

July 2018

Kitakyushu City the Sustainable Development Goals Report

—Fostering a trusted Green Growth City with true wealth and prosperity, contributing to the world—

2018

北九州市 CITY OF KITAKYUSHU

IGES Institute for Global Environmental Strategies

Kitakyushu City the Sustainable Development Goals Report 2018

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Kitakyushu City

The Sustainable Development Goals Report

2018

City of Kitakyushu

Institute for Global Environmental Strategies

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Opening Statement



I am pleased that this SDGs Kitakyushu Report 2018, a voluntary local review based on the United Nations Handbook for the Preparation of Voluntary National Reviews, has been formulated with the leading efforts of the Institute for Global Environmental Strategies (IGES) in collaboration with the City of Kitakyushu.

The struggle to overcome the profound pollution problems faced by Kitakyushu City started with women's associations standing up for their children and families. As local citizens, businesses and the government joined hands and took action, the city won back its blue skies and sea. Here, the strong will of each and every citizen was present in their desire that "leave no one behind."

Kitakyushu has received high acclaim from both Japan and abroad in promoting new industries and international cooperation, utilizing the civic power and technology developed through these experiences.

As the population declines, society ages, and the industrial structure continues to change over the medium to long-term, Kitakyushu is also simultaneously facing climate change, resource constraints and the necessity for ecological conservation, which are all global issues, and it has become necessary to work on and resolve these varied issues in an integrated and inclusive manner. For this reason, Kitakyushu is taking on the initiative to address the sustainable development goals of the United Nations that have been taken up in the 2030 Agenda and is working together with the Japanese government and OECD to achieve the SDGs model at the urban and regional levels.

The 2030 Agenda states that, "We are meeting at a time of immense challenges to sustainable development. . . . .It is also, however, a time of immense opportunity." Although the environment surrounding both Kitakyushu and the world is formidable, we will turn this crisis into an opportunity in partnership with the city's residents and businesses with the aspiration of "leaving no one behind", and in turn, will contribute to the achievement of the SDGs in Asia and the world.

July 2018

北橋健治

Mayor, the City of Kitakyushu
Kenji Kitahashi

Opening Statement



It is an honor beyond my expectations that the SDGs Kitakyushu Report 2018, a collaborative effort between Kitakyushu City and the Institute for Global Environmental Strategies (IGES), is being released on the occasion of the 2018 UN High-Level Political Forum (HLPF2018).

Since the Kitakyushu Office (now the Kitakyushu Urban Centre) put down roots here in October 1998, the year after IGES was founded, Kitakyushu City and IGES have been building a cooperative relationship with a focus on international environmental cooperation and exchange of human resources, continuing to offer vast amounts of support both in terms of mind and material. This report is one such achievement of this collaboration with Kitakyushu.

Kitakyushu's leading initiatives have been recognized both in Japan and overseas, including its selection by OECD as a Green Growth City, as well as an Eco-Model City, Future City, and SDGs Future City by the Japanese government. Specifically, the SDGs are already in practice in Kitakyushu at Eco-Town, within international environmental cooperation efforts, and in the formation of a local energy base. Kitakyushu has also earned high acclaim for its achievements in international cooperation towards the creation of sustainable cities in Asia.

The first account of its kind on city-level SDGs in the world, this report illustrates practical examples and the direction of future initiatives related to the SDGs in Kitakyushu in a format that, where possible, is in line with the United Nations handbook for the preparation of Voluntary National Reviews (VNR). It is our hope that the case of Kitakyushu included here will help accelerate the implementation of the SDGs in cities and the creation of SDGs at the regional level.

Going forward, IGES will endeavor to further strengthen cooperation with Kitakyushu in the field of international environmental cooperation. We will strive to precisely design and put into practice the main concept of Regional Circular and Ecological Sphere (Regional-CES) that is contained in the Fifth Basic Environment Plan, which was reported in April 2018 by the Central Environmental Council, for which I serve as Chair, together with Kitakyushu City and local research institutes and related stakeholders. As an agent for change, IGES will continue to contribute to the transformation to sustainable cities and the realization of the SDGs around the world with the dissemination of these outcomes to Asia and the international community.

July 2018



President, Institute for Global Environmental Strategies
Kazuhiko Takeuchi

About this report

In September 2015, "Transforming our World: the 2030 Agenda for Sustainable Development" and the Sustainable Development Goals (SDGs) consisting of 17 goals and 169 targets were adopted at the United Nations Sustainable Development Summit in New York.

The SDGs are global goals that integrate social, economic and environmental issues, and aim to "leave no one behind" in realizing sustainable, diverse and inclusive societies. SDGs target not only developing countries, but require actions from all countries, including developed nations. Moreover, the SDGs place emphasis on global partnerships whereby all stakeholders, including governments, civil society, the private sector and UN organizations, utilize all available resources to engage in working towards achieving the goals.

At present, over half the world's population lives in cities, and both the number of cities and urban populations are expected to continue to rise. While situations differ from city to city, most cities face an array of socio-economic problems such as unemployment, inequality, poor living environment and environmental problems such as air and water pollution. Meanwhile, it can be argued that with their economic power and diversity, cities are equipped with the potential to solve these problems. Actions by cities on sustainable development lead to solutions to global issues including climate change not only locally, but also to the achievement of international goals such as the SDGs.

City mayors and community leaders, together with relevant stakeholders play an important role in city planning that leads to safe, sound and high-quality lives for the people living and working in cities. Against urban issues such as poverty, violence, social inequality, environmental destruction, climate change and food issues, the SDGs provide cities with opportunities to ascertain linkages between these issues, and also serve as a framework to link differing policy areas in order for cities to discover and implement new mutually-complementary policies and measures. Further, the SDGs can connect diverse stakeholders in cities, serving as a common language among stakeholders such as local governments, citizens and companies working to find solutions to urban issues.

Although cities recognize the importance of engaging in the SDGs, they are still struggling to find ways to take SDGs into account in their local context, and to implement SDGs and carry out monitoring. Due to differing local characteristics, there is no one method or answer that fits all. Therefore, support for cities to learn from each other and apply the SDGs in their own contexts is essential for cities to advance SDG-related initiatives.

The Government of Japan established the SDGs Promotion Headquarters in May of 2016, chaired by the Prime Minister with the Chief Cabinet Secretary and Minister of Foreign Affairs as Vice-Chairs, in order to comprehensively and effectively promote measures related to the SDGs and close coordination among related government agencies. The Promotion Headquarters have drafted guidelines for implementation of the SDGs that incorporate eight priority issues and 140 measures in economic, social and environmental areas. Likewise, the Headquarters released the "SDGs Action Plan 2018" in December 2017 and its expanded version in June 2018, aimed at creating Japan's model for SDG implementation based on further substantiation and expansion of major initiatives. Included as one of the three pillars of the SDGs model in this plan is unified government support for local governments that can serve as advanced models and expansion of these best practices in order to "realize regional revitalization and resilient, environmentally-friendly and outstanding city planning that promotes the SDGs and is suited to the needs and strengths of localities". As one measure, in June 2018, the Government of Japan selected 29 municipalities to become "SDGs Future Cities", and of these selected the leading initiatives of 10 cities to become SDG model projects.

This report, prepared with the Strategic Research Fund of the Institute for Global Environmental

Strategies (IGES), will introduce activities of three Japanese local governments aiming to become sustainable cities, namely Kitakyushu City (Fukuoka Prefecture), Shimokawa Town (Hokkaido), and Toyama City (Toyama Prefecture). IGES has a close collaborative relationship with each of these three municipalities, which have worked to address issues faced in their respective locations based on partnerships with citizens from the perspectives of society, economy and environment. These three local governments are engaged in advanced initiatives related to the SDGs and were selected in June 2018 as the aforementioned "SDGs Future Cities" and as SDGs model projects for local governments. Within this framework, they intend to implement even more concrete initiatives going forward.

For the structure of this report, the authors referred to the "Handbook for the Preparation of Voluntary National Reviews: 2018 Edition". The structure takes into consideration specific characteristics and the state of progress on initiatives in each city. In a manner of speaking, it is a voluntary local review on the progress of SDGs actions in each city.

By revealing the current state of SDG-related initiatives in each city, this report can serve as a communication tool for residents when engaging in future initiatives, and likewise can serve as a reference to those in other cities in Japan and around the world as they engage in addressing the SDGs.

July 2018

Institute for Global Environmental Strategies

Acknowledgements

This report was prepared based on cooperation between the City of Kitakyushu and IGES.

The mayor of the City of Kitakyushu, Kenji Kitahashi, has shown strong leadership on the SDGs and based on this, a writing team comprised of IGES Kitakyushu Urban Centre members Junko Ota, Kaori Hosoda, and Shiko Hayashi, and City Taskforce members Junichi Fujino and Yatsuka Kataoka prepared this report based on information provision and extensive review by the Planning and Coordination Bureau, Environment Bureau, and other relevant bureaus and divisions from the City of Kitakyushu.

Furthermore, we would like to express our sincere gratitude to Naohito Asano who serves as the Chair of the Kitakyushu City Environment Council for giving us valuable advice. A diverse range of stakeholders are involved in sustainable urban development in Kitakyushu city, and we thank them for allowing us to refer to their activities in this report. This report was also made possible with the support and cooperation of many persons not mentioned herein, and we extend our heartfelt thanks to them all.

Highlights

Kitakyushu City the Sustainable Development Goals Report 2018

- Fostering a trusted Green Growth City with true wealth and prosperity, contributing to the world -

Background and Process of This Report

The SDGs adopted at the UN General Assembly in 2015 put emphasis on the importance of action by all actors. Of all actors, the actions by cities and human settlements, where more than half of the world's population reside and where this number is expected to increase further in the future, will be vital. The SDGs tie multiple goals, grasp the relationship between various issues, and set guideposts for taking action in different policy areas to respond to the diverse and complex problems facing cities, such as employment, disparity, and poor living environments, and can act as a tool to implement new measures that are both consistent and complimentary.

However, the world is fumbling with how to work on the SDGs in cities, and it is becoming essential to localize the goals, targets, and indicators of the SDGs developed by the United Nations and national governments in the future according to the current state of cities, to monitor progress. To do so, it will be necessary for each region and city to introduce independent cases and learn from one another (peer learning). As the first step, the City of Kitakyushu, a pioneer for the SDGs in Japan, and the Institute for Global Environmental Strategies (IGES) have collaborated to bring the world the "Kitakyushu City SDGs Report".

This report is a compilation of the past, present, and future actions and plans of Kitakyushu City in relation to the SDGs, based on the SDGs Future City* Proposal submitted by Kitakyushu to the Japanese government and other local governmental plans, and has been developed in reference to the structure of the United Nations Handbook for the Preparation of Voluntary National Reviews (VNR). In the preparation and compilation of this report, IGES developed a draft report, exchanged views with a cross-section of related departments within Kitakyushu City and conducted interviews with academic experts knowledgeable about the actions to implement the SDGs in Kitakyushu.

* The SDGs Future Cities is a program in which the Japanese government openly called for local governments throughout the country to promote SDGs in municipalities. Twenty-nine cities were selected in Japan and 10 cities, including Kitakyushu, were also adopted for local government SDGs model projects.

Kitakyushu's Journey

Situated on the western end of the Japanese archipelago in Kyushu close to Asia, Kitakyushu has grown as a base for transportation and logistics. It is one of Japan's ordinance-designated cities (large city), but has lush, green spaces, and some of the most well-known karst plateaus and tidal flats in Japan.

