

REALIZATION OF SUSTAINABLE COMMUNITIES AND LIFESTYLES

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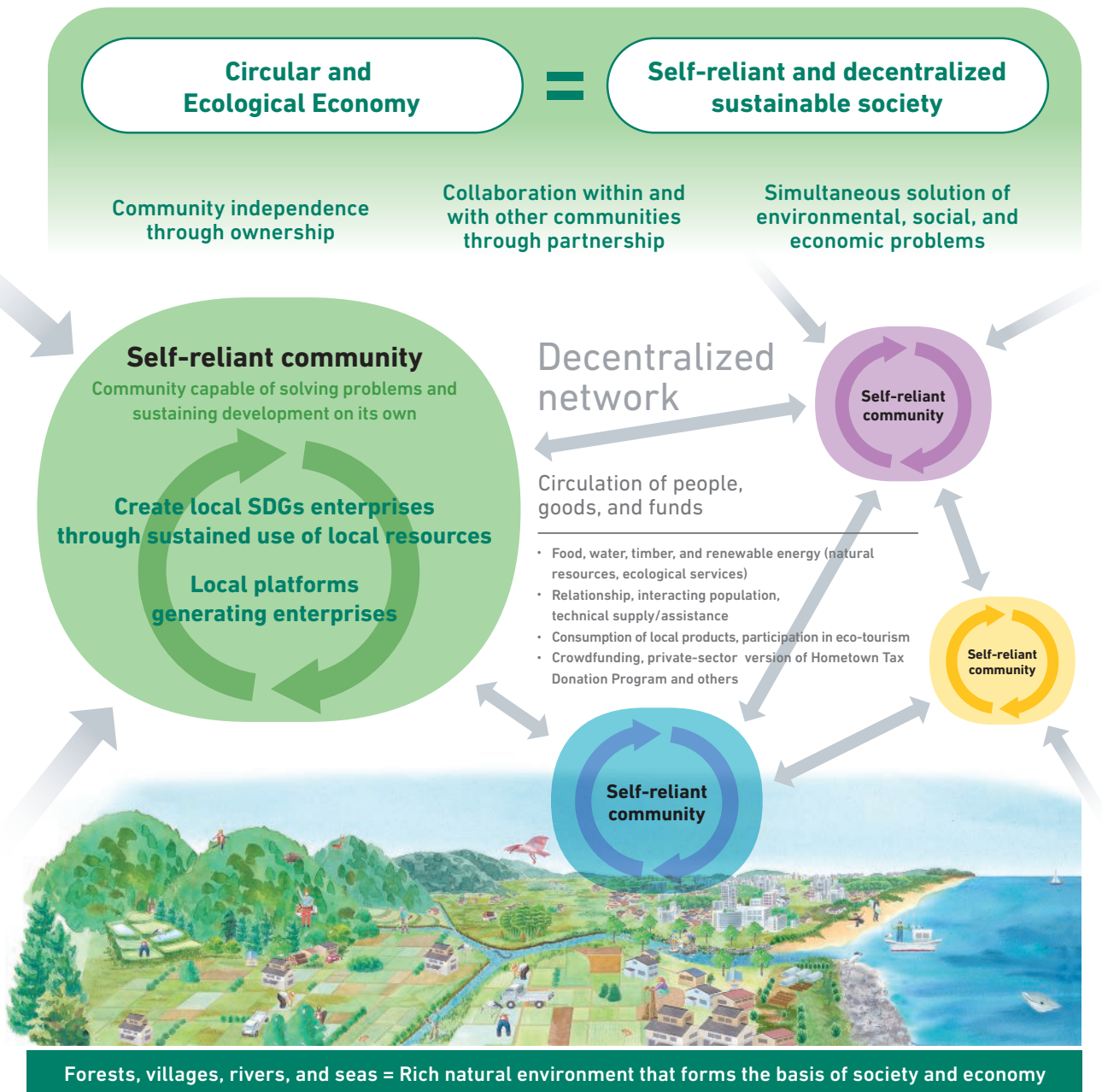


1 FURTHER DEVELOPMENT OF THE CIRCULAR AND ECOLOGICAL ECONOMY

The Circular and Ecological Economy is the concept of a “self-reliant and decentralized society” wherein each local community solves its own challenges self-reliantly through continuous creation of enterprises using local resources and improving the environment, economy, and the society (“local SDGs enterprises”), while making best use of its unique characteristics to network with other

communities and help each other. As the Circular and Ecological Economy represents an approach to solve local environmental, social, and economic challenges in an integrated manner primarily based on the independence of the local communities and in partnership with others, it may also be called local SDGs.

