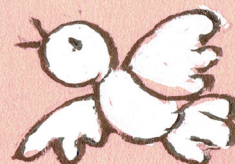


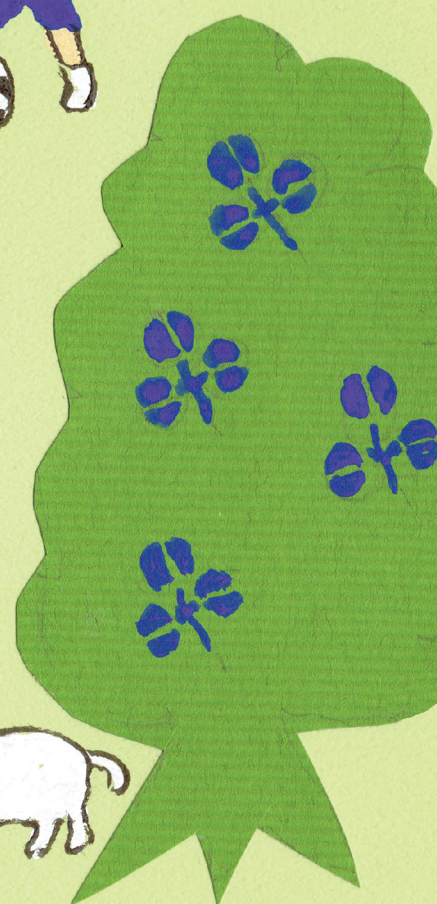
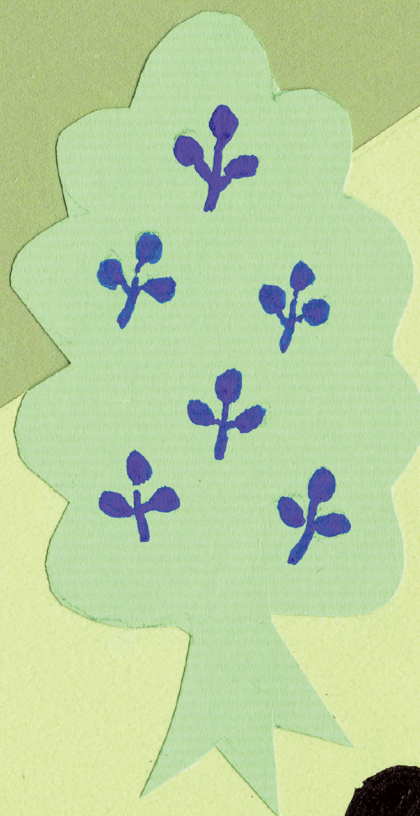


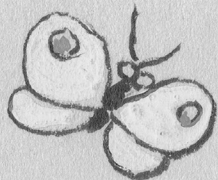
Green Watch

A Civil Society Environmental White Paper
2021



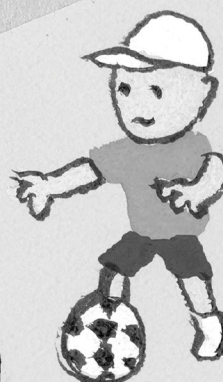
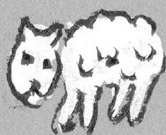
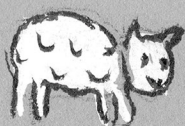
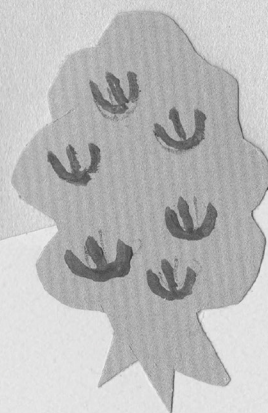
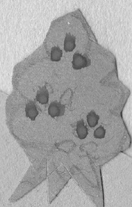
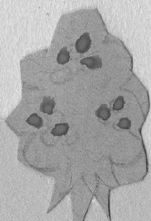
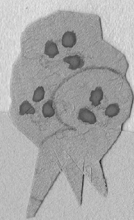
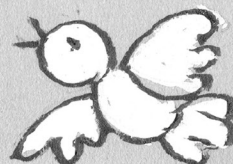
Green Alliance Japan
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A Civil Society Environmental White Paper
2021



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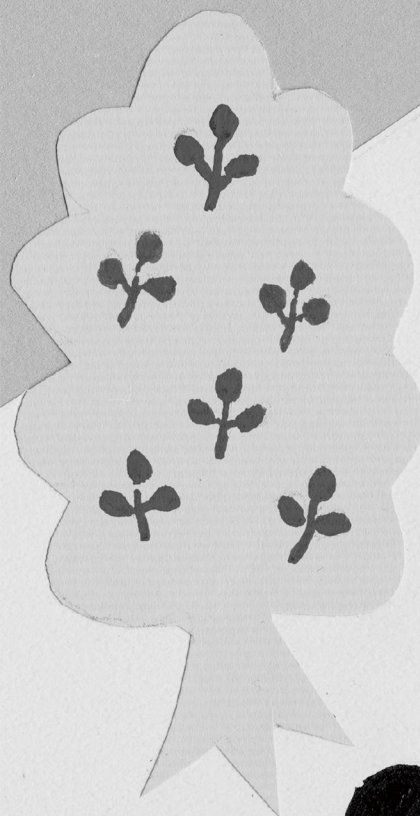


Table of Contents

Preface	2
Chapter 1. Eyes on a Decarbonised Society	9
Section 1. Responding to the Climate Crisis	9
Section 2. Current Status and Challenges of Renewable Energy and Energy Policies	11
Chapter 2. Breaking Away from Overuse	14
Section 1. COVID-19 Measures and the Dangers Lurking Behind the Excessive Use of Chemicals and the Use of Harmful Chemicals	14
Section 2. Plastic Waste Issues in the Age of Infectious Diseases	17
Chapter 3. Fukushima Today: Ten Years On	20
Chapter 4. Current Situation and Challenges of Environmental NPOs/NGOs in Japan	26
Green Alliance Japan Members Involved in Authoring Green Watch 2021 (English Version)	30
Section Authors	32

Preface

Green Alliance Japan, established on 5 June 2015, marked the start of its seventh year in June 2021. This is the sixth issue of "Green Watch", a civil society environmental white paper published by Green Alliance each year as part of our activities in analysing the current state and problems of the environment from the perspective of civil society—one that often differs from that of government—and offering suggestions on charting a course of action for better solutions.

Last year's white paper pointed out the close connection of both environmental problems and COVID-19 with the excessive pursuit of convenience and comfort in how we live and with the globalised socio-economic systems. The paper also noted that solving these issues will require individual behaviour change, as well as a major social transformation based on scientifically-sound ethical and political decisions, and on the wisdom of humankind.

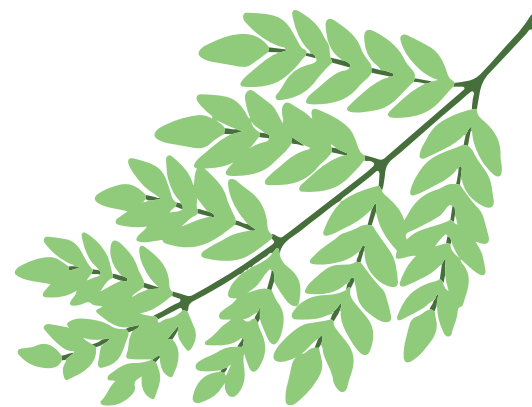
As in previous years, this year's edition of Green Watch illustrates the current state and challenges of leading environmental issues, as well as a course of action to identify solutions, but it does so by also considering the relationship between environmental problems and infectious diseases. Examples include the relationship between temperature rise due to climate change and the risk of infectious diseases, energy policies that hinder the expansion of renewable energy, current situations and measures to handle rapid increases in the amount of single-use plastic waste due to the spread of COVID-19, and health hazards and environmental impacts from the excessive use of chemicals during the pandemic. As 2021 also marks a decade after the Fukushima Daiichi accident, this issue also includes reflections 10 years on, the increasingly difficult challenge of handling the accident, as well as the current status of reconstruction efforts in the region. This report also contains the results from the "Questionnaire Survey on Activities and Challenges

of Environmental NPOs/NGOs in Japan" and provides material for considering the future of civil society in this country.

Editing the Japanese version of this white paper was a fresh reminder of the fact that not only do environmental challenges and the spread of COVID-19 stem from the same roots, but there are also similarities in the way the Japanese government has responded to these problems, which have become a considerable barrier for Japanese society.

First, the government's response focuses on measures that prioritise the economy over science-based policies.

While efforts have been made at the international level to link science to policy (for example, the IPCC compiles a report every five to six years on climate change and IPBES published a report on the degradation of the ecosystem in 2019), in the past, Japan has always prioritised immediate economic performance over science-based policies. Environmental policies have taken a back seat. The Suga administration has announced that it aims to decarbonise by 2050 and reduce greenhouse gas (GHG) emissions by 46% to 50% by 2030; however, Japan's energy policies, which are inextricably linked to climate change, remain focused on continuing to use coal-fired thermal power and nuclear power rather than reducing GHG emissions, thus ensuring the survival of major power companies and other industries. There is a strong tendency to avoid pursuing and even covering up inconvenient truths, such as the fact that no epidemiological investigations were conducted at the time of initial exposure during the nuclear accident, and that the government is considering concluding the epidemiological studies on thyroid cancer that have been carried out since the accident.



Also, during the spread of COVID-19 that has lingered on for more than a year, epidemiological tests have only been carried out on a limited scope, and economic and political considerations continue to be prioritised over strengthening measures that are rooted in science.

The government's prioritisation of the economy over science not only fails to keep pace with the rest of the world in terms of both environmental policy and infectious disease control, but also slows the sound development of related industries and heightens public distrust.

Second, the full potential of the wisdom and strength of civil society has not been utilised, nor has it spurred a drive for social transformation.