Since 1901 when the operation of Japan's first steelworks began, Kitakyushu has developed as the home to such segments as the steel industry, which supported manufacturing in Japan, but faced serious pollution since the 1960s as a result. Mothers concerned for their children's health were the first to raise their voices, sparking a movement by companies and the government. As the city's residents, universities, businesses, and the local government joined hands in the pursuit of solutions, Kitakyushu saw the return of its blue sky and sea dawning on the horizon.

The partnerships, technology, and know-how of the various actors developed through these experiences have become assets for the city, leading to the creation of new industries, such as assembly and recycling industries, with the transformation of the city's industrial structure in the 1980s (due to a slump in the steel industry). Kitakyushu has also been promoting international cooperation with cities in Asia, starting with the first international environmental cooperation activity with Dalian City in China in the 1980s.

In recent years, Kitakyushu has been in pursuit of urban development centered on local energy, such as renewable energy, hydrogen, and energy management.

A series of discussions by residents and companies in the local community resulted in the formulation of the Grand Design for the World Capital of Sustainable Development by Kitakyushu in 2004, which aims at environmental, economic, and social harmony and the embodiment of true wealth and prosperity. Within this plan, Kitakyushu has promoted actions that have a strong affinity with the SDGs, anticipating the elements of integration, inclusion, transparency, and the need for a backcasting approach.

These actions have been received to high acclaim on the international stage, with the city winning the Global 500 Award from the United Nations Environment Programme in 1990 and Local Government Honours at the Earth Summit in 1992. Kitakyushu has also been selected by the Japanese government as a Future City in 2011, which integrates the environment, society, and economy, won the Partnership Award at the First Japan SDGs Awards in 2017, and has been tapped as a SDGs Future City in 2018 to implement leading SDGs actions.

Today, Kitakyushu is facing the threat of population decline, lower birthrates, and an aging society in the medium to long-term, changes in its industrial structure, climate change, and an ecological crisis, and is under pressure to find solutions to these economic, social, and environmental problems at the same time. Kitakyushu believes that it can effectively solve these issues by achieving the SDGs based on the principle of integration and inclusion.

Kitakyushu's Actions for the SDGs (Vision and Framework)

In 2018, Kitakyushu put its SDGs vision, "Fostering a trusted Green Growth City with true wealth and prosperity, contributing to the world", into place in the SDGs Future City Proposal. In order to achieve this vision, Kitakyushu clarified its slogan and basic concept under the three pillars of the economy, society, and environment, offering 17 specific measures to shape these dimensions, as shown in the figure below.

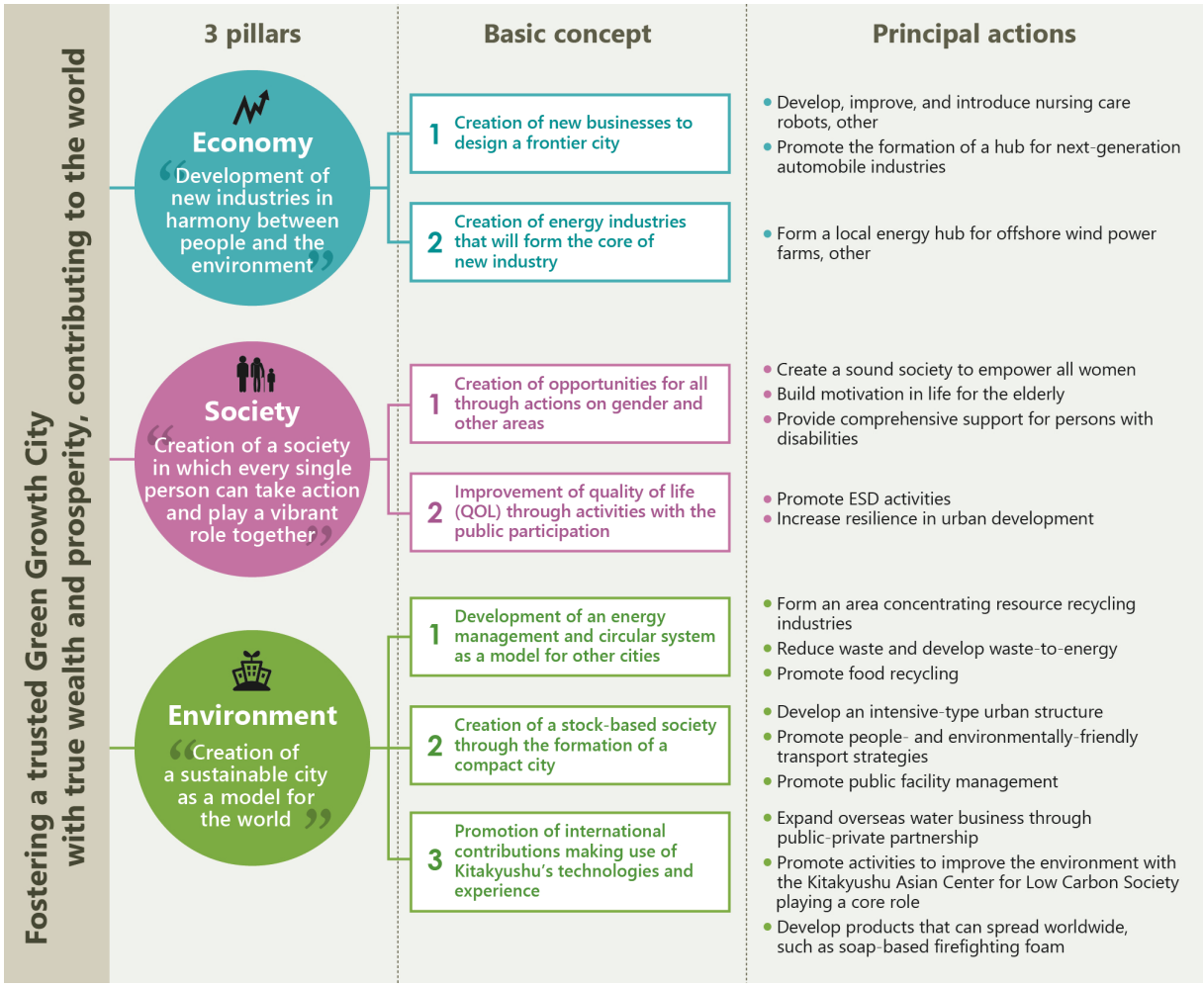


Figure: Kitakyushu City's SDGs Future City vision and principal actions

To shape this vision, the city will come together to promote action through the steady implementation of overall plans and model projects. This will be achieved with the cooperation of the national government and the establishment of the Kitakyushu City SDGs Future City Promotion Headquarters in city hall headed by the mayor, as well as the Kitakyushu SDGs Council (tentative), with members that include stakeholders from civil society, businesses, financial and educational institutions, and the SDGs Club (tentative) that anyone can join, which are planned to be set up in the future, together with actions to raise awareness on the SDGs.

Kitakyushu will also consider incorporating the SDGs into administrative plans in various areas in the future, starting with the Kitakyushu City Basic Environmental Plan (Subtitled: Environmental Capital & SDGs Realization Plan).

(Progress of Priority Goals and Targets and Integration of Three Dimensions)

Kitakyushu has set six priority goals and targets to achieve the SDGs vision. These are areas that highlight the city's strengths and that the city aims to find synergistic effects with other areas, as it seeks solutions to remaining issues.



Target 5.5
Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life

Kitakyushu is promoting gender equality and work style reforms with the establishment of the IkuBoss Alliance for top executives at companies to take initiatives, and Woman Work Café to support working women. Gender is one of the challenges that Japan faces. However, the proportion of female assembly members in the Kitakyushu City Assembly is about 19%, higher than the proportion of seats held by female legislators in the Japanese parliament (about 9%). In addition, the participation rate of women on city administrative committees is over 50%, which is among the top in the country

Although the percentage of seats held by female legislators is on par with the global average, the proportion of female managers in the private sector is unknown, which means that it is necessary to comprehensively promote women's active participation, work style reform, and child support.



Target 7.2
Increase substantially the share of renewable energy in the global energy mix

In recent years, Kitakyushu has been working to introduce renewable energy as a local energy base, in addition to the utilization of hydrogen energy, creation of a smart city through energy management, local production and consumption of energy, and forming an integrated base for the wind power industry. The scale of the amount of renewable energy introduced, such as solar power generation and wind power generation facilities installed in the city, is the third largest in the country (2017) and Kitakyushu is working to expand the total amount of renewable energy introduced to 297 MW (2016).

However, it is impossible to meet all energy demands in the city. Kitakyushu is facing the issue of about 20% of the energy produced in the city running outside of the region as energy fees.

In the future, Kitakyushu will implement the next-generation local energy model project, which was selected as a local government SDGs model project by the Japanese government, utilizing its strengths (civic power, technical capabilities, and international networks) to achieve the integration of the three dimensions of the environment, economy, and society formed around energy.

Realization of the "promotion of sustainable industries", "responses to population decline and the rise of the super-aging society", as well as the "realization of a society of lifelong activity", and "responses to climate change and resource efficiency" through a combination of (2) human resources for SDGs, (3) visualization of SDGs, and (4) development of an international platform and network for the SDGs, formed around Local Energy and SDGs Strategy

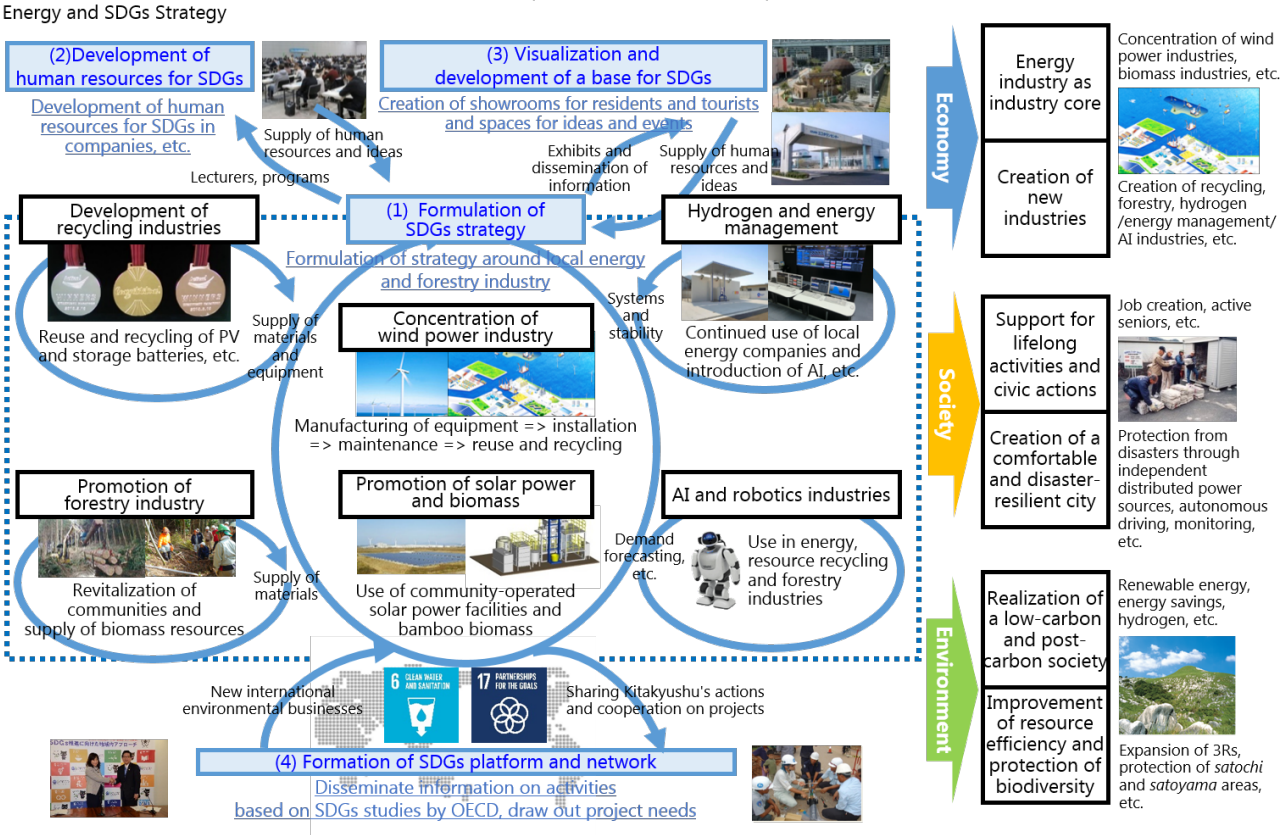


Figure: Next –generation local energy model project for the integration of the three dimensions

