just the camera module or the battery, much as they would with a computer. Similarly, if the glass on the screen becomes scratched, they can replace only the glass rather than the entire display assembly.

The Netherlands has the world's highest per capita consumption of jeans. However, jeans production poses significant environmental and social challenges, including child labor and water pollution. To address these issues, numerous entrepreneurs are emerging who restore worn-out jeans or upcycle them into other products, such as bags. In addition, a growing number of companies are developing innovative circular business models, such as refurbishing discarded bicycles and transforming them into attractive, redesigned products

rather than letting them go to waste.

During Keidanren's second fact-finding mission to Europe in 2026, we visited Germany and Finland. Like Japan, Germany is a manufacturing powerhouse, with the automotive industry playing a central role in its economy. Given the growing importance of economic security, it is crucial for Japanese companies to understand the measures Germany is taking, particularly the business strategies being pursued by German automakers.

In Germany, we exchanged views with the Federation of German Industries (BDI), Keidanren's counterpart. We also spoke with BMW's head of sustainability and learned that the company regards manufacturing vehicles using secondary resources and recycled materials as a key strategic priority. We also visited a vehicle dismantling facility and saw firsthand how much effort BMW is putting into recovering parts and rare earths from end-of-life vehicles and reusing them as materials for new cars.

Finland is a relatively small country, but 78% of its land area is covered by forests, giving it abundant forest resources, much like Japan. An important issue in Finland is how to manage and circulate these forest resources sustainably. The Finnish government also plays an active role in education and public awareness initiatives to promote the circular economy. We had valuable discussions on how to help consumers understand the importance and significance of the circular economy, gaining insights that could be highly relevant for Japan.

Haraoka: Changing the subject, I get the impression that the United States is not particularly interested in the circular economy.

Noda: Environmental policies vary from state to state in the US, and some states are actively promoting the circular economy. However, there is not yet a unified policy at the federal level. One distinctive feature of the US, however, is that initiatives are largely driven by the private sector. Global companies, particularly Apple and Microsoft, place strong requirements on their entire supply chains to adopt greener and more circular practices.

These developments have a significant impact on Japanese companies, as many of them, including materials manufacturers, are part of the supply chains of these global corporations. For example, companies supplying components to Apple are required to manufacture them using renewable energy. They must also ensure that their products contain a certain minimum proportion of recycled materials.

Regardless of government policy, US global corporations are taking it upon themselves to ensure that their operations are circular, ethical, and green. They are actively working to secure zero-carbon power sources, including by investing in the development of nuclear power plants to ensure a stable electricity supply. They are also increasing their use of secondary resources for critical minerals and seeking to establish sustainable resource procurement practices.

These developments among US companies present both a significant challenge and a new business opportunity for Japanese companies. In this way, embracing the circular economy has become essential for companies seeking to participate in global supply chains.



Measures to Achieve a Circular Economy

Haraoka: There are various measures that can be taken to achieve a circular economy, both in the short term and in the long term. What would you consider the most important measures in each category?

Noda: Since the Industrial Revolution, we have taken an era of mass production, mass consumption, and mass disposal for granted. We have become accustomed to a throwaway culture, giving little thought to what happens to waste after we discard it, and have acted as though this system could continue indefinitely. Businesses, too, have grown within the 20th-century paradigm that the more they sell, the more they grow. As a result, they have rarely challenged the assumption that this economic model can continue without being questioned.

That is why the transition to a fully circular economic system is such an enormous challenge. It is not something that can be accomplished in a year or two. I doubt that we will have fully achieved it even by 2050. Transforming an economic system that has been in place for more than a century into a fully circular one, in which all materials are reused, is an ambitious, long-term undertaking – one that I believe will take a century to accomplish.

Nevertheless, we must begin this transformation immediately. Otherwise, we risk leaving future generations to bear the consequences of our inaction. Japan, in particular, is a country with limited natural resources. As the security environment deteriorates, Japan more than any other country must take this issue seriously and implement concrete measures. If we fail to do so, Japan could truly become a country that can no longer manufacture the products it needs.

