

Circular Society and Planetary Health: Proposals for a Sustainable Future

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1. The Interdependence of Environment and Health

The [Fifth Fundamental Plan for Establishing a Sound Material-Cycle Society](#) goes beyond efficient resource use and waste reduction, aiming for community revitalization and improved well-being. It is closely tied to the concept of *planetary health*, which emphasizes the inseparability of the global environment and human health.

The *United Nations Environment Programme (UNEP)* highlighted this interdependence in its July 2024 report, [Navigating New Horizons: A Global Foresight Report on Planetary Health and Human Wellbeing](#). The report calls for urgent global action to build a sustainable future, emphasizing not only the risks posed by environmental challenges but also the opportunities presented by green economies and technological innovation, offering a message of hope.

Similarly, the *World Health Organization (WHO)* report [Circular Economy and Health: Opportunities and Risks](#) (October 2018) points out that transitioning to a circular economy promotes sustainable growth, better health, and job creation. However, it also notes potential health risks associated with recycling hazardous substances, underscoring the need to consider health impacts in policymaking and implementation.

Advancing a circular society significantly impacts health through reduced environmental burdens. For instance, transitioning to a circular economy can decrease air pollution from resource extraction, reducing the risks of cardiovascular and respiratory diseases. Furthermore, reducing greenhouse gas emissions mitigates climate change, lowering health risks from extreme weather events such as heatwaves and floods. However, challenges remain in realizing these benefits.

2. Addressing Risks of Improper Recycling

Inadequate recycling of products containing hazardous substances can negatively impact both human health and the environment. For example, using sewage sludge in agriculture poses risks of contamination with heavy metals or pathogens. Addressing these risks requires stricter regulations and technological innovation.

The healthcare sector also plays a critical role in achieving a circular society. During the COVID-19 pandemic, the *WHO*'s February 2022 report, [Global Analysis of Health Care Waste in the Context of COVID-19](#), revealed that one-third of healthcare facilities worldwide lacked safe waste management systems, with the surge in medical waste becoming a significant challenge. Personal protective equipment (PPE) procurement and disposal were particularly problematic.

The healthcare sector accounts for 4–5% of global greenhouse gas emissions, with plastic production doubling since the pandemic, raising concerns about its environmental impact. However, awareness

in Japanese healthcare settings is gradually shifting, with increasing attention to reprocessing single-use medical devices and adopting non-incineration waste treatment technologies. These initiatives contribute to waste reduction and create economic value.

In its recommendations, HGPI emphasizes the critical connection between global challenges—such as climate change, environmental pollution, and biodiversity loss—and the formation of a healthy aging society. It stresses the importance of integrating the planetary health perspective into Japan’s *Third Phase of the Health and Medical Strategy* to foster domestic healthcare industries that can contribute to international sustainability efforts.

Plastic pollution is a prime example of the challenges and health impacts associated with a circular society. Marine plastic waste threatens ecosystems and raises the risk of microplastics entering the human body through the food chain. Furthermore, the release of chemicals during plastic production and disposal pollutes air and water, disproportionately affecting vulnerable populations.

In response, the *Fifth Fundamental Plan for Establishing a Sound Material-Cycle Society* prioritizes enhancing plastic resource circulation and waste management. Japan’s government introduced the [Osaka Blue Ocean Vision](#) at the 2019 G20 Osaka Summit, aiming to eliminate additional marine plastic pollution by 2050. Additionally, the upcoming Osaka-Kansai Expo will focus on designing a “Future Society for Our Lives,” raising expectations for societal transformation toward circular economies that support human and planetary health.

The Japanese government’s [SDG Implementation Guidelines](#) and the [Sixth Basic Environmental Plan](#) (both released in 2024) incorporate the planetary health perspective, recognizing that “health” is indispensable to advancing a circular society. Planetary health, based on the idea that human health is intrinsically tied to the well-being of the Earth, offers a comprehensive framework to address climate change, biodiversity loss, and pollution. Integrating this perspective into policies and practices can make circular society goals more holistic.

Promoting a circular society holds immense potential not only as environmental policy but also as a means to enhance health and welfare. Achieving this requires strengthening regulations, fostering technological innovation, and raising awareness. Education and outreach are essential for consumers and businesses to understand and embrace circular economy principles. International cooperation is also crucial, involving technology transfer to developing countries and sharing waste management systems to build a global circular society.

The *Fifth Fundamental Plan for Establishing a Sound Material-Cycle Society* presents an opportunity for Japan to establish itself as a model of circular economy leadership. Realizing a resource-circulating, sustainable society will require not only technological and policy advancements but also a societal shift in awareness. By recognizing the inseparability of environment and health and embodying the principles of planetary health, Japan can showcase a new growth model to the world.

In the healthcare sector, where regulations are numerous, adopting circular economy principles may take longer compared to other industries. However, this article aims to inspire a shared understanding of the challenges and foster action, particularly among healthcare sector stakeholders, toward building a circular society.