In the above projects, Kitakyushu will formulate the local energy and SDGs Strategy, which is centered on the promotion of local energy and forestry, together with the development of human resources for companies, visualization of the SDGs for residents, and the development of overseas networks as a way to formulate the foundation for this strategy. As a result, Kitakyushu will promote the introduction of renewable energy, such as offshore wind power and biomass, and utilize the energy obtained there as an efficient and disaster-resilient, self-sustained, distributed energy source through advanced energy management and hydrogen energy, which will lead to the development of wind power and forestry industries, AI and robotics industries, recycling industries, and generate employment.

8 DECENT WORK AND ECONOMIC GROWTH

Target 8.2
Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors

Target 8.5
Achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

Kitakyushu has developed over the years from a focus on the materials industry to processing and assembly, automobile, and environmental industry, by taking full advantage of the city's technologies and know-how in manufacturing since the start of the first steel mill in Japan. There are 10 universities in Japan, each with its own distinct characteristics. The Kitakyushu Science and Research Park, in particular, where 4 universities and several research institutions are located, implements demonstration projects on artificial intelligence (A), nursing care robots, and next-generation

automobiles as a major base for the development of advanced technologies, public-private partnerships, and education of international human resources.

On the other hand, as the gross income per taxpayer in Kitakyushu remains low and the outflow of young people seeking better employment opportunities have become problems for the city, Kitakyushu aims to expand into widely-attractive industries and employment that will help improve local income, such as the concentration of wind power generation industries and new business styles with the use of nursing care robots.



Target 9.4
Upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency

Industrial and urban infrastructure, such as expressways, central international ports, and a 24-hour airport, are all in place in Kitakyushu, which has developed as an industrial city. Due to technological innovations through the city's experience in overcoming pollution, efficient production processes and supply chains have also been established in companies.

Although energy thermal efficiency is improving in the industrial sector, CO_2 emissions have remained flat. In order to form a sustainable industrial base, further technological innovation will be needed, such as improving energy efficiency and infrastructure.



Target 12.5
Substantially reduce waste generation through prevention, reduction, recycling and reuse

Kitakyushu Eco-Town was established in 1997, the country's first and largest recycling base, on the coastal area of the city. With one of the top recycling rates in Japan, Eco-Town is responsible for the circulation of various resources both in Japan and overseas, from waste paper, PET bottles, and food waste, to automobiles, fluorescent lights, cellphones, and medical equipment. Going forward, Kitakyushu will strive to reduce the volume of business waste and further promote recycling as it aims to achieve the top recycling rates as an ordinance-designated city in Japan.



Target 17.7
Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed

Target 17.17
Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships

Kitakyushu has overcome diverse issues in the past through partnerships with various stakeholders. To date, about 200 experts have been dispatched to 25 countries around the world in the fields of waste and water, and over 9,000 people from 165 countries have come to Kitakyushu for training.

One noteworthy project is cooperation in the field of water in Phnom Penh in Cambodia where it is

possible to drink tap water, and where conditions have dramatically improved with the percentage of the population connected to water supply (25% to 90%), water supply time (10 hours to 24 hours), and non-revenue water rates (72% to 8%) by 2006. This has been referred to as the Phnom Penh Miracle, which was introduced by the Japanese government as an excellent example of public-private partnerships in the SDGs at HLPF2017.

In order to develop sustainable international environmental cooperation, it is necessary to move forward on a business basis as well. It will be important to have active support and investment from the government and financial institutions, as well as develop rules in partner countries in the future.

Going Forward

In order to achieve the SDGs vision, Kitakyushu will promote the application of nursing care robots, development of next-generation automobiles, and the installation of an offshore wind farm, and create new advanced industries in the economic dimension. In the social dimension, Kitakyushu will form new spaces for action by all through the promotion of diversity, ESD, and disaster-resilience, aiming at the creation of a society where no one is left behind. In the environment dimension, Kitakyushu will develop a sustainable city that will become a model for the world by further strengthening renewable energy, energy savings, recycling, and international environmental cooperation and business, as well as by taking action to address issues of public transport and develop a compact city.

Kitakyushu believes that cooperation with the national government and their guidance and support on policy integration across ministries and agencies is vital in these types of actions to realize the SDGs. It is also necessary to have the understanding and cooperation of local citizens and businesses, as well as integration within the government. For this reason, Kitakyushu will consider incorporating the SDGs into administrative plans in each area in the future, with the establishment of the Kitakyushu City SDGs Council (tentative) and Kitakyushu SDGs Club (tentative) comprising stakeholders, implementation of actions to develop SDGs human resources, and visualization, transmission, and improved awareness of the SDGs.

In order to steadily implement the SDGs, Kitakyushu believes that monitoring the progress of actions through the use of indicators based on local characteristics is essential. In the future, Kitakyushu will confirm Key Performance Indicators (KPI) in the SDGs Future City Plan in cooperation with the national government and develop indicators for the SDGs specially designed for cities and regions through the city's participation in the OECD's Territorial Approach to the Sustainable Development Goals project.

Kitakyushu's history is one that involves a diverse set of stakeholders, including industries, government, academia, and the public from the time it was active in overcoming pollution to today, and in promoting urban development with the participation of all members of society. Going forward, Kitakyushu will continue to develop together with various stakeholders, as it aims to become a new frontier for the SDGs.

1. Introduction

Situated on the western end of the Japanese archipelago in Kyushu, Kitakyushu has developed as a "gateway to Asia" as a result of its geographical proximity to the region. Kitakyushu is "Kyushu's primary point of origin" for national roads and railways, tucked between Honshu and the sea at the doorway to Kyushu, with infrastructure, such as Kitakyushu Airport and Kitakyushu Port, in place and transportation and logistics that are unrivaled in convenience.



Fig. 1: Maps of Kitakyushu

With lush, green spaces, the city ranks fifth among the 20 ordinance-designated cities in Japan in terms of areas set aside for urban parks (about 1,175 ha). Kitakyushu is home to rich, natural surroundings, with Hiraodai, Japan's largest karst plateau located in the southern part of the city (Kokuraminami ward), and the Sone tidal flats, Japan's largest wintering spot for Saunder's gulls, which are declining in number around the world.

Since 1901 when state-run Yawata Works started operations in Yahata, historically, factories producing chemicals, ceramics, and cement have gained ground, transforming Kitakyushu into one of four major industrial areas in Japan, which became a driving force in modernizing Japan. Since then, Kitakyushu has developed as a manufacturing city.

However, air and water pollution escalated in the 1960s with the progression of rapid industrialization. Mothers who were concerned about their children's health were the first to raise their voices and a women's association in Tobata ward, located next to the factory area, took a stand under the slogan, "We want our blue skies back". This group of women inspected factories themselves, organized study meetings to consult with university professors, and carried out independent studies on the state of air pollution—all actions that resulted in the launch of a vigorous campaign calling on businesses and the government to make improvements. This movement brought the citizens, universities, companies, and the local government together to seek solutions, and as a result, the city reached the remarkable achievement of overcoming pollution in the latter half of the 1970s.



"We want our blue skies back" campaign by the Tobata Women's Association of the City of Kitakyushu

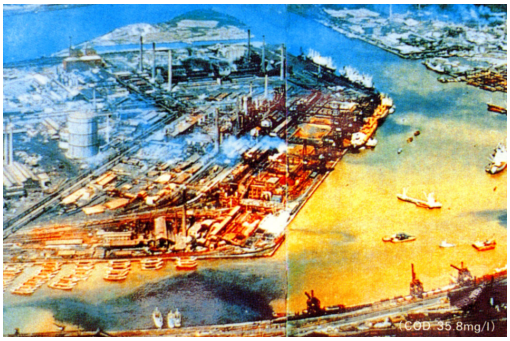
Today, the environment around the industrial area, where the sky was shrouded in seven-colored plumes of smoke and the bay could not even sustain E.coli in the 1960s, has made a spectacular return to a blue sky and sea.



Sky covered with smoke (1960s)



Blue ocean is back (Present)



Dokai bay (1960s)



Blue sky is back (Present)

As Japan entered the 1980s, the steel industry in Kitakyushu struggled and the city was confronted with the need to make changes to its industrial structure (economic slowdown caused by decreased steel output). In order to turn this crisis into an opportunity, Kitakyushu made use of the technologies and knowledge developed from its past experience as a manufacturing and environmental city to promote the development of new industries, including assembly industries (automobile industry, etc.) and recycling industries, and to be proactive in pushing forward international environmental cooperation activities with other cities in Asia. Among those, Kitakyushu Eco-town has been developed as one of the largest recycling industry centers in Japan, and receiving substantial number of visitors including VIPs at home as well as abroad.

In recent years, Kitakyushu has been working on introducing renewable energy as a local energy base, using hydrogen energy, developing as a smart city through energy management, and forming a comprehensive base for wind power industries in Asia. As part of these initiatives, Kitakyushu Power Co., Ltd., a local energy company providing a stable and low-carbon supply of energy, was launched with the involvement of local companies and financial institutions.



Kitakyushu Eco-Town



Wind power generation

This spirit of developing the economy through the environment has been formed by communities creating new values. Kitakyushu's Grand Design on World Capital of Sustainable Development, the city's vision developed in 2004, formulated the basic philosophy that is "creation of a city with true wealth and prosperity, inherited by future generations" and the three basic pillars, which are "living together, creating together", "developing economically through a healthy environment", and "enhancing the sustainability of the city" following extensive discussions among various stakeholders in local society. This philosophy, which incorporates the integrated perspectives of the environment, economy, and society with extraordinary speed, has also been reflected in the policy designs of the city, such as the Kitakyushu City Basic Environment Plan.



Kitakyushu World Capital of Sustainable Development Creation Conference

These efforts have been met with high acclaim from around the world; Kitakyushu received the Global 500 Award from the United Nations Environment Programme (UNEP) in 1990 and the Local Government Honours Award at the Earth Summit in 1992. Kitakyushu was also selected by Organization for Economic Co-operation and Development (OECD) as Green Growth City in 2011, alongside Chicago, Paris and Stockholm.

In 2008, Kitakyushu was selected as an Eco-Model City, a program sponsored by the Japanese government, as well as a FutureCity in 2011. In 2016, Kitakyushu was tapped as the venue for the G7 Kitakyushu Energy Ministerial Meeting, at which the Kitakyushu Initiative on Energy Security for Global Growth was adopted.