Since environmental and energy issues are closely related to our own lifestyles as citizens, these problems can only be solved with our understanding and cooperation. To date, environmental policies in Japan have been formulated mainly by a small number of people in industry, government and academia. However, it has become clear that there are limits to past initiatives led by this small group of stakeholders.

By contrast, the number of environmental NPOs/NGOs in Japan has increased in number since around 2000, with some now engaged in expert-based policy recommendations and advocacy in addition to ones focusing on local environmental conservation activities. Moreover, after the Great East Japan Earthquake and various other disasters, a spirit of volunteerism has taken hold around the country and become a major force.

Regardless, there are no mechanisms in place in Japan today that take advantage of the power of civil society and autonomy in developing policies, resulting in a situation where the strength of the people of Japan is

not being used to its full potential.

Third, it is the deterioration of ethical standards of politicians and bureaucrats that lies at the root of these problems.

Policies based on scientific perspectives, as well as the wisdom and actions of civil society, are essential for solving social issues, including environmental problems. To encourage and enable this, the ethics of those in leadership roles are critical.

Politicians and bureaucrats have a role to play here. However, demonstrated by inadequate explanations, evasive responses, fabrications and cover-ups at the Diet, such displays of irresponsibility and lack of accountability call the ethics of politicians into question. As the gap between the government and the public further widens, political leaders seem to have forgotten their mission to protect the lives and property of the people. For example, Japan's policies currently rely on uncertain technologies for decarbonisation despite clear actions that can and must be implemented immediately, demonstrating no ethical sense of our responsibility to future generations. Meanwhile, regarding nuclear power policy, housing support has been discontinued for persons who have evacuated outside Fukushima Prefecture, and policies to maintain nuclear power are being pursued even as issues with the disposal of nuclear waste remain unsolved. In terms of COVID-19 countermeasures, the lack of urgency of politicians and bureaucrats and their measures making light of medical care have only served to intensify the public's disappointment.

Given that excessive globalisation and the underlying unethical economy are two causes of environmental and infectious disease crises, a fundamental shift in policy is needed in line with the concept of "green recovery". In Japan, however, there has traditionally

been a strong tendency to simply “go back to business-as-usual”, and it appears that the country has learned little from its experience in this crisis.

In this English abridged version of the report, we tried to convey a sense of the current situation in Japan that we would like people around the world to know, rather than simply summarising the contents of the Japanese version. There may therefore be some parts of this report that require further elaboration.

Despite the differences between the two versions, we share the same hope of seeing the truth and wisdom in this report used to build a safe and secure society

where everyone can live well, able to withstand the various risks that are likely to last into the future, such as weather-related disasters and infectious diseases, and leaving a better environment and society for future generations. We hope that this is an opportunity to strengthen your connections with environmental NPOs in Japan.

Konoe Fujimura
Editor-in-Chief, Green Watch 2021



Chapter 1

Eyes on a Decarbonised Society

Section 1. Responding to the Climate Crisis

1. Anticipated climate and energy policy shifts in Japan

2020 was expected to be a milestone year for changes in Japan's climate and energy policies for two reasons. Firstly, greenhouse gas (GHG) reduction targets had been kept to an extraordinarily modest level of 26% by 2030 compared to FY2013 levels and 80% by 2050, and ambitious reduction targets consistent with the Paris Agreement had not been set, requiring more extensive targets for COP26. Secondly, the time had come for the Strategic Energy Plan to be revised, as required by law about every three years. In short, the curtain closed on 2020 with Japan taking a step forward, but with mounting challenges to be addressed.

In his general policy speech at the start of the Diet session on 26 October 2020, Prime Minister Yoshihide Suga announced that Japan would set a target of zero GHG emissions by 2050 and indicated a drastic change in policy on coal-fired power. At last, Japan positioned itself at the starting point for climate action by joining the ranks of the rest of the world in announcing that it would reduce GHG emissions to zero by 2050. This was also the first announcement indicating a fundamental shift in policy on coal-fired power.

Two months later, the Committee on the Growth Strategy, established in the Cabinet Secretariat, released Japan's "Green Growth Strategy through Achieving Carbon Neutrality in 2050". However, this report stated that Japan would face difficulties in covering all electricity demand with 100% renewable energy and recommended that the country pursue a path of expanding the introduction of thermal power presupposing CO₂ recovery, hydrogen, ammonia

co-firing, and other technologies. The report also contained the statement that Japan should pursue the use of thermal power, including coal, even by 2050. Instead of a fundamental shift in policy, nothing has actually changed. Construction of coal-fired power plants right at our doorstep is still going ahead, with fifteen new plants in Yokosuka, Kobe, and other locations expected to start operating in the future¹.

In the following year, Prime Minister Suga spelled out a "46% to 50% reduction" target for 2030 on 22 April 2021 to coincide with the US-hosted Leaders Summit on Climate. While the key point of debate was whether Japan can set a reduction target that is commensurate with an emission pathway to reduce global emissions by 45% or more compared to 2010 levels by 2030, this is not an exceptionally high target when looking at historical emissions. A reduction rate of 60% or more required from a fair and equitable perspective in the international community.

Furthermore, in discussions on the Strategic Energy Plan, no major shifts in the government's current policies were presented, despite the targets announced earlier. There have been no changes in policies on maintaining the current levels of nuclear and coal-fired power with excessive expectations placed on scientific and technological innovation. The new Strategic Energy Plan is scheduled to be finalised in the summer of 2021 and approved by the Cabinet in the fall. However, if the current direction remains unchanged, the Plan is likely to be compiled with insubstantial content including maintaining the use of coal in the future.

¹: Japan Beyond Coal, 16 Feb 2021: <https://beyond-coal.jp/> (in Japanese)

2. Public Campaign: “Ato 4 Nen” (meaning “Only Four Years to Go” in Japanese)

On 10 December 2020, Green Alliance Japan and other environmental NGOs launched a joint campaign with civic and youth groups called “Ato 4 Nen” (encompassing the idea that, with four years to go, now is the time to protect our future). Using the opportunity of revisions to the Strategic Energy Plan and the Plan for Global Warming Countermeasures in 2021, this campaign calls for a review of reduction targets to ensure consistency with the Paris Agreement and energy policies. The following five recommendations were proposed in revising the Strategic Energy Plan:

1. Climate and energy policies should be reviewed through a democratic and transparent process with the participation of youth.
2. GHG emission reduction targets for 2030 should be at least 50% compared to 2010 levels.
3. By 2030, the energy mix should contain zero coal-fired thermal power or nuclear power, with energy conservation as the top priority, and should include at least 50% renewable energy sources.

4. The use of nuclear energy should be suspended, and the expansion of new facilities and development of new reactors should be halted.
5. Japan should not depend on carbon capture and storage technologies, which are unreliable and pose issues of concern for potential social and environmental impacts.

Around the country, this campaign has mobilised the participation of 242 supporting organisations and led to 122 actions on the ground. 274,830 signatures have also been collected (as of 10 June 2021).

Unfortunately, despite demands from residents, the Japanese government has only taken feedback from the public on revisions to the Strategic Energy Plan in the form of a “suggestion box”, while discussions are taking place on a council composed of members who mostly represent the vested interests of businesses. Because of meetings held in such highly undemocratic manner, the bold changes to energy policy that Ato 4 Nen has stressed are unlikely to materialise.

3. Local responses to the climate crisis and urban development

Meanwhile, due to impacts from climate change in recent years, communities are becoming more aware of the climate crisis. As the world moves closer to decarbonisation, the number of municipalities declaring their intentions to reach net-zero GHG emissions by 2050 is on the rise, standing at 204 as of 8 January 2021. According to a report by the Ministry of the Environment, the population residing in areas that have made these declarations is over 90 million, with a GDP of over JPY 400 trillion.

However, there is a significant gap between expressed targets and current conditions of local communities, which are dependent on fossil fuels. As a result, measures and specific policies to achieve zero emissions are inadequate. Although it is becoming clearer which direction Tokyo, Nagano Prefecture and some municipalities are heading, details are still too vague to guarantee that their targets will be realised. However, some advanced cases are starting to emerge

in relatively small municipalities that are moving closer to realising the goal of decarbonisation. One such example that can serve as a guide is Nishiawakura Village in Okayama Prefecture, which aims to create a sustainable “high-quality countryside” based on its “100-Year Forest Concept”. With a population of about 1,500, the village has taken the replacement of small-scale hydroelectric power as an opportunity to install renewable energy facilities, engage in forestation activities, utilise timber, support entrepreneurs, and realise the development of district heating supply. More young people are moving into the village, and new local businesses are burgeoning. In areas with rich forest resources, it is possible to develop such decarbonised communities by taking a long-term perspective.

Following the complete deregulation of the electricity retail market in April 2016, new power companies have also emerged that are working on finding solutions

to local issues. Minna-denryoku Inc. is involved in promoting the local production of electricity for local consumption and expanding the use of energy “with a face”. TERA Energy Co., Ltd. was set up by monks in Kyoto, while Taiyo-Gas Co., Ltd. was established by a local gas company. These companies are linking the revitalisation of local communities and solutions to social issues through the business of selling power. Power producers and suppliers (PPS) are also being established with investments from municipalities, with the aim of contributing to local communities and promoting regional economic cycles.

In addition to declarations on decarbonisation, municipalities are required to formulate ordinances and policy plans that include reduction targets and paths forward to achieve net-zero emissions. They must also introduce specific policies and encourage the use of budgets or funds from the private sector to implement them. Given this, it is important for residents, businesses and local organisations to take part in this process from the stage of formulating ordinances and plans and promote collaboration and partnership with various stakeholders to implement specific activities and projects.