What particularly concerns me is that China is beginning to ramp up its production of secondary resources. If China starts to control

the supply of these resources, Japan could find itself in a position where it has no choice but to import them from China. For example, if the EU introduces regulations prohibiting the purchase of products that do not contain recycled materials, Japan could be forced to import secondary resources from China to meet those requirements.

One of the most urgent priorities is to develop technologies for efficiently recovering rare earths from urban mines. I believe that unless we address this issue as soon as possible, we could find ourselves in an extremely difficult situation.

Furthermore, product design that allows products to be disassembled so that their raw materials can be recovered and reused is also important. Traditionally, manufacturing has relied on strong adhesives and multilayer films. While these technologies have been essential for ensuring food safety and preserving product quality, they also make recycling more difficult. From a circular economy perspective, packaging materials need to be made from a single material. However, this can involve trade-offs with safety and durability. To overcome this challenge, it is essential to develop new packaging materials and other materials that are recyclable while also offering high levels of safety and durability.

Unless products are designed to be disassembled and their materials separated by type, we will not be able to recover the rare metals hidden in urban mines. Infineon Technologies AG, a German power semiconductor manufacturer that was spun off from Siemens, is working with startups to develop technologies for separating precious metals from semiconductor substrates. I believe that Japanese companies, too, would need to start addressing these challenges now by rethinking product design and materials and innovating their manufacturing processes.

Now is the time to fundamentally rethink our approach to manufacturing and accelerate the transition to a circular society. At the same time, this presents an opportunity for Japan to take a global leadership role in this field.

Haraoka: Your proposals include "Improve environmentally conscious design for products, etc. at the manufacturing stage", which is a short-term measure, and "Improve the recycled resource supply system to facilitate stable supply of resources and a more resilient supply chain", which is a considerably more medium- to long-term measure.

Noda: Yes. We would need a medium- to long-term measure. However, it is extremely important to address and change the current situation in which valuable waste materials from Japan are being illegally shipped overseas. We must tackle this issue seriously and establish a system to ensure that materials with the potential to become secondary resources are retained and recovered within Japan.

A major challenge today is how to secure domestically the valuable materials contained in products consumed in Japan. At the very least, we must take effective measures to prevent their illegal outflow. In this regard, the Ministry of the Environment is actively engaging with local governments and working to strengthen regulations. This important perspective is also reflected in our proposals.

Haraoka: Another major challenge is that as this is a global issue, so efforts by Japan alone, or by any single country, will not be enough. I believe that determining how to promote international cooperation is a very difficult challenge.

Noda: That is an important point as well. It would be difficult to establish a circular economy system that operates entirely within Japan. Rather, I believe we should work with Southeast Asian countries to develop a model in which resources circulate throughout the region as a whole.

Currently, many products that have been used in Japan, including secondhand trains and automobiles, are exported to Southeast Asia and reused there. By building on these existing flows of secondhand goods, I believe a more realistic and effective approach would be to establish a circular economy system jointly with Southeast Asian countries, rather than pursuing one independently in Japan.

Within the framework of the Asia Zero Emission Community (AZEC), which Keidanren is promoting, we could also consider incorporating a circular economy perspective alongside decarbonization and developing a system to circulate resources within the Asian region.

While China is actively promoting the circular economy, Southeast Asian countries such as Thailand and Vietnam are also beginning to pursue similar initiatives. However, these countries still lack sufficient recycling expertise and technology. If Japan could share its advanced recycling technologies and expertise with these countries and work together to establish new systems for producing secondary resources, this could open up significant new opportunities.

Haraoka: A circular economy might be relatively easy to achieve in small communities. This makes me wonder whether promoting decentralization and implementing circular economy systems within smaller communities could be a fairly easy way forward. What do you think?

Noda: I believe this is actually a very important point. Although it is not addressed in great detail in our proposals, when I served on a committee at METI, I advocated the importance of enhancing well-being through the circular economy and the idea that resource circulation within smaller loops is preferable. To preserve the value of resources, circulation within small communities should be the starting point.