The present tasks for Kitakyushu include mid- to long-term responses to the declining population, low birthrates and aging society, changes in the city's industrial structure, a stagnant urban image, and increasing numbers of foreign residents. In particular, the population of Kitakyushu has been consistently declining since 1980, decreasing by 100,000 people from its peak in 1979 (Fig. 2).

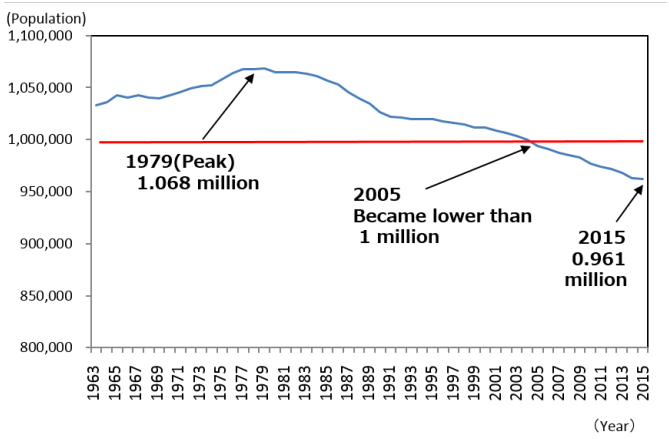


Fig. 2: Population changes in Kitakyushu

The aging rate in Kitakyushu is 29.6% (as of Jan. 2016), positioning the city as the fastest-growing aging population of all ordinance-designated cities in Japan. Since the 1990s, the share in the shipment value of manufactured goods has dropped, an indication that the relative importance of "the manufacturing industry", the billboard of the city, is shrinking.

There is a need to promote climate change measures, such as mitigation and adaptation, as well as actions to prevent disasters. Based on the Paris Agreement and the Sendai Framework for Disaster Risk Reduction, it is also necessary to promote the Japanese government's commitment to reducing greenhouse gas emissions (GHG) by 80% by 2050 and build a post-carbon society in the second half of the century, as well as promote disaster-prevention measures that also include adaptation. Kitakyushu established "Kitakyushu Asian Center for Low Carbon Society" in June 2010 as the center to pursue the revitalization of regional economy through promoting low-carbonization in Asia. With

its own numerical targets for low-carbon development in both Japan and Asia, Kitakyushu is also contributing to low-carbon development overseas through collaboration with other Asian cities.

Early on, Kitakyushu faced challenges that cities around the world are currently or will face in the future and took various actions. Kitakyushu believes in the heavy significance of understanding correlations with increasingly diverse and complicated tasks and incorporating SDGs that can have a conciliatory effect on policy design in different fields. Looking back on Kitakyushu's history, it can be said that the city has carried out actions that have a high affinity with the SDGs, such as cooperation with various stakeholders and the integration of social, economic, and environmental dimensions. However, city-level SDGs in Kitakyushu are in its infancy stage, and the city will be examining its strengths and challenges, as well as the potential of measures utilizing the SDGs through voluntary reviews of the SDGs using universal criteria as a yardstick, as the city aims to link this to the development of a sustainable city.

2. Preparation of the Report

This report was jointly prepared by the City of Kitakyushu and the Institute for Global Environmental Strategies (IGES). IGES has partnered with Kitakyushu for many years, mainly focusing on international environmental cooperation and human resources exchanges since the establishment of its office in Kitakyushu in 1999 as a base for intercity cooperation programs in Asia to improve the environment.

Kitakyushu is a leading city for the SDGs in Japan, having won the SDGs Partnership Award (Special Prize) at the First Japan SDGs Awards organized by the Japanese government's Sustainable Development Goals (SDGs) Promotion Headquarters in Dec. 2017. City related targets are a subject of review at HLPF2018, and in such years as this, Kitakyushu and IGES have recognized the importance of disseminating information globally on actions taken on the SDGs by local municipalities in Japan, and decided to collaborate on this year's report

Kitakyushu is a leading SDGs city in Japan. However, just as in many cities around the world, SDGs actions are just getting started. Accordingly, actions to develop indicators specific to the SDGs and monitor progress are not specifically being implemented, and implementation mechanisms are still in the development stage. And yet, many of the points for which Kitakyushu has been recognized are rooted in the affinity of actions and policies with the SDGs that have been implemented even before the SDGs were developed. Currently, Kitakyushu has taken the stance of quick action under the strong leadership of the mayor, including the early adoption of the SDGs into the Kitakyushu City Basic Environment Plan, establishment of a cross-departmental promotional headquarters within city hall, and the formulation of comprehensive plans on the SDGs.

Based on these features of Kitakyushu, the authors examined how a positive environment for the SDGs was developed by reviewing Kitakyushu's past actions and arranged the systems and challenges for implementation based mainly upon the contents of Kitakyushu's SDGs Future City Proposal submitted to the Japanese government in 2018, in a format that follows the structure of the handbook on Japan's VNR prepared for the United Nations, where possible. IGES and Kitakyushu were key players in the compilation of this report and the opinions of academic experts and others were also incorporated.

SDGs Future City Initiative

Kitakyushu proposed the "Kitakyushu SDGs Future City" for the "SDGs Future City" initiative for which the Japanese government (Cabinet Office) issued a public invite to local municipalities to submit proposals in 2018. This proposal, which incorporated the future vision of the city, its ideal identity by 2030, and priority goals and targets, contained comprehensive details formulated in coordination with related departments, mainly the Planning and Coordination Bureau of the city. On the basis of this proposal, Kitakyushu was one of 29 cities selected as a SDGs Future City in June 2018. Likewise, Shimokawa Town and Toyama City, which developed similar SDGs reports in collaboration with IGES, were also selected.

A total of 10 projects were also selected as local government SDGs model projects, a program that was opened up to the public at the same time as the SDGs Future City initiative. The next-generation regional energy model project (tentative name) proposed by Kitakyushu was also adopted under this project.

3. Policy and Enabling Environment

(a) Creating Ownership of the Sustainable Development Goals

As described in the introduction of this report, Kitakyushu has a history of overcoming pollution through cooperation by the city's residents, companies, universities and the government that leaps over barriers and is driven by strongly-cohesive communities (women's associations). This experience has become the foundation under which ownership by various stakeholders has been developed, creating a climate in which different stakeholders work together to solve problems. Subsequently, even during the process when the city aimed at the creation of the World Capital of Sustainable Development, residents took on the main role in discussing the future ideal image of the city and its true values to build the vision of the Grand Design on World Capital of Sustainable Development, a track record for the practice of a backcasting approach, in a manner of speaking.

This character of the city's residents and cooperation between industries, government, academia, and the city's residents continued to be strengthened and passed on down even more today.

For example, various projects are being implemented in the field of Education for Sustainable Development (ESD) through the "Kitakyushu ESD Council" that was designated by the United Nations University as a Regional Centre of Expertise (RCE) to Promote ESD in collaboration with the city residents and universities, etc. The city residents and university students cooperate in the implementation of activities to foster community development and civic pride, as well as develop human resources based in the Kitakyushu Manabito ESD Station established in the center of the city.



Exchange activities at Manabito ESD Station



Kitakyushu IkuBoss Alliance

With regard to gender and changing working styles, Kitakyushu is promoting the efforts reflecting the opinions by the Kitakyushu gender equality council and the Kitakyushu work-life

balance promotion council. The city is also promoting the development of the city listening to the voice of women through the establishment of the IkuBoss Alliance for top executives of companies and organizations to promote initiatives and the achievement of becoming the first ordinance-designated city to achieve a participation rate of over 50% for women committee members in various governmental committees.



Kitakyushu Science and Research Park

The Kitakyushu Science and Research Park (KSRP), in which four universities and several research institutes and research arms of companies are concentrated on one campus, is a base for academic research focused on environmental and information technologies. Together with international education and research activities that aim to create new industries and develop more sophisticated technologies, KSRP is promoting contributions to regional revitalization and the commercialization of research outcomes through the coordination of the Kitakyushu Foundation for the Advancement of Industry, Science and Technology (FAIS).

Kitakyushu is actively promoting the transfer of environmental technologies of companies and the know-how of the local government developed in the process of overcoming pollution to developing countries that are troubled by similar problems. The Kitakyushu International Techno-cooperative Association (KITA) was created in 1980 to contribute to the city's international cooperation efforts with developing countries through the transfer of the industrial technologies amassed in Kitakyushu. The collaboration of local volunteers, experts, and the local government have laid the foundation for international cooperation.

In addition, the Kitakyushu City Environmental Industry Promotion Council, Kitakyushu Interdependent Business Consortium for Sustainable Development (KICS), TechnoMix Kitakyushu, Kitakyushu new growth strategy conference, and Kitakyushu Promotion Council to Overcome Population Decline and Vitalize Local Economies are carrying out various activities and exchanges aiming at regional development and economic growth through industries.



Signing ceremony on collaboration for environmental SDGs between Sompo Japan Nipponkoa Insurance and Kitakyushu City

Kitakyushu has also signed an agreement on comprehensive collaboration on the SDGs with Sompo Japan Nipponkoa Insurance Inc. This agreement is the first of its kind in Japan connecting local governments and companies on the SDGs.

In the future, Kitakyushu is considering setting up new networks to promote the SDGs and is also considering the creation of the Kitakyushu City SDGs Council (tentative name) to expand the SDGs with the cooperation of citizens, businesses, and educational institutions, as well as the SDGs Club (tentative name), where citizens, companies, and universities can participate.

Kitakyushu is also enhancing ownership of the SDGs by all stakeholders with the organization of SDGs symposiums and workshops for residents and entrepreneurs.

(b) Incorporation of the SDGs in Local Framework and Consistency with the National SDGs Framework

Consistency with National Policies on the SDGs



Selected as a "FutureCity", an initiative promoted by the Japanese government in 2011, Kitakyushu has since been implementing projects based on a concept of the city creating three values: environment, economy, and society, to develop responses for the environment and super-aging society. Under this initiative, it can be argued that Kitakyushu has created a new approach and laid a cross-cutting foundation to integrate these three dimensions. Kitakyushu is also proactively promoting cooperation with other local governments through this initiative.

In June 2018, Kitakyushu was selected as a SDGs Future City, a new concept by the Japanese government that follows its FutureCity initiative. Going forward, Kitakyushu will regularly manage the progress of activities by giving further shape to the contents of the city's proposal for SDGs Future City in cooperation with the national government's SDGs Promotion Headquarters and formulating a three-year plan from 2018 to 2020. As a selected city, Kitakyushu will steadily implement the overall plan and model projects using subsidy from the national government as financial resources and with the support of ministry task forces and experts related to the promotion of local government SDGs.

Kitakyushu's actions have earned high praise from the Japanese government and have also been communicated as part of Japan's efforts. For example, Kitakyushu's cooperation in Cambodia on water sector was taken up as one successful example in a video by the Japanese government on the Public Private Action Partnership presented by the Minister of Foreign Affairs at HLPF in 2017



UN High-Level Political Forum 2017, Source: Ministry of Foreign Affairs

Kitakyushu also received the SDGs Partnership Award (the special prize) at the First Japan SDGs Awards organized by the SDGs Promotion Headquarters of the Japanese government in December 2017. The city's actions on environment and international cooperation, summarized in Fig. 3, received high marks.