Section 2. Current Status and Challenges of Renewable Energy and Energy Policies

The share of electricity generated from renewable energy sources annually in Japan has increased substantially over the past 10 years, finally reaching 20% in FY2020.² This progress is, however, insufficient. There is a need to greatly revise targets for introducing renewable energy power by 2030 in the country’s Strategic Energy Plan, which is currently under review. The council at the Ministry of Economy, Trade and Industry (METI) has proposed a renewable energy target of 36% to 38%, but has left in place an unrealistic target of 20% to 22% for nuclear power. As a result, a number of environmental NGOs and civil society are proposing to make the entire share of non-fossil fuel energy (60%) powered by renewables, and going even further by proposing a renewable³ energy target of 100% by 2050. The Japanese business sector is also proposing a renewable energy target of 40% or higher by 2030, and there is a growing trend by companies to aim for 100% renewable energy.

By the end of 2020, the total installed capacity of photovoltaic power in Japan was about 70 GW, the third largest in the world after China and the U.S.⁴ With this capacity, the amount of electricity generated

annually by photovoltaic power in FY2020 was about 9%, over 20 times higher than in FY2010. The share of wind power was almost double that in FY2010, eventually reaching only around 1%, or about one-tenth of the share of photovoltaic power. Only about 4 GW has been installed however because of long, drawn-out procedures for environmental assessments and delays in the development of power grids in suitable areas, such as Hokkaido, that have great potential for renewable energy. Conversely, by the end of 2020, the installed capacity of wind power projects that are undergoing environmental assessment procedures, including offshore wind power, reached or surpassed 30 GW. With the launch of the Act on Promoting the Utilization of Sea Areas for the Development of Marine Renewable Energy Power Generation Facilities, under which the government will coordinate areas where offshore wind power will be installed, a collaborative vision between the public and private sector has been formulated for the offshore wind power industry. This vision shares the aim of developing projects that generate 10 GW of power by 2030. Meanwhile, biomass power rose to a 3.2% share of the amount of electricity generated

²: ISEP “Share of Electricity Generated from Renewable Energy in 2020 (Preliminary Report)” <https://www.isep.or.jp/en/1075/>

³: This target is based on the premise of reducing the share of nuclear and coal-fired thermal power to zero. Note that, if significant energy efficiency improvements are realised, civil society organisations propose a renewable energy target of at least 50%.

⁴: REN21 “Renewables 2021 Global Status Report” <https://ren21.net/gsr/>

annually, almost triple the amount generated in FY2010. However, sustainability standards are being established, as more than 70% of certified biomass power generation facilities use wood and agricultural residue (PKS and palm oil) from overseas as fuel, raising sustainability concerns regarding imported biomass fuel (especially liquid biomass such as palm oil).

Although a review of the Strategic Energy Plan raised the principle of making renewable energy a top priority and established a direction positioning renewables as the main power source, there are many issues to be addressed. These issues include individual measures (bidding systems for solar power, requirements for the local utilization of self-consumption, feed-in-Premium (FIP) schemes, etc.) forming a patchwork response to the inadequacies of initial policies that were exposed by the rapid increase in photovoltaic power following the introduction of feed-in tariffs (FIT). In the wake of the Great East Japan Earthquake on 11 March 2011, the transition to sustainable energy systems has been in the pipeline, but despite addressing various challenges with electricity systems and markets, medium- to long-term targets and roadmaps have not yet been set at the national or local levels. Still, it is essential to make that shift to a decentralised energy system with different local resources. The government, with the Ministry of the Environment in a key role, is working on drawing up a roadmap for local decarbonisation and promoting actions to create "Regional Circulating and Ecological Spheres"⁵. There is an immediate need to develop roadmaps and mechanisms for the long-term use of 100% renewable energy at the national and local levels and to view the development of infrastructure for this purpose from a long-term perspective, including in the heating and transportation sectors, as well as tailoring stakeholder-led initiatives to the characteristics of each area.

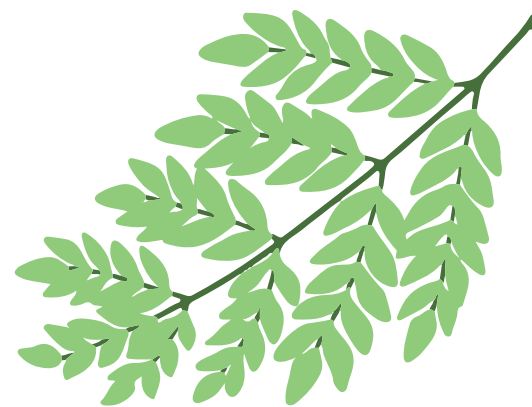
However, if we look at what has actually changed as a result of reforms to electricity systems that have taken place over the past six years since 2015, or whether there has been any progress in moving

towards a renewable energy-oriented society, we find that, in reality, the system of control has remained mostly intact in the hands of major electric power companies (former general electric utilities) with traditional centralised power supply systems at their core. A number of challenges have emerged amid the complete deregulation of the electricity market, including the creation of new capacity markets to support nuclear and coal-fired thermal power.

The principle of free competition are expected to come into play as electricity system reforms move forward, allowing for more economical power generation methods to be selected. Electricity generated from renewable energy sources that do not incur fuel costs are expected to be sold first in the wholesale electricity market, making it more difficult for electricity generated from fossil fuels with high fuel costs (especially natural gas) to be sold. Coal-fired thermal power are expected to become a "stranded asset" in the future, pressed by international demand for decarbonisation. Moreover, there is an assumption for nuclear power that regional monopolies and rate of return regulations will guarantee a return on investment; in other words, costs will be recouped from all consumers in small amounts over a broad scale. However, this premise has been undermined by reforms. Thus, nuclear power plants, which incur huge costs for reprocessing spent nuclear fuel and paying for compensation for nuclear accidents, should also become obsolete if left to economic principles.

However, contrary to this line of thinking, the national government has actually positioned nuclear and coal-fired thermal power as "important baseload power sources" and is in the process of developing systems to protect these power sources financially even in the competitive environment resulting from electricity system reforms. One such system that was decided in 2017 is the use of a wheeling charge to recover some of the costs involved in compensation for the Fukushima Daiichi Nuclear Power Plant accident, as well costs for decommissioning nuclear power plants in different areas. This scheme is designed to force the victims of nuclear accidents, consumers who do not choose major electric power companies that

⁵: Ministry of Environment "Annual report on the Environment, the Sound Material-Cycle Society and Biodiversity in Japan 2019" <http://www.env.go.jp/en/wpaper/2019/index.html>



use nuclear power, and even future generations, to shoulder the burden of compensation that should be paid by the power provider responsible for the plant, the Tokyo Electric Power Company (TEPCO). The government arrived at a decision to start implementing this system from October 2020, despite strong opposition. The new electricity market introduced between 2019 and 2020 is yet another measure put in place to support major electric power companies. Specifically, this entails the introduction of a “baseload market” that prioritises nuclear and coal-fired thermal power; the establishment of a “non-fossil fuel energy value trading market” (where power sources other than fossil thermal power, such as nuclear power or renewable energy via FIT and non-FIT schemes, are certified as “non-fossil power sources” and “non-fossil energy value” is traded in the form of certificate separately from electricity); and the formation of a nominal “capacity market” to secure power capacity in four years’ time. The capacity market in particular is a mechanism where money is paid for the value of installed capacity (kW) in the future (four years from now), which is then recouped from retail electric power providers. Even though major electric power companies pay for this in the retail sector, overall, their burden is light because they can secure the same level of income as in the past in the power generation sector, using the ageing, large-scale power plants they already own. In contrast, new retail electric companies that mainly provide renewable energy that do not have large-scale power plants must pay and shoulder a considerable load. Furthermore, these three new markets have caused more money to flow in the form of “maintenance and equipment replacement costs” into ageing nuclear power, coal-fired thermal power and large-scale hydroelectric power plants that should already have recouped their investments. A considerable number of these ageing power plants

are owned by major electric power companies, so this increasingly strengthens the oligopoly of these large companies and runs counter to both deregulating the electricity market and introducing renewable energy.

With the complete deregulation of the electricity retail market in 2016, a number of retail electric companies have entered the electric power retail business (approximately 700 companies as of February 2021). With a looming sense of crisis, major electric power companies tried to recover lost ground by offering substantial discounts, and as a result, local retail electric companies aiming to supply renewable energy found themselves under threat without exception, forced to win back contracts and squeeze operations in order to keep prices down as low as possible. The comeback of major electric power companies between FY2018 and FY2019 has been notable, particularly in contracts with well-established local companies, large corporations and municipal public facilities. Starting with how local retail electric companies will be able to overcome the blow of a hike in electricity market prices in the winter of 2021, the next few years will be crucial in terms of whether local retail electric companies can survive with the difficulties they will face, from how they can overcome the challenges of the capacity market from FY2024 to how they can promote local energy procurement and supply.



Chapter 2

Breaking Away from Overuse

Section 1. COVID-19 measures and the dangers lurking behind the excessive use of chemicals and the use of harmful chemicals

1. Markets flooded with disinfectants, sanitisers, anti-bacterial and anti-viral products

Battered by the COVID-19 pandemic, 2020 was a year spent taking measures to fight against the virus. The Japanese government issued broad recommendations to the public to wear masks, maintain a certain distance away from other people, avoid the “Three Cs” (closed spaces, crowded places, close-contact settings), and disinfect their hands and objects. Even before the public health emergency, many Japanese people, with attentiveness to hygiene and cleanliness,

had a habit of using a number of sterilising and disinfecting products on a daily basis. However, the use of these products has spiralled with the COVID-19 pandemic, the market now flooded with disinfectants, sanitisers, and anti-bacterial and anti-viral products claiming to be effective in preventing infection. And yet, many of these products contain unknown concentrations and ingredients, have not been proven to be safe or effective, or contain harmful additives.

2. Defining disinfectants, sanitisers, anti-bacterial and anti-viral products and the current status of laws and regulations

Disinfectants and other products are defined as follows.