Concept of Circular and Ecological Economy



Best Practice

PaperLab circulates local resource, connects people, and contributes to regional revitalization (Seiko Epson Corporation/Epson Sales Japan Corporation)

Seiko Epson Corporation/Epson Sales Japan Corporation contributes to resource upcycling and the creation of a sustainable society through its PaperLab, a dry-process office papermaking system, which produces new paper from used paper in an almost waterless process. The city government of Shiojiri, Nagano Prefecture, turns its used office paper into resident certificate application and other forms. Several PaperLab machines are placed in the city hall building and other locations in a way that is easily visible to visiting citizens. Some are now included in tour courses in elementary and junior high school social studies lessons, thus serving as tools for environmental education. The city also creates new employment by outsourcing PaperLab-related work to people with disabilities. The collection of used paper and distribution of recycled paper has created a new opportunity for workers to interact more with city officials, resulting in a stronger sense of satisfaction in their work. Miura CO., LTD., a Matsuyama, Ehime-based manufacturer of boilers and other machinery, has introduced PaperLab for the purposes of recycling and information security of its internal documents and for providing jobs to

people with disabilities. Workers created upcycled products, including business cards and novelties. With the aim of going beyond internal efforts to realize a sound material-cycle society, Miura has also launched the KAMING BACK PROJECT®, a project of upcycling used paper in local junior high schools into correspondence notebooks in cooperation with a local printing company and the local J-League professional football team. The project is contributing to regional vitalization through cooperation among industry, academia, and the government.



A lesson on environmental education in social studies class (Shiojiri city, Nagano prefecture)

Source: Seiko Epson

Best Practice

Shizuoka Prefecture SDGs Business Award (Shizuoka Prefecture)

Starting in FY 2021, Shizuoka Prefecture hosts the “Shizuoka SDGs Business Award—Commendation of Future-Oriented Environmental Businesses” every year. To promote environmental businesses and expand the use of ESG financing, the prefectural government invites, fosters, and commends outstanding business ideas and plans for resolving environmental issues.

The prefecture calls for the entry of business ideas, regardless of industry type or category, that are conducive to decarbonization, living with nature, resource circulation, and other environmental challenges in Shizuoka. Applying organizations that pass the screening receive mentoring (side-by-side assistance) from environment and business management experts arranged by the prefecture to improve the business idea.

A unique feature of the program is the involvement of financial institutions (all local banks and shinkin banks in the prefecture), and many other organizations and businesses as collaborating partners. This award helps build business networks and supports the growth of environmental businesses.



FY2022 Kick-off Meeting (Members of the selected groups, mentors, and cooperation partners)

Source: Shizuoka Prefecture

Deepening of the Circular and Ecological Economy

As described above, regional platforms are growing in many parts of the country, where local people are taking the initiative and collaborating in partnership

with and beyond departments and organizations inside and outside the region to solve environmental, social, and economic challenges in an integrated manner.

The continued creation of local SDGs enterprises by regional platforms will make the regions more self-reliant and bring them closer to becoming sustainable societies. Through further development of the Circular and Ecological Economy and its spread nationwide, we will work to contribute to the new