Ceremony at the First Japan SDGs Award
(Kitakyushu's Mayor is located in the upper row, second from the right)

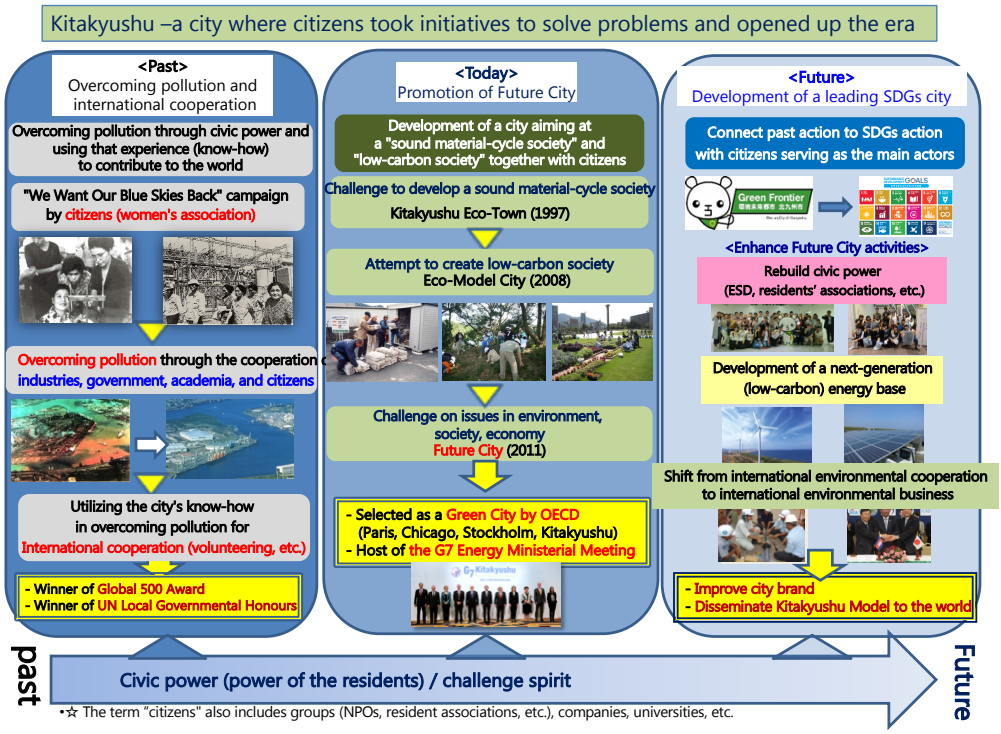


Fig 3: Past, present and future connected to the SDGs in Kitakyushu

Incorporation of the SDGs in the local framework

As the first step to incorporating the SDGs into the local framework, Kitakyushu inserted the SDGs into the Kitakyushu Basic Environment Plan, which was revised in November 2017. The city included the subtitle, "Environmental Capital & SDGs Realization Plan", and mapped out the measures of the plan and its relationship with the goals and targets of the SDGs, embarking on a direction to simultaneously achieve the SDGs and environmental policies. By utilizing the indicators and data in the plan, Kitakyushu set what it could use as SDG indicators as "SDGs related indicators" and will review that progress each year.

In the future, Kitakyushu will also continue to introduce the SDGs in administrative plans in areas other than the environment. As necessary, the city will consider incorporating SDGs in the revisions of administrative plans in all areas, including Fig.4 below, such as the "Genki Hasshin! Kitakyushu Plan", which is the Kitakyushu City Master Plan.

- Energetic Kitakyushu Plan (The Kitakyushu City Master Plan)
- Comprehensive strategy of the City of Kitakyushu for Overcoming Population Decline and Vitalizing Local Economies
- Kitakyushu City basic plan for gender equality
- Kitakyushu City plan for cultural promotion
- Kitakyushu City administrative guidance on human rights
- Kitakyushu City welfare (Regional welfare plan)
- Kitakyushu City plan for vital longevity
- Kitakyushu City plan for support of persons with disabilities
- Kitakyushu City plan for health promotion
- Kitakyushu City plan for children
- Future City Plan of the City of Kitakyushu
- Kitakyushu City Basic Environmental Plan
- New Growth Strategy of the City of Kitakyushu
- Urban Planning Master Plan of the City of Kitakyushu
- Kitakyushu City the environmental capital comprehensive transportation strategy
- Kitakyushu City educational plan for children's future
- Kitakyushu City lifelong learning promotion plan



Fig. 4: Kitakyushu's major plans
(Note: Name of the above plans in lower-case letters are unofficial translation)

(c) Integration of the Three Dimensions

Kitakyushu has been promoting the development of a sustainable city with the comprehensive integration of the three dimensions of the economy, society, and environment. In the future, the city will strengthen initiatives to achieve "Fostering a trusted Green Growth City with true wealth and prosperity, contributing to the world", the city's comprehensive SDG vision for 2030 based on its SDGs strategy (Fig. 5) outlined in its SDGs Future City proposal. Specifically, the following visions are raised in each pillar of economy, society, and environment, depicting concreate images how the city sees its ideal state in 2030.

Economy Development of new industries in harmony between people and the environment

- City aiming to become a frontier city by creating new business, including the development and application of new technologies and systems, such as robot artificial intelligence (AI) and autonomous driving in anticipation of labor shortages due to declining birthrates and the aging population
- City creating energy industries that will form the core of new industries through offshore wind farms that package together offshore wind power, maintenance technologies and parts manufacturing, and advanced energy management, etc.

Society Creation of a society in which every single person can take action and play a vibrant role together

- City creating spaces where everyone can play a role and be involved according to his or her own characteristics, such as being a woman, elderly, or a person with disabilities, and including gender equality initiatives
- City aiming to improve quality of life (QOL) through public participatory-type activities, such as multi-generational and multi-cultural exchange making use of ESD and using civic power and local networks to minimize disasters (mitigate disasters).

Environment Creation of a sustainable city as a model for the world

- City creating a material-cycle system as a model for other cities to advance the recycling technologies of rare metals, promote waste reduction and resource recycling with the participation of residents, and utilize waste power generation, etc.
- Stock-type society that maximizes the use of existing public facilities and public transport facilities with longer service lives in a compact city
- City contributing to the sustainable development in cities around the world through its past experiences and technologies



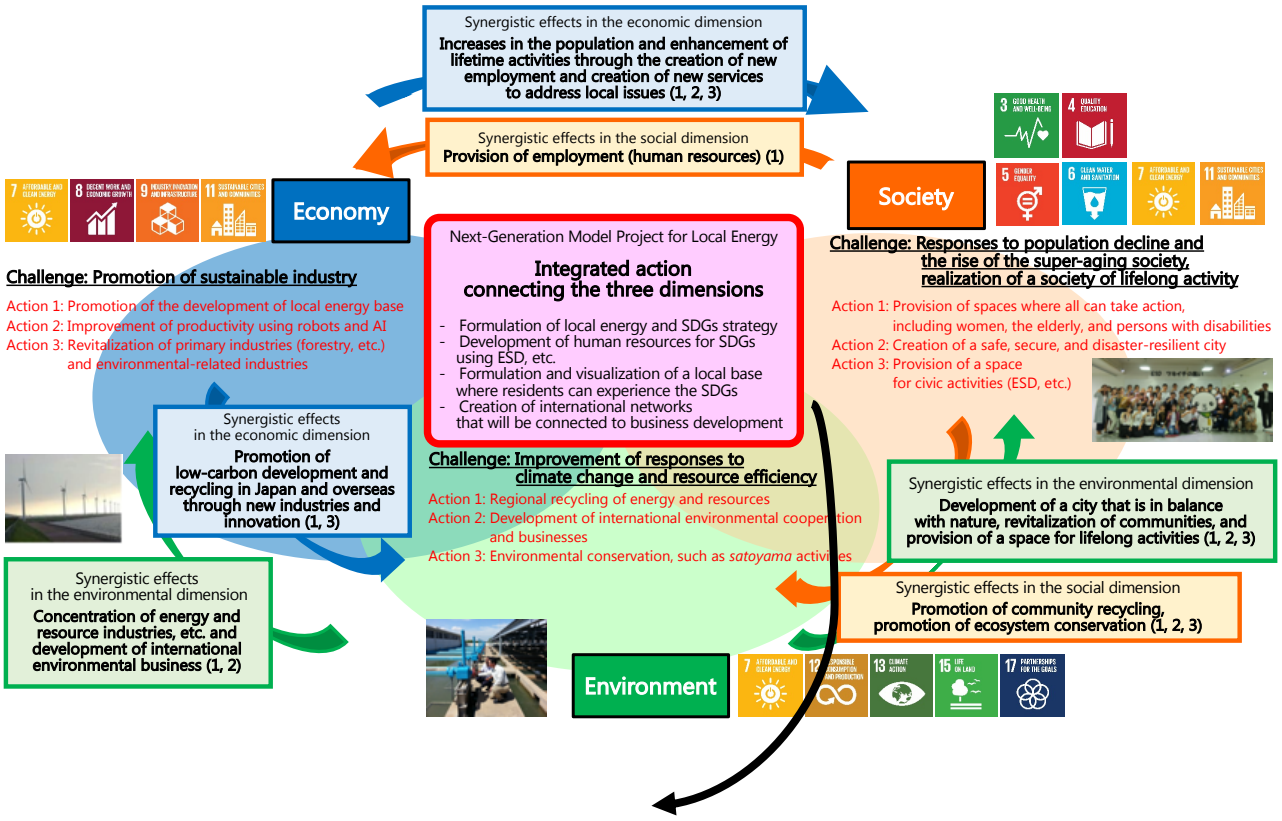
Fig. 5: Kitakyushu's SDGs strategy

The overall theme of HLPF2018 is "Transformation towards sustainable and resilient societies", with a review planned for Goal 6 (clean water and sanitation), Goal 7 (affordable and clean energy), Goal 11 (sustainable cities and communities), Goal 12 (responsible consumption and production), and Goal 15 (life on land). There are a number of areas in these goals where Kitakyushu's strengths shine and for which the city has taken several actions in the past. Going forward, Kitakyushu will promote the following projects, aiming to create a synergistic effect in the three dimensions of economy, society and the environment by combining individual actions taken to date under the SDGs Future City Plan.

Goal 7 (Energy)

The next-generation local energy model project (tentative name)

This project, which will be implemented as a core project according to the Kitakyushu's proposal of SDG Future City and other, was adopted as a local government SDGs model project following a public invite by the Japanese government. The project will also receive budgetary provisions from the national government. As shown in the project image (Fig. 6), Kitakyushu is aiming at synergistic effects in economic, social and environmental dimensions, formed around regional energy projects.