According to the Japanese Ministry of Health, Labour and Welfare, “disinfecting” refers to the act of “inactivating bacteria and viruses”. When used as a descriptor for hand-sanitising products, the term “disinfectants” can only be applied to pharmaceuticals, quasi-pharmaceutical products, or designated quasi-pharmaceutical products (all of which are regulated under the Pharmaceuticals and Medical Devices Act), according to the Act on Securing Quality, Efficacy and Safety of Products Including Pharmaceuticals and Medical Devices (hereinafter referred to as the “Pharmaceuticals and Medical Devices Act”, under the jurisdiction of the Ministry of Health, Labour and Welfare).

Conversely, while not legally defined, “sanitising” is commonly understood to be the act of reducing the number of microbes that can multiply from an object through a physical, chemical, or biological action

(Detergent and Soap Fair Trade Council).

Although there is no legal definition for these terms, “anti-bacterial” and “anti-viral” generally mean to inhibit the growth of bacteria and viruses.

With the exception of pharmaceuticals, quasi-pharmaceutical products, and designated quasi-pharmaceutical products under the Pharmaceuticals and Medical Devices Act, products labelled with the above descriptors are handled as “miscellaneous products”, even though there are no legal regulations in place to examine their efficacy and safety.

In addition to the Pharmaceuticals and Medical Devices Act (Ministry of Health, Labour and Welfare), product labelling falls under the vertical jurisdiction of the Household Goods Quality Labelling Act (Ministry of Economy, Trade and Industry, Consumer Affairs Agency), Act against Unjustifiable Premiums and Misleading Representations and the Health Promotion Act (Ministry of Health, Labour and Welfare, Consumer Affairs Agency). However, there are

quite a few products that are not required to specify ingredients or contents on their labels. Worse yet, there is an innumerable number of products that are labelled illegally, claiming to be effective in preventing COVID-19 infections.

On the matter of labelling of “healthful food” and sanitising products that claim to be effective in preventing COVID-19 infections, the Consumer Affairs Agency has repeatedly issued warnings to the general public and requests for revision to businesses, citing a lack of objectivity and rationality,

and possible violations of the provisions of the Act against Unjustifiable Premiums and Misleading Representations and the Health Promotion Act’s provisions on grounds of false or exaggerated representation on food labels. However, new and similar products continue to be launched on the market. Further, although announcements have been made about administrative guidance issued by the Consumer Affairs Agency, the names of specific products and businesses have not been disclosed. It is clear that information provided to consumers is inadequate.

3. Problems with disinfectants, sanitisers, anti-bacterial and anti-viral products

(1) New products other than soap and alcohol (ethanol) continue to be released on the market, but the ingredients, efficacy and safety of many of these products are unknown

Simply washing your hands with soap is a good way to sanitise and eliminate viruses. If someone is not able to wash their hands immediately, hand sanitiser with an alcohol concentration of 70% to 95% is effective.

However, as rubbing alcohol ran out of stock in the early months of the COVID-19 pandemic, products listing sodium hypochlorite and benzalkonium chloride as active ingredients became available as substitutes. This also led to a flood of new products containing ingredients such as hypochlorous acid water, chlorine dioxide, and chlorous acid water being released on the market as hand sanitisers, as well as sanitisers for objects and spaces. All are sold as “miscellaneous products”, and therefore, are not required to list their ingredients on labels, nor are they reviewed for efficacy and safety. However, this makes it difficult for consumers to make informed decisions when choosing products, as some are advertised industry-wide on company websites as “scientifically-proven” to work. It is not uncommon to fall for advertising claims and purchase products with unknown ingredients or where efficacy and safety is uncertain.

(2) Considerable number of spray products for spaces

As is generally known, the efficacy of sanitisers for spaces has not yet been confirmed. Spraying sanitisers in spaces where people are present may be harmful to health and is “not recommended under

any circumstance” by WHO. However, a considerable number of sanitisers for spaces have recently been released on the market and are being used in stores and homes. Some are deodorisers and air purifiers, and there are concerns regarding the health effects of prolonged inhalation of these products.

(3) Concerns about adverse effects on human health and ecosystems from the excessive use of disinfectants and other products

These and other disinfectants have been proven to be effective in breaking down the lipid membranes and proteins of viruses, but may also break down the membranes and proteins of human cells. Excessively disinfecting and sanitising hands can lead to a change in skin microbiota – specifically, the loss of native bacteria that helps protect the skin, resulting in skin irritations and aggravations of atopic dermatitis. Normally, bacterial and viral pathogens are not transmitted through the skin, but there is a risk that viruses can infect a person by entering the body through severe skin irritations and wounds. Although there is a considerable number of beneficial indigenous bacteria in the oral cavity, excessive gargling with products containing disinfecting agents can reduce the number of this indigenous bacteria and damage the mucosal system, which in turn, can increase the risk of infection.

In order to prevent the risk of infection from COVID-19, it is important not only to inactivate the virus by disinfecting and sanitising, but to also boost the immune system. The excessive use of disinfectants, however, may actually alter intestinal flora and

weaken the immune system. Interaction with well-balanced intestinal flora must take place for immune cells to work properly. According to a recent study in China, faecal samples from individuals hospitalised for COVID-19 were found to lack several species of the beneficial bacteria present in healthy people. In particular, patients who lacked a certain species of beneficial bacteria that produce butyric acid have been reported to exhibit more severe symptoms.

Furthermore, many of the active ingredients in these disinfectants and other products are highly toxic to aquatic life. Even before the COVID-19 pandemic, research papers had been published warning of the adverse impacts of disinfectants released from

hospitals and other facilities on ecosystems. Large quantities of disinfectants and similar products are now being used on a daily basis to prevent the spread of COVID-19 not only in hospitals, but also in stores, schools, and residences, and released into the environment. The serious impacts on ecosystems from the use of these products pose significant concerns.

From this perspective, it is important that proper disinfectants are used correctly (in terms of amount and frequency). According to the WHO, the primary transmission route of COVID-19 is via droplets or aerosols, not through contact. Therefore, the use of disinfectants and other products for objects and spaces should be kept to a minimum.

4. Recommendations to the government

In light of the points discussed above, we recommend that the government take the following two actions as soon as possible.

(1) Establish a centralised system to disseminate information on disinfectants and other products in the Novel Coronavirus Response Headquarters (at the Prime Minister's Office)

As already mentioned, disinfectants and similar products are currently vertically segmented and controlled by several ministries and agencies. The Ministry of Health, Labour and Welfare, Ministry of Economy, Trade and Industry and the Consumer Affairs Agency have jointly set up a special website to provide information on disinfection and sterilisation methods for COVID-19. While the joint dissemination of information by the three ministries is in and of itself admirable, the website contains no specific product information, and the content is not necessarily easy for consumers to understand. Moreover, the disclosure of information of products advertised and promoted by businesses online and in TV commercials is one-sided, with hardly any information on adverse effects or risks. The reality is that the public chooses and purchases products with little understanding of the problems that can arise from their use.

In the midst of the COVID-19 pandemic, it is crucial to provide information that will help the public choose the correct methods of preventing infection through the use of disinfectants and sanitisers. The

government has set up a "Response Headquarters" and established an expert panel to discuss COVID-19 countermeasures. A centralised system to disseminate easy-to-understand information on disinfectants and similar products should also be set up by the Response Headquarters as soon as possible, following discussions by the expert panel.

(2) Quickly introduce centralised regulations on the use of biocides

As mentioned above, disinfectants/sanitisers other than pharmaceuticals under the Pharmaceuticals and Medical Devices Act are handled as "miscellaneous products". Although there are regulations in place on labelling such products, these are vertically segmented and controlled by multiple ministries and agencies. There is also no system in place to examine the efficacy and safety of these products. However, since these ingredients have the ability to kill, inactivate, reduce or inhibit the growth of bacteria and viruses, they may not only affect bacteria and viruses, but also have impacts on human health and ecosystems. Given these potential risks, it is advisable to manage them in a centralised and comprehensive manner.

Therefore, following a sweeping review of existing legislation, a new centralised control system should be established for these products so that they are not regulated simply by the type of application, but base centralised and comprehensive control of substances on their biocidal effects.

Section 2. Plastic Waste Issues in the Age of Infectious Diseases

In order to find solutions to the array of problems associated with plastics, there is a need for consumers who have the “right to choose” to take their own initiatives in untangling these challenges, as well as for public administration, including the national government, to establish systems and for the businesses to innovate technologies. This chapter will introduce examples of reusable containers and packaging in Japan in light of the current state of single-use plastics, which is on the rise due to concerns regarding the spread of infectious diseases.

(1) Rapid increase in takeout and delivery

Our lives have been dramatically upended due to the spread of COVID-19. The restaurant industry in particular has seen a rapid increase in the number of establishments that have started new takeout and delivery services. In a survey, 54.7% of restaurants responded that they have started to offer takeout services because of the effects of COVID-19⁶, while in another survey, 40.1% of users reported an increase in their use of takeout services⁷.

(2) Increased use of single-use plastics as a consequence of infection prevention measures

Non-woven masks, gloves and gowns used to prevent droplet infections are all plastic products that are typically used once and then discarded. Partitions used to reduce droplet infections are similarly made of plastic.

According to the Ministry of Economy, Trade and Industry, domestic production of plastic foam products, including food trays, increased by 6.7% in April 2020 compared to the same month of the previous year. Additionally, domestic production of film for packaging, such as plastic bags, increased by 3.5% in April compared to the same month of the previous year, marking an increase for the first time in nine months⁸. Just as a number of local governments and businesses were starting to take steps to reduce the amount of plastic in response to growing concerns about plastic waste, demand for single-use plastic products is rising in response to preventing the spread of infectious diseases, thereby dampening reduction efforts.