Within a small community, it is more efficient to create small-scale circular systems. For example, items that are no longer new but are still usable can be passed on to other members of the community. Similarly, food waste generated in the community can be composted and used as fertilizer to grow crops, which can then be consumed

locally.

In a circular economy, the general principle is that the smaller the loop, the better. However, when it comes to circulating mineral resources such as aluminum, iron, and rare earths, the volume of these materials contained in waste generated by small communities may be too limited to make recovery viable. In such cases, it may be necessary to collect these materials in larger urban areas to take advantage of economies of scale and recover them by using advanced technologies. The appropriate scale for resource circulation varies by sector. As a general principle, however, it is preferable to keep resources and products circulating within local communities, preserving their value and reusing them without changing their form whenever possible. I believe that initiatives such as sharing and repair within local communities can foster a wide range of connections among people in the community.

Furthermore, I believe these connections can also contribute to improved well-being. Ideally, a circular economy creates small loops that foster a sense of community and strengthen social relations. As the area becomes more attractive, young people are drawn to it and start new businesses, such as cafés and local craft breweries, bringing greater vibrancy to the community. This is also an important perspective from the standpoint of regional revitalization.

Proposals to the Japanese Government

Haraoka: You have submitted the policy proposal to the Japanese government. Are there any particular measures that you would especially like the government to implement?

Noda: I strongly urge the government to take the lead by purchasing circular products itself. Government expenditure accounts for 18.6% of GDP. Unless the government takes initiative in leading a circular economy and gives priority to purchasing circular products, businesses are unlikely to make significant progress in investing in circular technologies or advancing their own circular economy engagement. It is extremely important for the government to prioritize circular products in its procurement, even if they are somewhat more expensive than conventional alternatives.

The Netherlands is actively promoting circular public procurement. In particular, Amsterdam has introduced a system under which companies are not eligible to bid for public infrastructure projects unless their proposals meet circularity requirements. I strongly urge the Japanese government to introduce similar measures, obliging the private sector participating in a public project to choose circular solutionsor recommend them to prioritize those solutions whenever public authorities take the initiative in commissioning projects or determining specifications.In Japan, we would also like the government to consider introducing measures that give preference to circular products and solutions when public-sector entities take the lead in procurement and specification-setting.

Haraoka: It seems to me that the focus on security has perhaps become too dominant. After all, the circular economy is generally understood to be more about decentralization, strengthening communities, and enhancing well-being. In putting these recommendations together, were there any particular challenges you faced, or aspects that you would have liked to emphasize more strongly?

Noda: From the perspective of regional economy revitalization, our aim is to establish circular economy systems within local communities to enhance local well-being. We hope that these initiatives will, in turn, encourage the emergence of startups and stimulate local economic activity.

Haraoka: I get the impression that European companies recognize that enhancing people's well-being can also generate revenue. It would be good to see more companies adopting this kind of approach, wouldn't it?

Noda: I sincerely hope so, too.

Follow-up on the Proposals

Haraoka: Finally, how do you plan to follow up on these proposals?

Noda: I feel that we have just begun to take action. The proposals have already been reflected in the budget requests for the next fiscal year, and I hope to see them adopted for actual budget allocations and businesses begin taking concrete steps toward a circular economy. It is encouraging to see companies that once asked about a circular economy, responding with the question "What exactly is a circular economy?", now saying, "We are working hard to put it into practice." The fact that the circular economy is becoming a core management priority for businesses is remarkable. I almost feel as though we have entered a completely new era. I believe that when Japanese companies are truly committed to something, they work steadily and persistently, and they can undoubtedly become global leaders. I look forward to seeing what they accomplish in the years ahead. If further action proves necessary, we will consider what steps to take next.

Haraoka: Thank you very much for taking time to speak with us despite your busy schedule. JS

Written and translated by Naoyuki Haraoka, advisor to the Japan Economic Foundation, with the cooperation of Tape Rewrite Co.