Realization of the "promotion of sustainable industries", "responses to population decline and the rise of the super-aging society", as well as the "realization of a society of lifelong activity", and "responses to climate change and resource efficiency" through a combination of (2) human resources for SDGs, (3) visualization of SDGs, and (4) development of an international platform and network for the SDGs, formed around Local Energy and SDGs Strategy

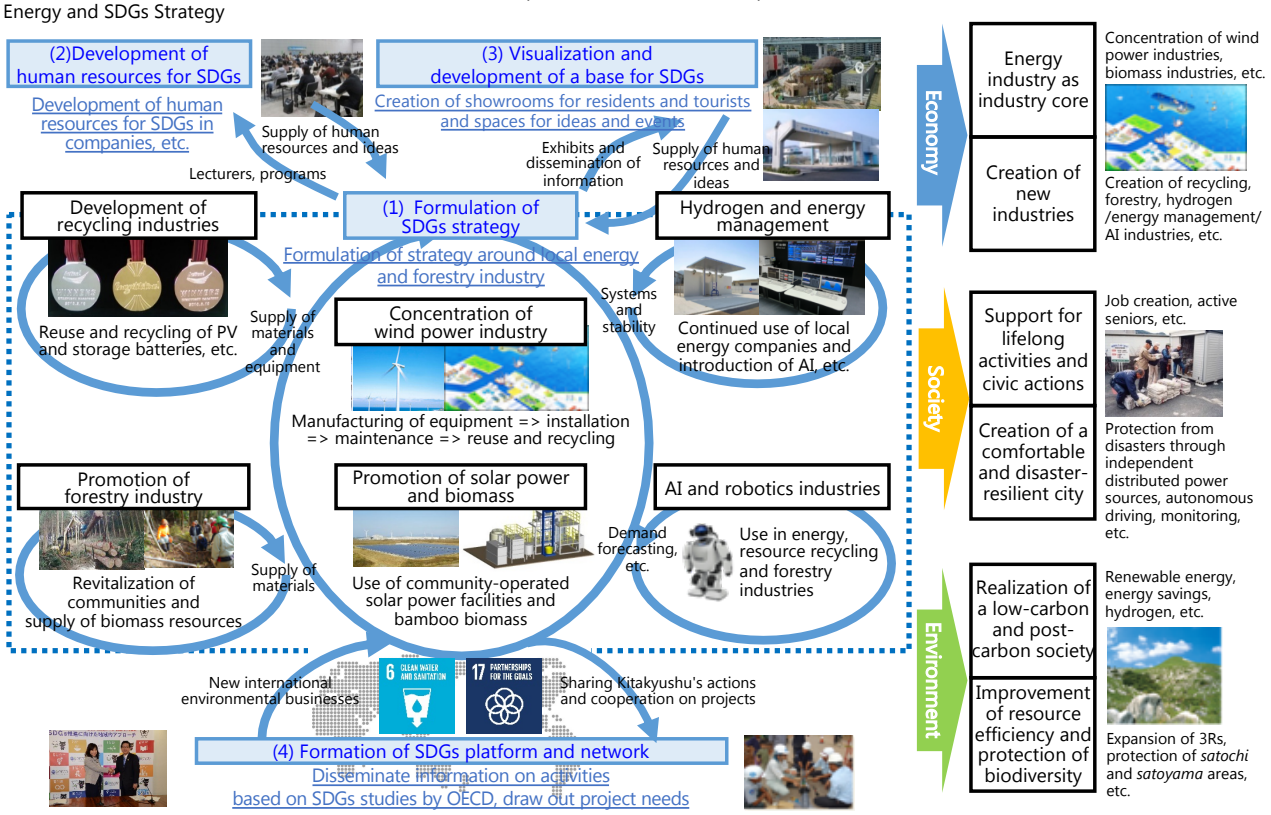


Fig. 6: Next-generation regional energy model project (Image)

This project aims to achieve the SDGs based on the three dimensions through the following measures by utilizing Kitakyushu's strengths (civic power, technological capabilities, international networks, etc.) from the three perspectives of "creating energy (through low carbon)", "(smart) use of energy", and connecting energy (connections)".

(1) Develop strategies to achieve the SDGs in the region with energy at the core

(2) Develop human resources to support energy-related SDGs activities

(3) Visualize SDGs activities, including energy, and form a local base to take action on the SDGs

(4) Create an international platform and network to "create city-level indicators" and disseminate this information in order to expand these activities both in Japan and overseas, and identify international needs and seeds

Kitakyushu seeks to integrate and achieve a balance among economy, society, and environment based on the organic combination of these projects and partnerships with stakeholders.

Specifically, Kitakyushu will formulate the local energy and SDGs strategy to promote local SDGs through renewable energy, energy efficiency, energy management, use of hydrogen and other. Of these strategies, Kitakyushu is aiming to promote other types of renewable energies, such as offshore wind power and biomass, and develop the wind power industry as part of its perspective to "create energy." Under the perspectives of the "use and connection of energy", Kitakyushu is promoting the use of hydrogen energy and energy management, developing recycling and forestry industries to supply raw materials to renewable energy industries, and promoting the development of AI and robotics industries to support energy management. Kitakyushu is also incorporating new monitoring businesses making use of energy management know-how and the development of a disaster-resilient city through independent distributed energy.

As the foundation to support the realization of these local energy and SDGs strategies, Kitakyushu will develop human resources for the SDGs mainly for companies and supply human resources and ideas to related industries. The city will also create spaces for residents and tourists to visualize the SDGs and for new ideas and encounters with the formation of a local environmental base. Related industries will cooperate in response to these efforts by supplying lecturers and exhibits. Kitakyushu will also communicate these efforts throughout Japan and overseas through SDGs-related platforms in cooperation with the Organisation for Economic Co-operation and Development (OECD), and draw out project needs related to the SDGs by utilizing the network of over 9,000 overseas trainees who have trained in Kitakyushu.

Goal 11 (Urban development)

City forest project: urban development aiming at coexistence between cities and nature

(tentative name)

Kitakyushu leases out idle company-owned land, unused city-owned land, and sections of parks to local autonomous groups that involve everyone in the development of green areas, such as children gathering acorns, the elderly cultivating seedlings, and multiple generations planting trees, including companies. Through these activities, promising synergistic effects between the three dimensions, as shown in Fig. 7, may hold the solution to the issues of the use of idle and unused land, which have become problems in local areas.

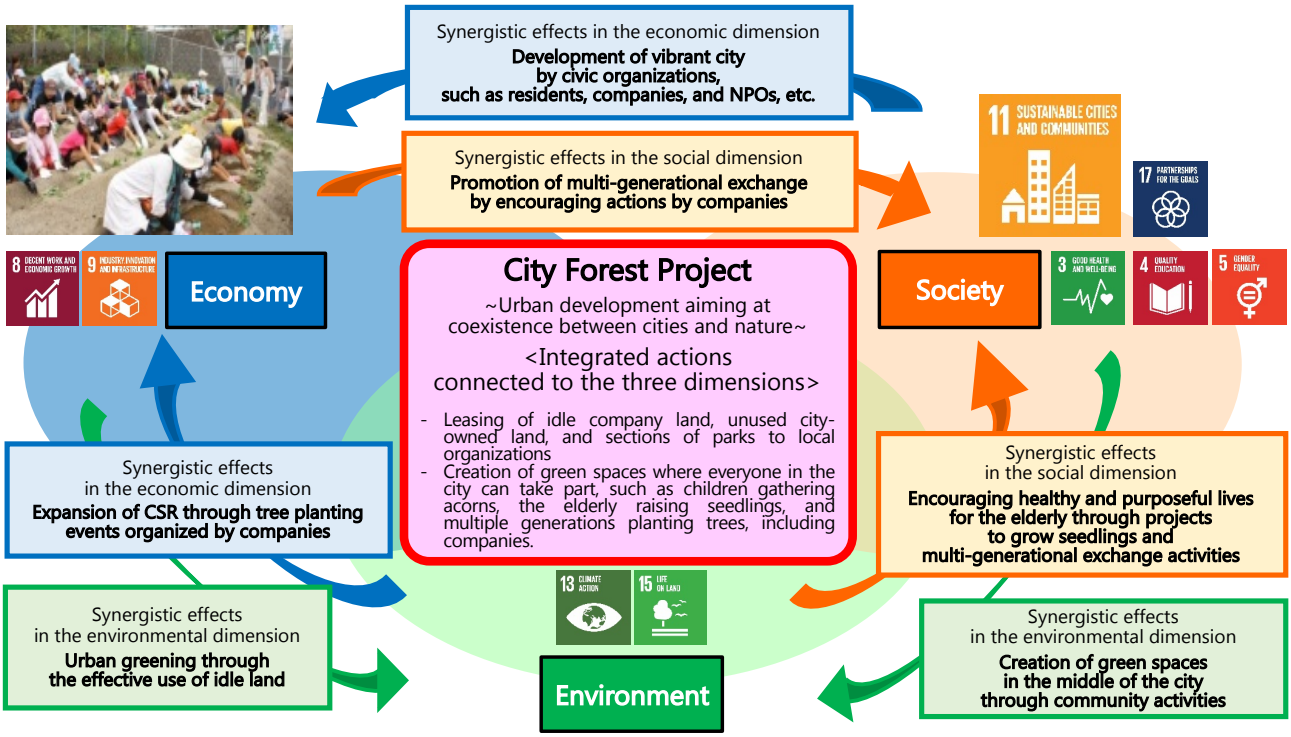


Fig. 7: City forest project: urban development aiming at coexistence between cities and nature (image)

Goal 12 (Sustainable consumption and production)

All-city recycling (tentative name)

This project aims to improve the residents' awareness of recycling, enhance understanding and cooperation on the employment of the elderly and people with disabilities, and create a synergistic effect in the entire city, as shown in Fig. 8 below, by publicizing efforts to hire the elderly and persons with disabilities that may find it difficult to be gainfully employed by ordinary companies for sorting work at recycling factories.

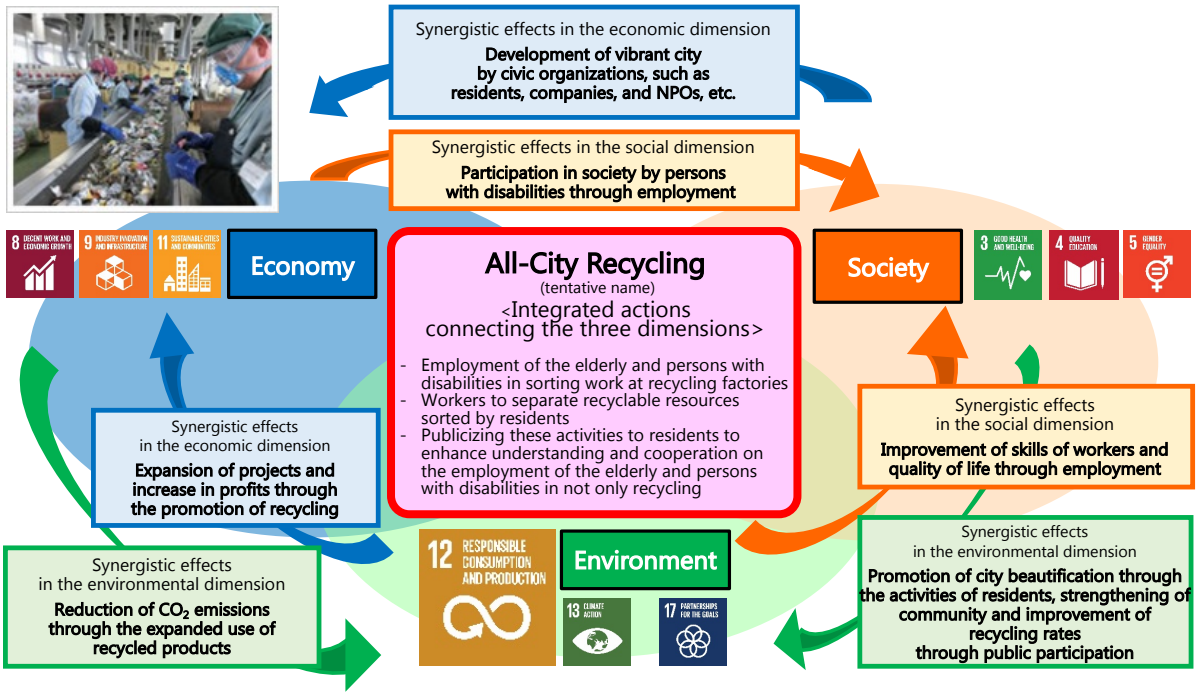


Fig. 8: All-City Recycling (tentative name) (image)

Goal 15 (Life on land)

Use of forest resources in large cities (tentative name)

Clearcutting and periodic thinning of cedar and cypress in city-managed forests is carried out, and timber is supplied as sawn lumber or biomass fuel to revitalize forest management and preserve natural areas, such as *satoyama*. Kitakyushu provides city-run forests as spaces for environmental education and recreation for residents, as places for environmental education on bamboo shoots with the transfer of neglected bamboo groves to groves for production, and the creation of jobs for persons with disabilities by outsourcing work for maintenance and management to support organizations. These activities are expected to create a synergistic effect with the three dimensions, as shown in Fig. 9 below, and solve issues in the area about the effective use of city-run forests and neglected bamboo forests.