Examples of reusing containers and packaging, and some recommendations

(1) Consumer behaviours for a new age

In order to identify fundamental solutions to the increasing amounts of waste, especially plastic, caused by infection control measures, research on recycling technologies and methods of utilising recycled resources are being examined. However, in tandem with this, citizens must take concrete steps to reduce and reuse plastic at a speed that will likely outpace such research and studies. Single-use containers, which consumers generally consider to be hygienic, can still be sources of infection among those responsible for disposal, collection and treatment processes if adequate care is not taken.

The international environmental NGO, Greenpeace, released a statement on 22 June 2020 signed by 119

health experts from 18 countries stating that reusable products (reusable containers and packaging, such as personal tumblers and bags) are safe, even amidst outbreaks of COVID-19. The statement indicated that, in order to prevent the transmission of infectious diseases via objects and contact surfaces, it is important to consider any object or surface – reusable or disposable – in public spaces as potentially contaminated with the virus and that single-use plastic may not be inherently safer than reusable products. Even in this pandemic, there is room for innovating responses to reducing the number of single-use containers, and a properly-managed system for reuse can be viewed as an effective means of addressing both plastic waste and infectious disease control.

6: <https://prtimes.jp/main/html/rd/p/000000045.000014754.html> (in Japanese)

7: <https://corporate.gnavi.co.jp/release/2020/20200521-019310.html> (in Japanese)

8: <https://www.nikkei.com/article/DGXMZO62867880Q0A820C2EE8000/?unlock=1> (in Japanese)

(2) Examples of reuse

Reusable container sharing services have also started up in Japan. Loop, a circular shopping platform offered by TerraCycle in the US, is a system that sells products in reusable containers, collects and cleans these used containers, refills the products, and then puts them back on the market. Sales started in March 2021 targeting 5,000 households, mainly in Tokyo, and at some AEON stores⁹. In December 2020, TerraCycle also launched “Loop Takeout Bento”, a service selling takeout lunch boxes and prepared foods using reusable containers¹⁰.

Meanwhile, “Re&Go” is a sharing and multi-use container service jointly developed by Nissha and NEC Solution Innovators. A demonstration project for “Re&Go” was conducted in Okinawa Prefecture (from December 2020 to February 2021). After registering for the service on the social media application LINE, users can purchase takeout in reusable containers from participating stores and return the containers to these stores. In addition to local cafes and restaurants, Starbucks Coffee Okinawa Yomitan store is also taking part in this initiative¹¹.

Municipalities are also making efforts to reduce and reuse the single-use plastics that have multiplied over the course of the pandemic. In May 2020, Maniwa City in Okayama Prefecture launched an “Eco-Takeout Promotion Project”, in which reusable tableware from city facilities that are closed because of the pandemic is provided to restaurants to be used for takeout services. Kyoto City also offered subsidies for switching to reusable tableware for delivery and takeout containers.

(3) Recommendations: Taking a whole-of-society approach to solving challenges

Although some measures provide clues to solving challenges, the following measures in each stakeholder must be taken to expand these trends to all of society.

(1) Public administration and municipalities

It is important to reduce the amount of waste generated in communities before developing infrastructure that may put pressure on finances and cause social problems, such as ageing waste disposal (incineration) facilities and strains on final disposal sites, in the future. Therefore, economic and institutional support must be provided to encourage local shops and other establishments to be proactive in using reusable containers. Mobility services must also be involved to handle collection, as well as facilities in the community, if any, that may be able to serve as cleaning sources for reusable containers.

(2) Businesses

With the design of highly recyclable products and replicable business models expected in arterial industries, the manufacturing industry should not limit its consideration to products, but should extend it to containers, packaging, wrapping, and other items that can become waste after use, requiring that distribution be “optimised” in the true sense of the word by utilising reuse systems.

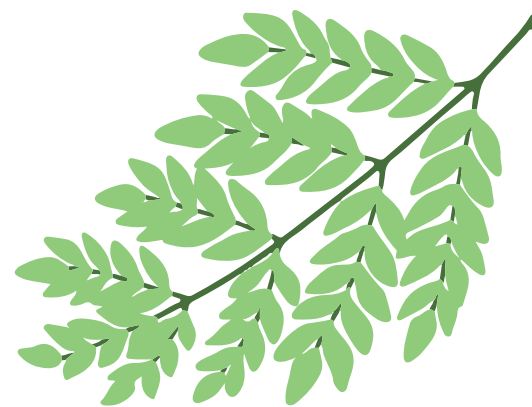
(3) Civil society

In a circular economy model, the consumer is not the final destination of a product (including its accompanying container, packaging and wrapping), but is the starting point of a new cycle. We as consumers must fully understand the intentions of the measures taken by the public administration and businesses, and shift to lifestyles and ethical consumption patterns that fulfil our responsibilities.

⁹: https://s3.amazonaws.com/tc-global-prod/download_resources/jp/downloads/14242/Loop_Loop_Website_Launch_20201229.pdf (in Japanese)

¹⁰: https://s3.amazonaws.com/tc-global-prod/download_resources/jp/downloads/13784/Loop_ObentoProjectStart_Press_Release_20200928.pdf (in Japanese)

¹¹: https://www.nissha.com/news/2020/11/24_024.html (in Japanese)



Column: NGO proposal on creating a social system independent of plastic

The “Act on Promotion of Resource Circulation for Plastics” was enacted in June 2021 and is scheduled to take effect in April 2022. This Act sets out the following three basic policies in order to comprehensively strengthen resource circulation systems for plastics and to take measures for promoting efforts for resource circulation for plastics targeting all entities involved in the entire lifecycle of plastic-containing products ranging from design to waste disposal.

- (1) Plastic waste reduction and design of plastic-containing products contributing to recycling¹²
- (2) Rational use of single-use plastic
- (3) Sorted collection, voluntary collection and recycling of plastic waste

On the other hand, civil society groups, including members of the NGO Network “Realizing a Reduced Plastic Society” announced their draft proposal on the “Basic Act for Promoting a Plastic-Free Strategy” to promote strategies for achieving zero leakage of plastics into the natural environment and zero single-use plastics in principle by 2030, with the aim of building a society that is not dependent on newly-produced virgin plastics by 2050¹³.

This NGO proposal first calls for a drastic reduction in the total production of plastic products, mainly containers and packaging. It emphasises that a system guaranteeing recycling, which includes the reuse of those products that cannot be immediately reduced, will be essential. To that end, it will be necessary to create a socioeconomic system based on strengthening the concept of extended producer responsibility.

The government’s enacted legislation is based on “thorough reduction through the active use of alternative products” and “promoting collection and recycling based on the premise of mass disposal”, both of which pose risks that could lead to new environmental problems. The concern is that the legislation does not require a shift away from a “mass production, mass consumption and mass disposal” model of society, which lies at the heart of this issue. In addition, the current government Act does not address the introduction of measures to prevent adverse effects caused by toxic chemicals or the establishment of a framework for global-level solutions, both of which are needed. Therefore, it is necessary to keep a cautious and close watch on future developments.

¹²: <https://www.env.go.jp/press/109195.html> (in Japanese)

¹³: <https://www.wbsj.org/press/img/pla-gaiyou210212.pdf> (in Japanese)



Chapter 3

Fukushima Today: Ten Years On

It has been ten years since the explosion at the Fukushima Daiichi Nuclear Power Plant. Although work to decommission the ravaged power plant presses on, the more time passes, the more apparent the difficulties in the decommissioning process become. Tokyo Electric Power Company Holdings Inc. (TEPCO) revised its “Mid- to Long-term Roadmap” for decommissioning the plant in December 2019, and in this fifth revision, the period for completing the removal of spent fuel from fuel pools was extended by 10 years to 2031. The plan is to complete the removal of fuel from fuel pools in Units 1 through 6 by this time. So far, the process of removing fuel has been completed in Units 3 and 4. Moreover, the plan called for fuel debris¹⁴ to start being removed in 2021; however, due to manufacturing delays in the UK caused by the COVID-19 pandemic, this was delayed until 2022. The “Mid- to Long-term Roadmap” only specifies a starting date; no completion date is mentioned. Difficulties in removing fuel debris and Corium stem from the fact that the details on their location and their chemical form in the plant are still unknown, and survey equipment with strong resistance to high radiation levels is still being developed. In light of this, with no foreseeable date for completion, it is not hard to imagine that this process will take even more time. Despite this,

decommissioning measures are set to finish between 2041 and 2051 because Fukushima Prefecture has determined that drawn-out decommissioning plans, including the construction of a sarcophagus¹⁵, is inconsistent with reconstruction as set out in the prefecture’s basic principle of a “coexistence of reconstruction and decommissioning”. In consequence, the ending period for decommissioning cannot be formally delayed.

On a related note, the Roadmap does not specify the state in which decommissioning measures will end. While reactor buildings are expected to be dismantled, it is not clear how the estimated 780,000 tonnes of radioactive waste¹⁶ will be handled, nor have discussions on these points moved forward. Fukushima Prefecture is on a quest to clear the land so that no radiation remains, requiring the site to be renovated and radioactive waste to be removed from the site (outside the prefecture). However, realistically, it is unlikely that other municipalities will take in this radioactive waste. Given these challenges among others, discussions on the final structure of the Fukushima Daiichi Nuclear Power Plant site should take place with the participation of various stakeholders.

1. Problems with releasing contaminated water into the ocean

From the Roadmap, which presumes a maximum of 40 years to complete the decommissioning process, it is clear that the continued storage of contaminated water is seen as being problematic. TEPCO and the Ministry of Economy, Trade and Industry (METI) claim that there is scant space available for the installation

of additional storage tanks for contaminated water when considering the difficulties of long-term storage and waste storage buildings and other facilities that will be required in the future for decommissioning the plant.

¹⁴: According to the Ministry of Economy, Trade and Industry (METI), “During the accident at the NPS in March, 2011, nuclear fuel melted down and mixed with various pieces from structures which solidified inside the reactor. This is referred to as “fuel debris.” See <https://www.enecho.meti.go.jp/en/category/special/article/fukushima.html>.