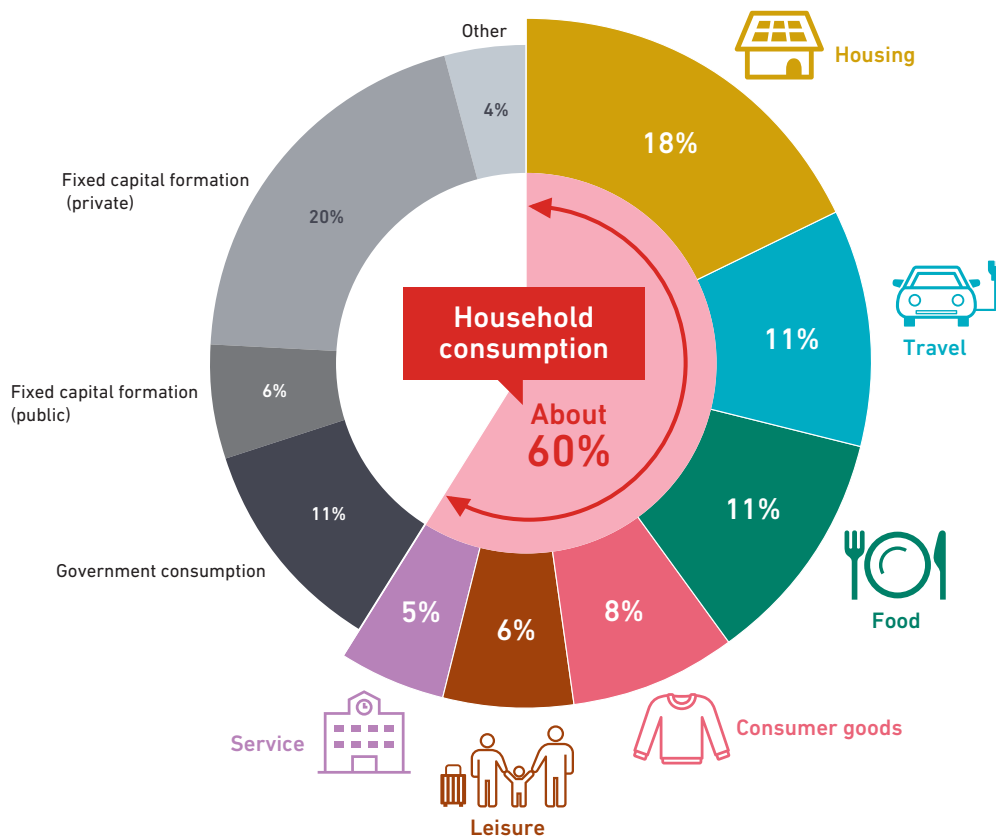
form of capitalism by simultaneously solving sustainability-related social challenges and achieving economic growth, thus trading new avenues for growth that can bring a high quality of life for the future.

2 LIFESTYLE SHIFT

Japan has declared that by 2050, it will realize net-zero GHG emissions; that is, the amount of GHG emissions less the amount of removal by forests and other carbon sinks will be zero. To realize net-zero, not only national and local governments, companies, and other constituent units, but also all ordinary citizens need to change their familiar lifestyle. The need for this change is obvious: if one looks at Japan's GHG emissions on a consumption basis, approximately 60% of the total is reportedly due to households.

The conventional “mass-production, mass-consumption, mass-disposal” type of lifestyle is deteriorating “ecosystem services,” which are the various blessings that nature provides to support us with food, clothing, and shelter. To realize a green society, we need to change our lifestyles from the aspects of housing, travel, food, and fashion to reduce GHG emissions, reduce waste, and place value on resource recycling and natural resources through the 3Rs + Renewable.

Japan's Life cycle Greenhouse Gas Emissions on a consumption basis



Source: Estimated by National Institute for Environmental Studies and Institute for Global Environmental Strategies (IGES) based on: Keisuke Nansai, "Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables (3EID)" (National Institute for Environmental Studies, 2019); Nansai et al. Resources, Conservation & Recycling 152 104525 (2020); and Ministry of Internal Affairs and Communications, "Input-output Table 2015"

*Each item represents the calculated total amount of greenhouse gas emissions (carbon footprint) throughout the life cycle (i.e., resource extraction, material processing, product manufacturing, distribution, retail, use, disposal) of each consumption/ fixed capital formation product or service in Japan (numbers do not match direct emissions based on domestic production).