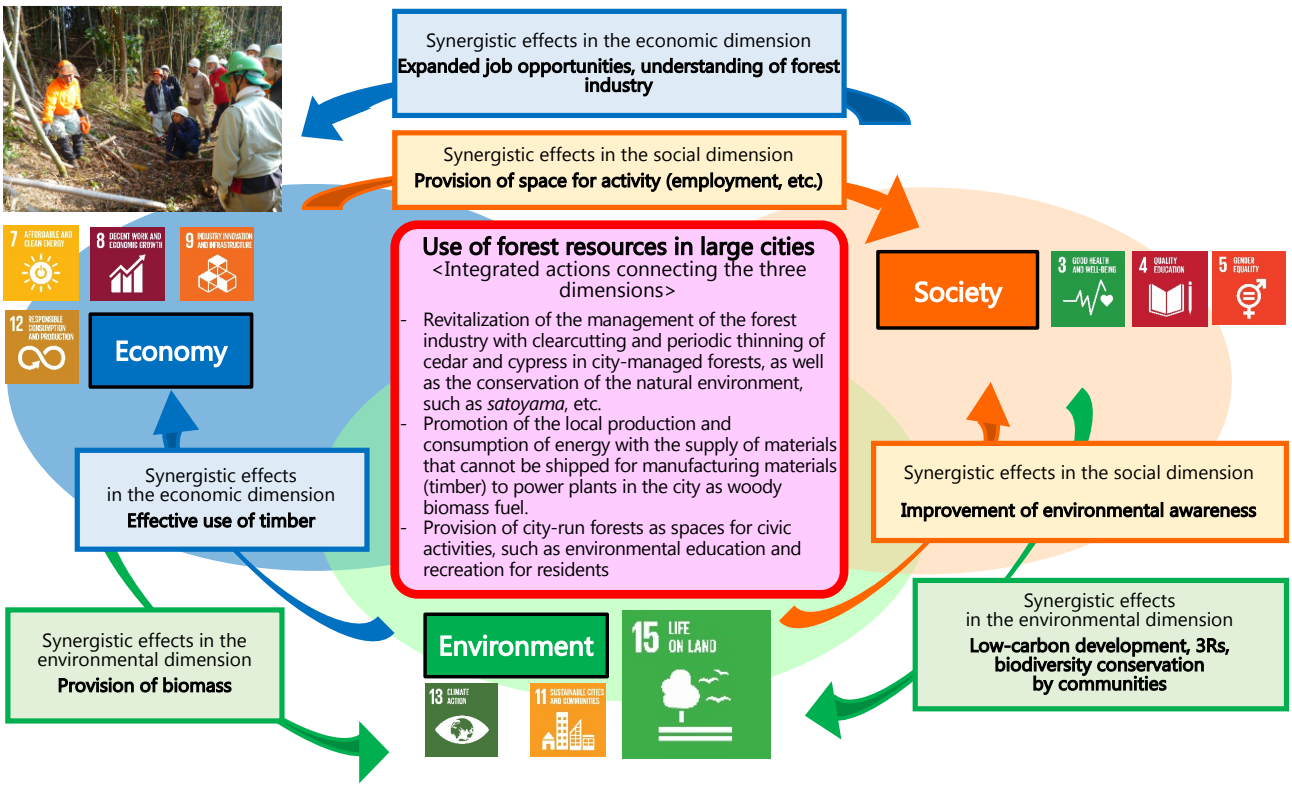


Fig. 9: Use of forest resources in large cities (image)

Goal 6 (Clean water and sanitation)

Kitakyushu's Water and Sewage Bureau has been actively developing international cooperation activities in the areas of water supply and sewerage for almost 30 years. The city has dispatched about 200 experts from Kitakyushu to 13 countries overseas and has accepted over 5,000 trainees from 155 countries around the world to train in Kitakyushu.

Since Kitakyushu started to dispatch experts in international cooperation with Phnom Penh in Cambodia in 1999, the water supply coverage rate, water supply time, and percentage of non-revenue water (from leakage and theft) have dramatically improved (Table 1), leading Phnom Penh to become one of the few cities in a developing country with potable tap water. This success is referred to as the "Phnom Penh Miracle".

Table 1: Changes in water supply coverage rate, water supply time, and percentage of non-revenue water in Phnom Penh

	1993	2006
Water supply coverage rate	25%	90%
Water supply time	10 hours	24 hours
Percentage of non-revenue water (leakage, theft)	72%	8%

In recent years, Kitakyushu has shifted its focus from international cooperation to promoting the development of the water business and transferring technologies to cities in developing countries. Kitakyushu is now connecting this to opportunities for young staff members in the Waterworks Bureau in Kitakyushu to provide a space to pass on technology and skills for the development of infrastructure, something that has been on the decline. Through this, Kitakyushu is working on the synergistic effects of passing on skills to the staff members at the Kitakyushu Waterworks Bureau, shifting from an environmental to economic, and now to a social issue for the city.

(d) Leaving No One Behind

In recent years, issues for local areas have become more complex and diversified in many areas, such as crime prevention/disaster prevention, environment, education, and welfare, as the social environment has changed with the decline in populations and rise in the number of elderly and single-person households, as well as diluted awareness in local cooperation. With such social changes, Kitakyushu is restructuring local communities so that no one is left behind. The city is establishing community development councils set up with a cross-section of various local groups, such as self-governing organizations, social welfare councils, women's associations, senior clubs, schools, companies, and governmental bodies in each school district. By utilizing "civic power", which was the driving force behind Kitakyushu's achievements to overcome pollution, the city will enhance community activities with ownership of residents.

Kitakyushu is also implementing model projects through the organization of workshops with the participation of residents from some residents' associations to "visualize local issues" to tackle the local issues in cooperation between the community and the city administration.



Model projects to visualize local issues with the participation of residents

In recent years, Kitakyushu has also put effort into education and food education for children through activities, such as the children's Himawari cram school and the meal and place for children ("Kodomo Shokudo"). At the children's Himawari cram school, learning instructors, such as university students, residents, and former teachers in the area, offer individual tutoring on self-study after classes to elementary and junior high school students in the city. There are many families with parents or guardians who return home late because of work and the number of children who eat alone is increasing. "Kodomo Shokudo" is a program that provides meals to children and offers support for studying and a safe space for them to play and interact. These programs can also be connected to creating purpose in the lives of volunteers, mainly comprised of the elderly and university students in the area, and motivating them to take measures to prevent food waste.



Meal and place for Children (Children restaurant)

In the future, Kitakyushu plans to implement a wide range of projects that contribute to no one being left behind through initiatives to create a sound society to empower all women, build motivation in life for the elderly, provide comprehensive support for persons with disabilities, and promote food recycling, which are several specific actions included in the SDGs Future City Plan.

(e) Institutional Mechanisms

As the systems to promote the SDGs Implementation Guiding Principles formulated by the national government in 2016, local governments are encouraged to reflect the elements of the SDGs to the greatest extent possible when each local government formulates various plans, strategies, and policies and to promote initiatives to achieve the SDGs, such as strengthening cooperation with related stakeholders through measures by related ministries and agencies. Kitakyushu has established the following systems and mechanisms in cooperation with the national government and the involvement of companies and residents to promote initiatives to achieve the goals of the SDGs.

As the first step in promoting local government SDGs, the Kitakyushu City internal working group was established in July 2017 as an internal organization consisting of managers from each department to share information and carry out discussions on the SDGs at the practitioners' level.

Headed by the Mayor, the Kitakyushu City SDGs Future City promotion headquarters (tentative English name) was established in February 2018. Kitakyushu established a cross-departmental organization in city hall (Fig. 10) to strengthen cooperation between related departments and discuss issues on how to proceed with actions in the future.

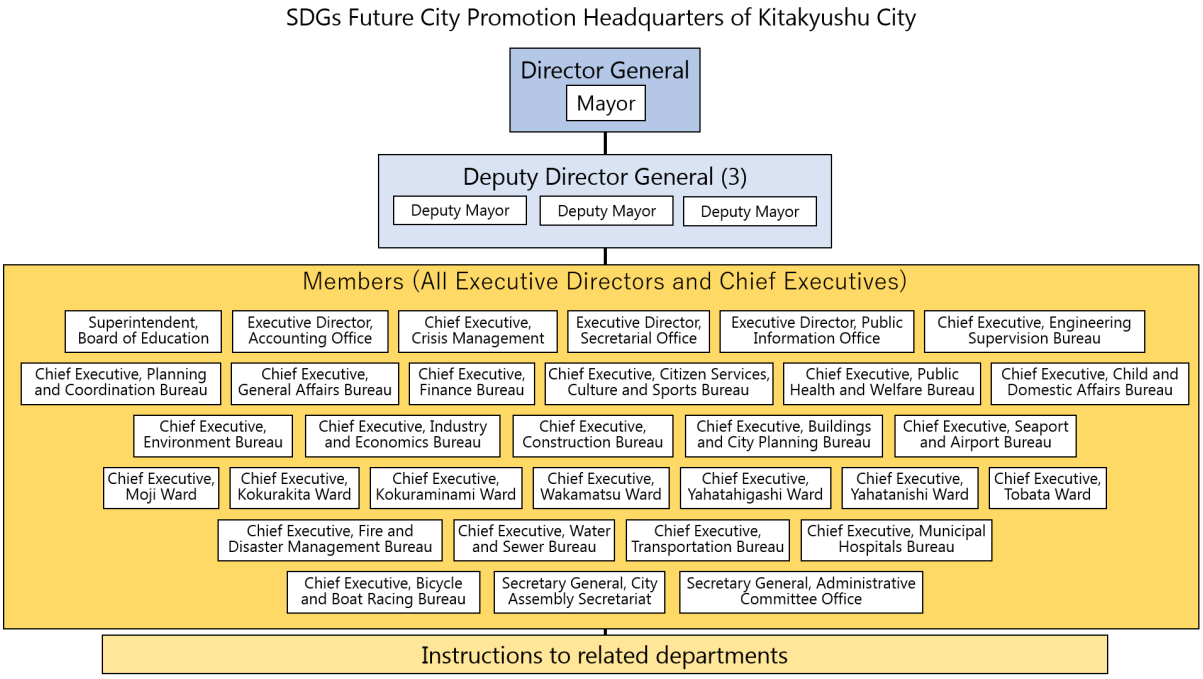


Fig. 10: Kitakyushu SDGs Future City promotion headquarters (image) (tentative name)

Going forward, Kitakyushu plans to launch the Kitakyushu City SDGs council (tentative name), which will consist of stakeholders from the civil society, businesses, finance, and educational fields, in order to promote the spread of the SDGs. Kitakyushu will also establish the SDGs club (tentative name) in which local residents and corporations can freely participate, and promote public awareness and the development of networks.