¹⁵: A stone coffin around the reactor buildings, as seen in Chernobyl.

¹⁶: “Waste Management from the Perspective of International Standards”, Review Committee on Decommissioning of the Fukushima Daiichi Nuclear Power Station, Atomic Energy Society of Japan, July 2020.

The national government announced a Cabinet decision on its long-standing policy of releasing contaminated water into the ocean on 13 April 2021, positioning it as a clear-cut basic policy. This has also been inserted into the draft of the 6th Strategic Energy Plan that is currently being formulated. The national government does not use the term “contaminated water” and has used “treated water” to refer to water stored in tanks that exceeds regulatory standards and that will be treated again by ALPS (Advanced Liquid Processing System). Only water that has been subjected to secondary treatment is referred to as “ALPS treated water”¹⁷.

Unsurprisingly, fishermen and other agricultural and forestry groups oppose the release of this water into the ocean. To date, TEPCO and METI have communicated a written statement with fishermen groups in Fukushima Prefecture, informing them that “no action would be taken without the understanding of all involved”. However, the Cabinet decision was reached without the consent of these stakeholders, and opposition has grown even stronger since, not only from the Fukushima Prefectural Federation of Fisheries Co-operative Associations (JF Fukushima) but also from a nationwide federation of Japan Fisheries Co-operatives (JF Zengyoren) and Fukushima Cooperative Council for the Promotion of Local Production for Local Consumption (which is made up of 22 organisations including JF Fukushima, Japan Agricultural Co-operative (JA) Fukushima, and Japanese Consumers’ Co-operative Union (Co-op) Fukushima).

Following the Cabinet decision, the government has been working on initiatives to strengthen understanding after the fact, investing JPY 280 billion over the next two years¹⁸ into awareness-raising. Efforts should have been made to gain the understanding of stakeholders before the Cabinet decision was reached. The procedure for deciding this

was the exact opposite of what had been promised, leaving the government open to criticism for violating their commitment.

Information on the implementation of releasing water into the ocean is slowly coming to light. According to TEPCO, roughly 140 m³ of contaminated water is generated per day (as of 2020), depending on the amount of rainfall¹⁹. If this continues, storage tanks will reach full capacity of 137 million m³ in about two years. After a second round of treatment, nuclides other than tritium will fall below regulatory standards, and tritium can also be released after it is diluted from the post-treatment level of 730,000 becquerels per litre to 1,500 becquerels per litre. TEPCO has also announced that the volume of tritium to be released annually will be 22 trillion becquerels or less, and the amount of water discharged daily shall be 500 m³ or less. On 25 August 2021, TEPCO announced that it would release the treated water from locations 1 km offshore through installing a drainage pipe²⁰. Details are not yet known because TEPCO has not applied for a permit to the Nuclear Regulation Authority.

Based on the logic that ocean water will dilute the concentration of radioactive substances released, TEPCO and METI reiterate that this practice is safe and that the risk of radiation exposure is minimal. However, citizens have expressed concern that, since all of the radioactive material found in the treated water is released, this practice will lead to radiation pollution of the marine environment. To date, the authorities have not released any information on how much of each nuclide will be released.

Given these concerns and contrary to TEPCO and the government, citizens’ groups are proposing that the contaminated water be solidified into cement, as well as continuing to be stored in additional tanks for the foreseeable future²¹.

17: https://www.meti.go.jp/english/press/2021/0413_004.html

18: https://www.reconstruction.go.jp/topics/main-cat1/sub-cat1-4/20210422-30_san-yosan.pdf (in Japanese only)

19: <https://www.tepco.co.jp/decommission/progress/watermanagement/> (in Japanese only)

20: <https://www.tepco.co.jp/en/hd/newsroom/press/archives/2021/pdf/210825e0101.pdf>

21: “Statement: The national government should not release ALPS treated/contaminated water from the Fukushima Daiichi Nuclear Power Plant into the ocean. The contaminated water should be managed and disposed of responsibly on land over the long term”, Citizens’ Commission on Nuclear Energy, October 20, 2020. http://www.ccneja-pan.com/wp-content/uploads/2020/10/20201020_CCNE.pdf

2. No progress on the return of young people and the fragile future of municipalities

Although the national government has lifted evacuation orders and is encouraging people to return to their homes, the rate of return is low because too much time has passed and concerns regarding exposure to widespread radioactive materials remain. Notably, the rate of return is even lower among the younger generation, as many have started new lives in the areas where they had evacuated.

Restrictions have been lifted gradually in hazardous zones (those within a 20-km radius from the power plant) and areas under evacuation orders set as of 1 April 2011, with the towns of Okuma, Futaba, most of Namie and parts of Iitate Village currently designated as “difficult-to-return zones”. The following conditions must be met for evacuation orders to be lifted: (1) the annual cumulative dose as estimated by the air dose rate is confirmed to be 20 millisieverts (mSv) or less; (2) infrastructure required for daily life and lifestyle-related services (medical and nursing care, postal services, etc.) have mostly been restored, and there has been sufficient progress in decontamination work primarily in environments where children live; and (3) there has been adequate consultation with the prefecture, municipalities and residents.

In difficult-to-return zones, it is only designated areas with specific reconstruction and revitalisation plans that are targeted for decontamination. Evacuation orders for these areas will be lifted five years after this designation, after which these areas are deemed habitable.

In Iitate Village, the district of Nagadoro had lingered on as a difficult-to-return zone. Under the reconstruction and revitalisation plan for this area, farmland is covered with contaminated soil generated by decontamination work in the village²² and overlaid with non-contaminated soil to revive farming. Contaminated soil containing up to 5,000 Bq/kg of Cesium is already being used in Iitate Village. Initially, the plan was to grow non-edible flowering plants, but as farmland became available, plans

moved towards the cultivation of edible plants, such as cabbage, potatoes and beans under the pretext of experimentation. Speculating that few residents would return to the village to farm, then Mayor of the village, Norio Kanno (who retired on 19 October 2020; hereafter referred to as Former Mayor), pushed ahead with the project by establishing an agricultural corporation.

Former Mayor Kanno also laid out plans for the development of cultural facilities, including the establishment of new parks outside of the designated reconstruction and revitalisation zone in the Nagadoro district, and requested that the national government lift the designation as a difficult-to-return zone, even without decontamination. In response to this request, the national government decided on 25 December 2020 to lift restrictions without requiring decontamination to be completed as a special measure to allow the land to be used as long as there are no residents. The current Mayor of the village, Makoto Sugioka, however, has maintained a cautious stance on lifting restrictions, saying that he wants to “confirm the intentions of residents with his own eyes and ears before making a decision”²³.

In this way, evacuation orders have been lifted for the entire village of Iitate, but as of 1 November 2020, only about 20% of the population has returned to the village.

The Reconstruction Agency conducts an annual survey to gauge local sentiment. However, the survey has not been carried out in Iitate Village since 2017, and Kawamata Town, Tamura City, Kawauchi Village and Naraha Town, where evacuation orders have been lifted for all areas, have not been surveyed since restrictions have been removed. Questionnaires for this survey are distributed to households and answered by the representatives of those households, so the exact number of people who have returned to these areas is not known.

²²: For reference, radiation levels in Chiba Prefecture, which has remained relatively unaffected by the nuclear disaster, remain much lower than 1,000 Bq/kg. <https://www.affrc.maff.go.jp/docs/press/pdf/110830-22.pdf> (in Japanese only)

²³: Tokyo Shimbun, 9 February 2021. <https://www.tokyo-np.co.jp/article/84857> (in Japanese only)

Aggregated data from six towns and villages (Tomioka, Futaba, Katsurao, Namie, Okuma and Kawamata) are highlighted below, based on survey results released on 19 March 2020. Of 23,817 households across the six jurisdictions, responses were received from 10,591 for a response rate of 44.5%. Approximately 662 households returned to their original areas of residence for a return rate of 6.2%. These towns and villages contain difficult-to-return areas, with large swaths of land unavailable in Futaba, Namie and Okuma in particular, so it is not surprising that the percentage of people returning to these areas is low. This rate is even lower for those under 40; overall, 60% to 70% of the population that has returned is 60 or older. Haramachi ward and one part of Odaka ward in Minamisoma City were also under evacuation orders, which were lifted in July 2016. At 37%, the rate of return to these wards in Minamisoma City was higher than those in the six towns and villages, and the percentage of people under 40 returning to these areas was also high at 65%. Nevertheless, only 2.9% of households that responded to this survey had family

members in that age group, while an overwhelming majority of households (72%) included someone aged 60 or older²⁴.

Efforts continue to help residents return to their homes, but with so few young people, what will towns and villages look like 10 years down the line? At its peak, the number of evacuees from the nuclear power plant accident exceeded 160,000, but according to data from the Reconstruction Agency, that number now stands at 36,722 (note that, in some cases, people who evacuated without a change of address are not included in the statistics). Of this number, 7,415 people (~20%) evacuated to other areas within the prefecture, while 29,307 (~80%) evacuated to locations outside the prefecture. Of those who evacuated outside the prefecture, about 15,338 evacuated to public housing. However, this has become a social problem, as evacuees are being forced to leave in various ways, including by the discontinuation of support from Fukushima Prefecture and rental increases.