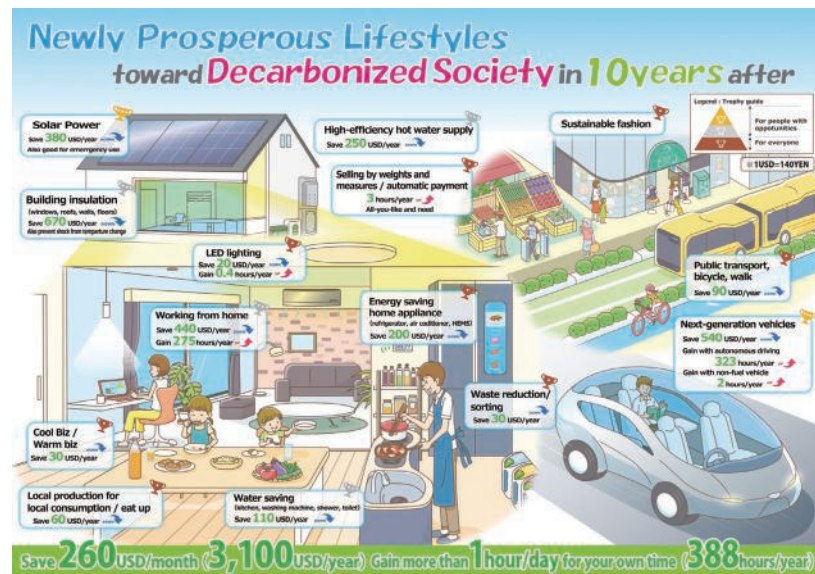
National Movement for New and Prosperous Lifestyles toward Decarbonization and the Public-Private Partnership Council for New National Movement

Substantial CO₂ reductions are needed in our daily lives and lifestyles to achieve net-zero GHG emissions by 2050 and reduction targets for 2030. While 90% of Japanese people know the term “decarbonization,” they do not know what to do about it, and hence, their awareness has not been translated into concrete actions. To encourage people and consumers to change their behavior and lifestyles, the Ministry of the Environment launched the National Movement for New and Prosperous Lifestyles toward Decarbonization in October 2022.

As one of the specific initiatives of the new national movement, a special website has been opened for the new national movement, posting information provided by businesses, municipalities, and organizations neatly sorted into four different categories: (1) information on diverse and comfortable ways of working and living that fully utilize digital technology; (2) information on decarbonization-oriented products and services; (3) information that will support behavioral change through incentives and effective information dissemination; and (4) information on proposed new lifestyles based on the unique characteristics of the region. In this way, we are supporting the creation of new and prosperous lifestyles for the people.

In addition, the Public-Private Partnership Council for New National Movement, which was inaugurated in conjunction with the launch of the new national movement, is undertaking concerted and timely programs and campaigns in cooperation with the national government, local governments, companies, organizations, and consumers. As of March 2023, more than 550 local governments, companies, and organizations are participating in public-private campaigns and projects in many fields, including energy-efficient housing, sustainable fashion, work-from-home and other digital work styles, and electric power saving. The aim is not just to inform the general public about specific products and services designed for decarbonization, but also to provide opportunities and platforms for them to actually feel and experience the products and services first-hand.

For example, regarding energy-efficient of houses, we are running a campaign to promote



Proposed Features of Newly Prosperous Lifestyles

Source: Ministry of the Environment

heat-insulation retrofitting of houses, which will lead to a healthy and comfortable life. House retrofitting, such as these, will contribute to achieving the target of approximately 70% CO₂ emissions reduction from households by FY 2030 (from the FY 2013 levels) and help ensure that the average stock level of energy-saving performance is equivalent to the level of Net Zero Energy House (ZEH) in 2050. 90% of houses in Japan do not meet the current energy-saving standards. It is very important to support energy-efficient retrofitting of residential houses. The Ministry of the Environment, Ministry of Economy, Trade and Industry, and Ministry of Land, Infrastructure, Transport and Tourism have each established new subsidy programs for energy-efficient retrofitting of houses. The ministries will cooperate with each other to establish a single point of contact and strengthen one-stop support for existing programs. In particular, the Ministry of the Environment and the Ministry of Economy, Trade and Industry support the replacement of windows with thermally insulated models with higher energy efficiency. This is expected to improve the average heat insulation performance of houses in Japan in a short period. The New National Movement will make a strong appeal to the public and consumers in general regarding these subsidy programs by collaborating

with various media, including social media, and private-sector crowd-attracting events, while calling for the cooperation of a wide range of related trade

associations. The New National Movement will also cooperate in the initiatives and activities of the organizations involved in the subsidy programs.