Table 1: Conditions at litate Village (as of 1 November 2020)

Evacuation orders lifted on 31 March 2017

Items	No. of people	No. of households	No. of people per Household	Notes
Pre-accident (1 January 2011)	6,544	1,716	3.81	
Immediately after the accident	6,544	3,200	2.05	Consequence of evacuation (in which household members were separated)
As of 1 November 2020	5,282	2,265	2.33	No. of registered residents
Returning residents	1,254	643	1.95	Those who have officially reported that they live in the village
Relocation	184	90	2.04	
Births	6			
Evacuation within the village	4	3	1.33	Nagadoro district residents
Not evacuated	6	3	2.00	People who have never evacuated
Took up residence in litate Home	31	31	1.00	
Residents of litate Village	1,485	770	1.93	

(Created by Nobuyoshi Ito, litate Village / Source: Citizens' Nuclear Information Center Report No. 559)

²⁴: https://www.reconstruction.go.jp/topics/main-cat1/sub-cat1-4/ikoucyousa/r1_houkokusyo_zentai.pdf (in Japanese only)

3. Causal relationship with an increase in thyroid cancer

The Fukushima Health Management Survey, a periodic survey including thyroid examinations that follows children aged 18 and under at the time of the accident and babies born in the same year. The study population receives regular ultrasounds, with the second and subsequent examinations being conducted every two years. To date, four rounds of examinations have been completed (Table 2), and the fifth round is being conducted from 2020. The decrease in the number of people in the study population is due to more people becoming over 25 years of age (as screening is conducted every five years from this age), although a downward trend is also being observed in the number of people examined compared to the target population.

After the primary examination, people who were diagnosed with no malignancies or suspected malignancies in the previous round of examinations are candidates for follow-up. The prevalence rate per 100,000 people, using the number of confirmed cases as a parameter, is 26.2, 9.7, and 14.9 for the second, third and fourth examinations, respectively, all of which are significantly higher than the national average of 1.

While the Prefectural Oversight Committee for the Fukushima Health Management Survey has noted the high disease prevalence in the area, it has yet to

acknowledge the existence of a causal relationship with radiation exposure.

It can be argued that the government intentionally did not assess the initial exposure dose. Screening was conducted only at particular locations. In addition, the number of counts measured in the thyroid gland, which is the standard for determining decontamination in the body and on clothing, eased to more than double at 100,000 counts per minute. In some cases, counts were not recorded. The government has not published or conducted surveys on initial exposure doses (especially internal exposure doses from radioactive materials with short half-lives).

As for the causal relationship with radiation exposure, the Oversight Committee reasoned that this trend is due to the screening effect in the preliminary test (i.e. the argument that the act of screening leads to a higher number of diagnoses). However, it was found that, when the degree of contamination in each area is considered, the prevalence of cancer is higher in highly-contaminated areas (i.e. a dose-response), which does not support the screening effect hypothesis²⁵.

Hence, evidence suggests that radiation exposure is associated with thyroid cancer risk.

Table 2: Thyroid Cancer Examination Results

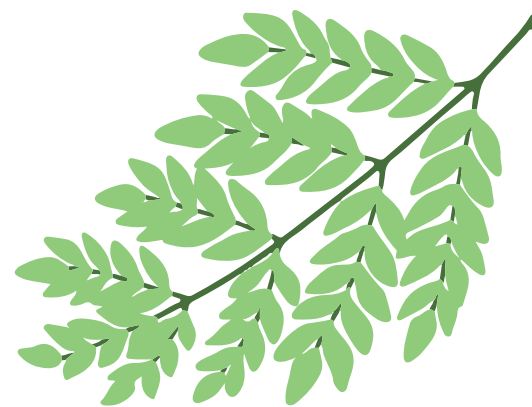
<http://www.pref.fukushima.lg.jp/uploaded/attachment/423828.pdf>

Period (years)	No. of subjects	No. of examinees	No. of confirmed assessments	Counts of Malignancies (incl. suspected malignancies)	No. of surgeries	Cancer confirmed
Round 1 2011-2013	367,637	300,472	300,472	116 (39 males, 77 females)	102 (1 benign tumor)	101 (100 cases of papillary carcinoma, 1 other)
Round 2 2014-2015	381,244	270,540	270,529	71 前回A-65	52	52 乳頭51他1 男32女39
Round 3 2016-2017	336,669	217,676	217,530	21 (8 males, 13 females)	15	15 乳頭15 (Sex distribution unknown)
Round 4 2018-2019	294,240	181,005 (Outside Fukushima: 10,068)	180,978	27 (11 males, 16 females)	16	16 乳頭16 (Sex distribution unknown)
Total (25-year-olds with malignancies/suspected malignancies: 2; surgeries: 0)				235	185	184

(As of 30 June 2020)

(Created by the author with information from the Prefectural Oversight Committee for the Fukushima Health Management Survey)

²⁵: Tsuda, Toshihide et al., 2016. https://journals.lww.com/epidem/Fulltext/2016/05000/Thyroid_Cancer_Detection_by_Ultrasound_Among.3.aspx



4. Current state of food contamination: Food exceeding standards on the market

According to media reports, wild koshiabura shoots (scientific name: *Eleutherococcus sciadophylloides*) that exceeds food standards (Caesium:100 Bq/kg) are being sold on Yahoo! Auctions and Mercari, with one case from Akita Prefecture (210 Bq/kg), three cases from Yamagata Prefecture and one from Miyagi Prefecture (109 to 163 Bq/kg) exceeding standards. This is the outcome of a study by Dr. Shinzo Kimura (Dokkyo Medical University) and the NPO "Fukushima 30-Year Project". Dr. Kimura purchased koshiabura, kogomi (ostrich fern), and shiitake mushrooms at direct sales points and roadside stations in Fukushima (Aizu region), Yamagata, Miyagi, Iwate Prefectures and other places to study them. With the exception of koshiabura, none exceeded standards, although tens of Bq/kg were detected.

On 25 May 2020, Niigata Nippo reported that koshiabura collected in Uonuma City, Minami Uonuma City, Yuzawa Town and other areas in Niigata Prefecture exceeded standards (110 to 240 Bq/kg). Reports had also appeared earlier (in 2016 and 2018)

on cases where koshiabura sold at roadside stations and direct sales points were detected as being over the standard.

The inadequacies of the measurement system are exposed by the fact that some products such as those sold at direct sales points, roadside stations, and internet sites by individuals (all of which are not part of the system), as well as some familiar local foods that are not available at the market may fail to meet regulatory standards. These inadequacies can also encourage the spread of rumours, raising questions about food that has already been tested and met standards. The above facts were discovered because Dr. Kimura's laboratory continued to take an interest in measurements. Without this initiative, these problems would have been overlooked and largely ignored. To prevent this from happening, it is essential to strengthen monitoring by consumers and build up monitoring and measurement systems by the government.



Chapter 4

Current Situation and Challenges of Environmental NPOs/NGOs in Japan

In October 2020, Green Alliance Japan and the National Institute for Environmental Studies (NIES) jointly conducted a survey of environmental NPOs/NGOs in Japan. Out of approximately 4,000 environmental NPOs/NGOs that have been publicised in survey results previously conducted by the Environmental Restoration and Conservation Agency (ERCA), the survey targeted a total of around 1,750

organisations with contact information available in the public domain and groups affiliated with Green Alliance Japan. A total of 442 organisations responded to the survey (response rate: 25.4%).

Based on the results of this survey, the current situation and challenges of environmental NPOs/NGOs in Japan are described in this section²⁶.

1. Overview and Current Situation of Surveyed Organisations

For some time, Japan's environmental civil society has been seen as being composed of numerous small-scale organisations. This survey supports this perception: 25% of respondents were voluntary groups with no legal status, while about 30% had annual budgets of less than JPY 1 million, and 20% had annual budgets between JPY 3 and 10 million. Many of these organisations were established in the 2000s, triggered in part by the emergence of global environmental issues on the international stage and the enactment of the NPO Act in Japan in 1998. The survey also found that a large number of these organisations are managed through "autonomous efforts" by obtaining commissioned funds and generating income from internal sources such as their own projects, rather than membership fees, grants, subsidies, and other external sources.

Many activities are conducted at the local level, with themes such as environmental education, community development, and regional revitalisation, and most are in the form of awareness-raising and practical activities. However, the survey also found that a wide range of these activities are volunteer-based, with about 70% of respondents stating that their activities are "not at all" or "only a little" profitable.

At the same time, while some organisations were found to be engaged in studies and research (44%) and policy recommendations (25%), their numbers were considerably less than those involved in practical (78%) or awareness-raising activities (79%). This is due to limitations in human resources (lack of staff with experience in developing policy recommendations, experts and other support capacity) and difficulties in acquiring effective channels for communicating their policy recommendations and receiving support from the public.

On what Japanese society needs to do to help develop and scale up the activities of NPOs/NGOs, a majority of respondents indicated that people must be encouraged to think about environmental issues as a matter related to themselves (59%) and that systems and mechanisms (including tax and budgets) must be put in place to support NPO/NGO activities (56%).

Moreover, while 77% of respondents indicated the need for solidarity among environmental NPOs/NGOs, only a handful (17%) were aware of the existence of Green Alliance Japan -- the first coalition of environmental NPOs/NGOs in this country.

²⁶: A detailed account of the results of the survey is available on the websites of the Japan Association of Environment and Society for the 21st Century and Green Alliance Japan (in Japanese only).

In addition to these points, challenges raised by many of the organisations surveyed include weak financial bases, difficulty in securing human resources

to implement activities, and concerns that the sustainability of their activities might be jeopardised because of ageing leadership.

2. Lack of Support from the Government and the Public for Environmental NPOs/NGOs in Japan

The importance of the roles played by non-governmental and civil society organisations in the environmental field has been recognised at the global level, and a wide range of support measures is available on both institutional and financial fronts. The Rio Declaration and Agenda 21 adopted at the Earth Summit in 1992 included a clear statement on strengthening the roles of NGOs. The Sustainable Development Goals (SDGs) adopted at the UN General Assembly in 2015 also specified the role of civil society organisations.

Back in 2002 in Japan, a study group of the Ministry of the Environment identified the operational challenges in promoting environmental conservation activities. This survey reveals that the situation in Japan has not improved at all even after 20 years, a clear indication that Japan is lagging behind.

For example, one of the issues raised both in this survey and by the Ministry of the Environment twenty years ago was the need to strengthen financial bases of NPOs/NGOs. A strong financial base will help organisations secure employees with planning skills and maintain human resources, which will, in turn, stimulate their activities. However, the Japan Fund for Global Environment administered by ERCA (roughly JPY 600 to 700 million in total annually) is the only public assistance available to environmental NPOs/NGOs in the country (currently estimated at 10,000 to 20,000). Worse yet, there are no subsidies available for network organisations striving to strengthen civil society, such as Green Alliance Japan. On the other hand, private companies and corporations, whose activities are motivated by profit, receive considerable funding from the government in the name of research and development. For example, each year, the Ministry of Economy, Trade and Industry provides around JPY 1 billion in subsidies to automobile-related private entities for developing technologies for next-generation vehicles. Similarly, huge amounts of money are being invested in industries for ongoing

decarbonisation efforts. It is in stark contrast to the complete lack of support available for activities by environmental NPOs/NGOs, which serve the public interest. In addition, since the culture of charitable donations is not as well-established in Japan as it is in Europe and the US, public donations to NPOs/NGOs are limited, and many environmental groups raise funds either through autonomous efforts (commissioned work and own projects, etc.) or carry out activities on a voluntary basis (i.e. self-financed activities without any expectation of remuneration).

Underlying this is the reality that environmental NPOs/NGOs in Japan have yet to be recognised by the government and civil society as vital organisations that serve the public interest.

In the EU, which is considered to be an environmentally progressive region, environmental organisations are positioned as partners integral to environmental policy implementation, along with economic and labour organisations. Ingrained in society is also the belief that environmental organisations represent environmental interests and have a role to serve the public interest by filling the gaps of information collection left by governments, identifying issues at an early stage, and engaging in advocacy. For this reason, they are institutionally guaranteed and there are systems in place that provide a range of public support on the financial front.

In contrast, environmental NPOs/NGOs in Japan are seen as groups of individuals who voluntarily carry out activities related to environmental conservation. They are categorised differently from economic and labour organisations and are not positioned as key partners in environmental policy making. While organisations engaged in practical activities on a volunteer basis in local communities are recognised for their work to some extent, the same appreciation is not extended to organisations such as Green Alliance Japan that provide policy recommendations based on principles

and scientific evidence. This is because there is a deep-rooted sense that environmental policies should be developed by bureaucrats and that the public's role is to simply follow those policies. Consequently, no public support is available for activities to engage in policy formulation, nor is there an adequate system whereby such organisations can participate in the policy formulation process. Moreover, because the economy remains the highest political priority, bureaucrats continue to formulate and decide on environmental policies based on the opinions of only a handful of industries and academic experts.

The status of Japanese NPOs/NGOs in society reflects the country's distinctive bureaucracy (citizens' lack of access to policymaking and relegation to following bureaucratic authority) , unseasoned democratic practices, and the lack of civic and political education in the education system. These systems form the perception shared by bureaucrats and administrative agencies, which tend to view environmental NPOs/NGOs as subordinate, in subsidiary or sub-contracted positions. Meanwhile, the public, whose perception of NPOs/NGO is shaped by the same bureaucratic and educational systems, also have a deep-rooted sense that they should "bow to authority" and leave matters of public interest to government and administrative agencies. As a result, NGOs/NPOs are not considered to be entities serving the public interest.

Unfortunately, the issue of perception also exists for many environmental NPOs/NGOs: many organisations are satisfied with engaging in activities in local communities on a voluntary basis, stopping short of advocacy for change. It goes without saying that practical activities carried out in local communities

are vital, but local volunteer actions alone will not ensure that environmental policies represent and reflect the voice of the voiceless, which includes the next generation and the natural world. The various issues that emerge from practical activities in local communities are unlikely to be addressed if left only to administrative agencies to resolve. Unfortunately, we cannot say that non-profit and civil society organisations are sufficiently fulfilling their role.

In short, unlike in the EU, government and administrative agencies, the general public and even NPOs/NGOs themselves in Japan generally do not much appreciate that environmental organisations represent environmental interests and have a role to serve the public interest.

This lack of recognition has profound consequences. If we look at Japan's climate change and energy measures, as well as its response to the country's nuclear power plant accident to date, it is clear that there are limits to what can be done by the public sector and only a few industries and academic experts. These limited actors alone are unlikely to be able to resolve the mounting problems we face, such as the climate crisis, the collapse of ecosystems, issues concerning plastics and chemicals, and nuclear power and energy challenges.

In order to avoid this situation in the future and promote more effective environmental policies in Japan, it is important to improve the capacity of environmental NPOs/NGOs, clarify their roles and positions, and develop policies to promote their activities.

Green Alliance Japan Members Involved in Authoring Green Watch 2021 (English Version)

Citizens' Nuclear Information Center

Website: <http://cnic.jp/english/> Email: cnic@nifty.com

Activity Description: Positioned independently from the government or industry, the Citizens' Nuclear Information Center (CNIC) works towards building a society that is not dependent on nuclear power. CNIC collects documents and other materials on a broad range of issues related to nuclear energy, especially the dangers and risks, as well as conducting investigative research, and providing the resulting data and insights for use in movements working on nuclear phase-out. CNIC also proactively disseminates comments on policy, and collaborates with groups within and outside of Japan to conduct research and organise international conferences.

FoE Japan

Website: <https://www.foejapan.org/en/> Email: info@foejapan.org

Activity Description: FoE is an international environmental NGO focusing on environmental issues at the planetary scale. Pulling from the support of two million members across 75 countries, FoE Japan began its work in 1980. The organisation engages in a wide range of advocacy work in such fields as energy (energy transition and anti-nuclear movements), climate change and deforestation, and environmental and human rights issues arising from large-scale development. Working towards the creation of a peaceful, sustainable society, FoE Japan envisions a world where all life is respected, where humans and all other organisms can live in harmony.

Global Environmental Forum (GEF)

Website: <https://www.gef.or.jp/en/> Email: contact@gef.or.jp

Activity Description: GEF works on disseminating information and raising awareness about global environmental issues such as climate change, primarily through commissioned work from the Japanese Ministry of the Environment and the National Institute for Environmental Studies. GEF's own initiatives include issuing its magazine, launching campaigns to stop illegal logging, serving as the secretariat for the Reuse Food Containers Network, and serving as the secretariat for the MATAGI Project (a project that promotes the use of leather from wildlife). The organisation is also working towards liaising between NGOs/NPOs for the Tokyo Olympics and Paralympics.

Japan Association of Environment and Society for the 21st Century (JAES21)

Website: http://www.kanbun.org/katudo_n/about_us.html Email: info@kanbun.org

Activity Description: Acknowledging that 'environmental problems are civilisation's problems', JAES21 was established in 1993. Through the mobilization of citizens' power, JAES21 seeks to build a sustainable civilisation where the environment, economy, human lives, and society are well-balanced, ensuring the health and wealth of the next generation. With this mission in mind, JAES21 is exploring the vision of a new civilisation, and working toward the transformation of lifestyles, values, and social systems to realise the new civilization. The organisation engages in a wide range of activities, including: i) studies to develop a roadmap toward an environment-oriented society, identify a pathway toward a green economy, or investigate ways to utilise old Japanese wisdoms to build a sustainable society, ii) policy recommendations to advocate for the need to include an environmental clause in the Japanese Constitution or to enact legislation for environmental education, and iii) policy-making support for local communities.

Japan Endocrine-Disruptor Preventive Action (JEPA)

Website: http://kokumin-kaigi.org/?page_id=168 Email: kokumin-kaigi@syd.odn.ne.jp

Activity Description: Environmental pollution by hazardous chemicals such as dioxins and other endocrine disruptors has dire implications not only for humankind, but also for all living creatures on the planet. In addition to providing citizens with information related to chemical substances, JEPA communicates its stance on policies regarding chemical substances to the national government, local governments, and businesses. JEPA also creates pamphlets and reading materials to educate the public about various chemical substances and their adverse effects, while holding both domestic and international symposia. Since 2009, the organisation has also worked to tackle the problem of neonicotinoid pesticide use in agriculture. Other initiatives include providing information about the dangers of household chemicals. Ultimately, working to meet the WSSD 2020 Chemical Management target, JEPA engages in various activities to protect future generations through hazardous chemical reduction.

Kiko Network

Website: <https://www.kiconet.org/?cat=54> Email: kyoto@kiconet.org

Activity Description: Kiko Network is an NGO/NPO that proposes, comments, and acts on behalf of civil society to stop global warming. Rather than solely focusing on changing the behaviour of each individual, the organisation strives to make all aspects of society (industry and economy, energy, lifestyle, localities, etc.) more sustainable. Incorporating research on global warming mitigation, policy commentary, and information dissemination, Kiko Network creates campaigns, strengthens networks, creates local global warming mitigation models, and engages in human resources development and education. Envisioning a world where all can lead secure lives in a low-carbon and sustainable future, the organisation works to transform our current society and economy toward greater fairness, peace, and prosperity. Furthermore, as a national network of civil society and environmental NGO/NPOs in the global warming mitigation space, Kiko Network also engages and cooperates with a wide range of organisations and sectors.

Institute for Sustainable Energy Policies (ISEP)

Website: <https://www.isep.or.jp/en/> Email: <https://isep.or.jp/en/about/contact>

Activity Description: Working toward a society powered by renewable energy, ISEP produces energy policy research and commentary, as well as the development of renewable energy. This includes commentary and activities regarding strategies for transformative energy policy as well as specific energy plans. ISEP's four areas of utmost importance are Energy Policy, Energy Business, Financing, and Community. Furthermore, the organisation capitalises on its networks with affiliated groups in and outside of Japan to share information and knowledge. ISEP also uses its connections with prominent international renewable energy-related groups to engage in international conferences and research activities.

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Preface

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Current Situation and Challenges of Environmental NPOs/NGOs in Japan

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High Moon