3 PROTECTING HUMAN LIFE AND THE ENVIRONMENT

The Ministry of the Environment was created to prevent industrial pollution and protect the natural environment. The fundamental services protecting human life and the environment are of crucial to us

and are our mission. Our roots remain unchanged, and we are working on policies tailored to the times, social changes, and people's lifestyles.

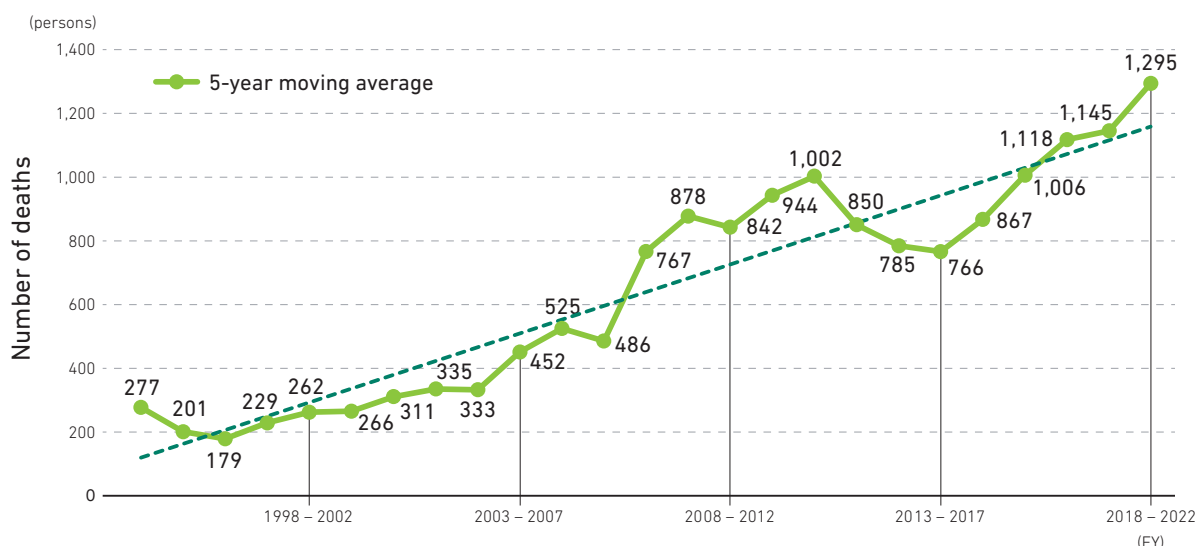
The aggravating heat illness problem and fundamentally stepping-up countermeasures

In recent years in Japan, the numbers of ambulance transports and deaths due to heat illness have been alarmingly high. Between May and September 2022, approximately 71,000 people were transported to emergency hospitals. The annual fatality on a 5-year moving average basis has been over 1,000 for years, exceeding the number of victims of natural disasters. As global warming progresses, the risk of extremely high temperatures is expected to increase. As such, countermeasures against heat illness are an urgent issue in Japan.

With a view to strengthen the measures against heat illness, we had a Bill to Partially Amend the

Climate Change Adaptation Act and the Act on the Environmental Restoration and Conservation Agency, Independent Administrative Agency, approved by the Cabinet in February 2023, and submitted it to the 211th Session of the Diet. The bill creates a reinforced framework of heat illness prevention measures that include: the formulation of a statutory Heat Illness Prevention Action Plan that will set forth the government's countermeasures against heat illness, establishment of a higher level of special Heat Stroke Alert Information, and opening designated heat shelters (cooling shelters) during a special alert.

Heat illness fatalities (5-year moving average)



Note: 2022 data provisional

Source: Ministry of the Environment, based on Ministry of Health, Labour and Welfare, "Vital Statistics"