These systems will also be linked to existing frameworks that address compatible issues, such as regional creation. For example, Kitakyushu will promote the realization of the SDGs and regional creation in an integrated manner in cooperation with the Kitakyushu promotion headquarters for Overcoming Population Decline and Vitalizing Local Economies, established in city hall in 2014, in order to promote measures to address population decline and regional revitalization.

The SDGs will also be incorporated into existing events and PR media as shown in Fig. 11. Kitakyushu will expand mechanisms so that all residents can experience and be aware of the SDGs in all places and at every opportunity.

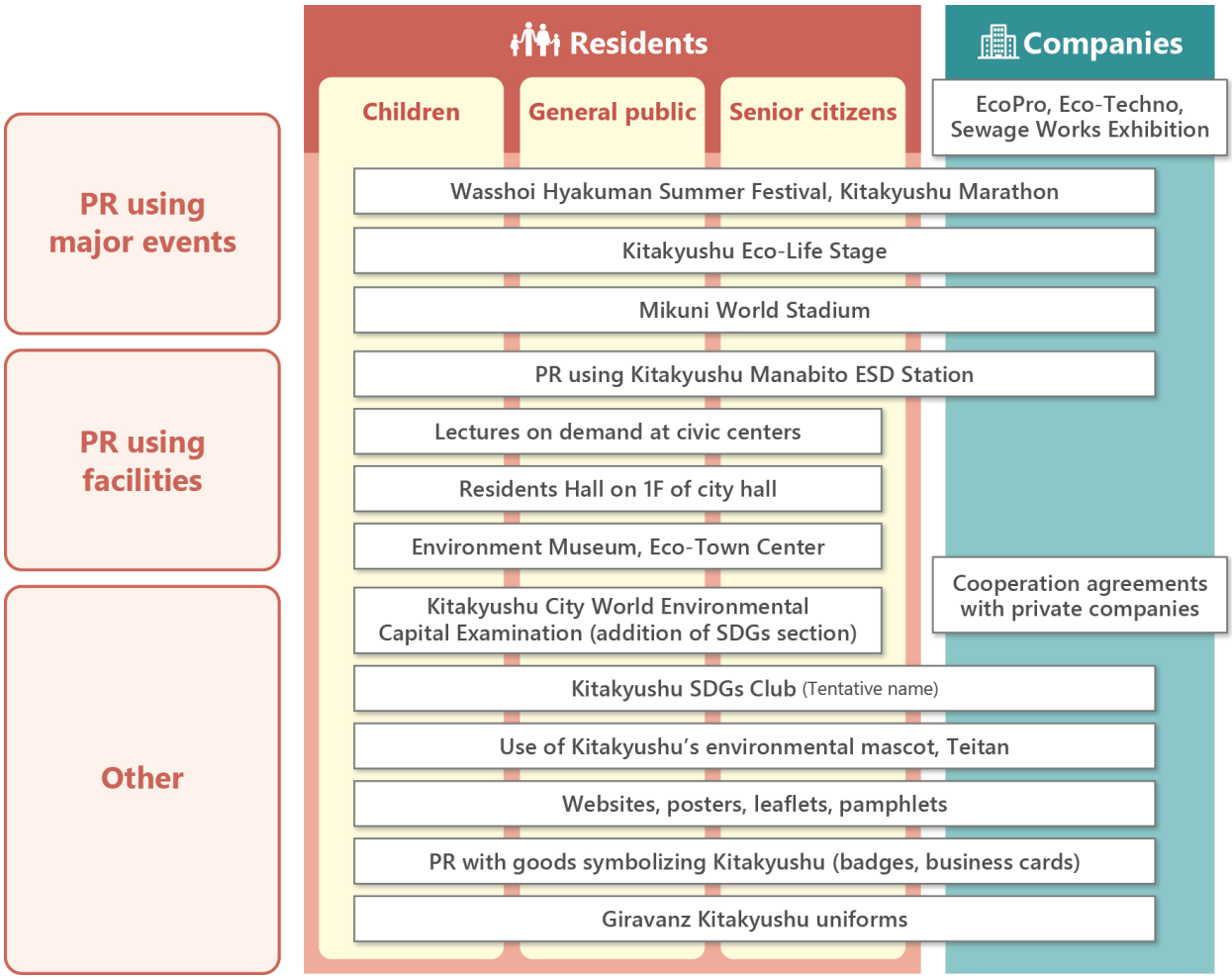


Fig. 11: Development of information dissemination and public awareness of local government SDGs in Kitakyushu

On the opposite side of the spectrum, Kitakyushu has established a multi-layered progress management system to make these actions for the SDGs in Kitakyushu more effective. First, progress is regularly checked by those implementing activities based on KPI in the SDGs Future City plan. Then, this is checked by the government. In addition, SDGs-related indicators have already been established in the Basic Environment Plan as voluntary management of progress within the city, and this progress will be confirmed each year. Going forward, Kitakyushu will consider the effective promotion of the SDGs with the implementation of progress checks in each area by relating other administrative plans to the SDGs and setting up indicators for inspections.

Since 2018, Kitakyushu has participated in OECD's "A Territorial Approach to the Sustainable Development Goals: Engaging Cities and Regions to ensure no-one is left behind" project and is developing SDGs indicators at the city and regional level in cooperation with OECD, as well as receiving evaluations and policy recommendations from the perspective of the SDGs based on Kitakyushu's regional characteristics. By utilizing such knowledge, Kitakyushu will be able to build more effective mechanisms.

4. Goals and Targets

Kitakyushu has raised six priority goals and targets that it will take up in the SDGs Future City proposal, as follows. The six priority targets are Goal 5 (gender equality), Goal 7 (affordable and clean energy), Goal 8 (decent work and economic growth), Goal 9 (industry, innovation and infrastructure), Goal 12 (responsible production and consumption) and Goal 17 (partnerships for the goals), all areas that highlight Kitakyushu's strengths. Kitakyushu's strategy can be regarded as one that will create a synergistic effect in target fields, with the city's strengths at the core.

From existing indicators, as well as indicator that will be developed in projects with OECD, Kitakyushu will set indicators to measure progress that suit the conditions of the city in the future. This report will try to examine the applicability, current state, and progress of indicators in the city in light of UN indicators and within the range of current data, as reference for the development of future indicators.

The current situations in Kitakyushu of its priority goals are reviewed, if applicable, in reference to the result of the SDGs Index and Dashboards Report 2017, a compilation of the achievements of the SDGs in 157 countries around the world by Bertelsmann Stiftung and the Sustainable Development Solutions Network (SDSN).



Goal 5
Achieve gender equality and empower all women and girls
Target 5.5
Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life

(Reference) UN indicators for target 5.5

5.5.1 Proportion of seats held by women in national parliaments and local governments

5.5.2 Proportion of women in managerial positions

With reference to UN indicator 5.5.1, "Proportion of seats held by women in national parliaments and local governments", from the perspective of local city assemblies, as of 2018, 11 out of the 57 city council members in Kitakyushu are women, which accounts for 19.3% (Fig. 12). (City of Kitakyushu, 2018c)

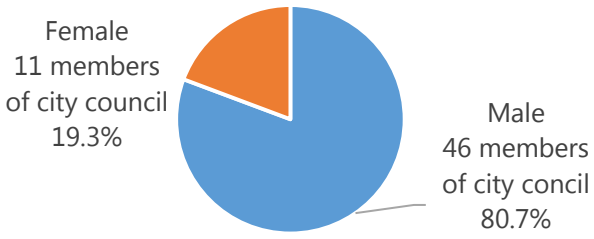


Fig. 12. Proportion of seats held by women in Kitakyushu City Assembly
(Source: City of Kitakyushu, 2018c)

According to a report by Bertelsmann Stiftung, the proportion of women parliamentarians in Japan is 9.5%. Based on Bertelsmann Stiftung's international ranking of four stages (from highest to lowest: green, yellow, orange, red), this figure for Japan has been evaluated as red, the lowest ranking. The statistical mean of this indicator is 20.7% (Bertelsmann Stiftung, 2017). Based on this situation, the current condition in Kitakyushu City, which is roughly equivalent to the world average, is significantly higher than the current situation of the proportion of women parliamentarians in Japan.

Kitakyushu has formulated and is promoting various measures under the Kitakyushu City Basic Plan for Gender Equality, as it aims to develop a society where people can fully demonstrate their individuality and ability, regardless of gender. Since 2007, Kitakyushu has launched initiatives to shift from a male-centric organization at city hall to an organization where everyone can be active, such as the appointment of a female deputy mayor, in order to change situations where women constitute the minority in the decision-making process for city policies. With a consistent vision and promotion of efforts by top managers and executives, the proportion of women in managerial positions in city hall has risen to 14.8% in 2018 (as per the UN indicator 5.5.2 on the proportion of women in managerial positions). In addition, the proportion of women committee members in affiliated organizations in the city, which reflect the opinions of residents to the administration and offer direction for urban development, exceeds 50%, which is the top among all ordinance-designated cities in Japan.

In 2016, the city opened up Japan's first Woman Work Café Kitakyushu, a one-stop shop helping women find employment that supports women's active performance in the economic area.



Goal 7
Ensure access to affordable, reliable, sustainable and modern energy for all
Target 7.2
Increase substantially the share of renewable energy in the global energy mix

(Reference) UN indicator for target 7.2

7.2.1 Renewable energy share in the total final energy consumption

It is difficult to compile statistics at the city level for indicator 7.2.1 because electric power from outside the city area is mixed and consumed in the city. However, it is possible to indicate the amount of renewable energy that is produced in Kitakyushu. The current scale of the installation of renewable energy ranks towards the top in Japan (Fig. 13).

- Solar power generation: 255,757kW Ranked 3rd among municipalities in Japan (2017)
- Wind power generation: 32,270kW (16 onshore wind power facilities, 2 offshore wind power facilities), Ranked 1st among ordinance-designated cities
- Hydropower generation: 1,708kW
- Waste power generation (waste-to-energy): 46,840kW (facilities at 3 locations in the city)

Fig. 13: Main installation points for renewable energy in Kitakyushu (Source: City of Kitakyushu, 2018e)

When viewing changes in the volume of renewable energy introduced in Kitakyushu, it is clear that it has expanded significantly in recent years (Fig. 14).

According to a report by Bertelsmann Stiftung, although the world's average for UN indicator 7.2.1 is 33.7%, Japan's figure is red at 4.5% (significantly far from achieving the target). (Bertelsmann Stiftung, 2017)

An advanced city for renewable energy in Japan, Kitakyushu is promoting the local production and consumption of energy. However, since it partly depends on energy from outside the city and about 20% of the city's GRP flows out outside the city as energy payments, this is also an economic challenge. (City of Kitakyushu, 2018f)

In 2018, Kitakyushu will implement the next-generation local energy model project, which has been selected as one of the Japanese government's 10 municipal SDGs model projects to further expand the use of renewable energy. There is also an epic plan to install up to 44 offshore wind power generators in the waters off of Kitakyushu (Hibikinada area) to become the largest-scale wind farm in the country, which is scheduled to start construction in 2022. Wind power industries make up a broad segment of the industrial world, which will simultaneously have an effect on the creation of employment.

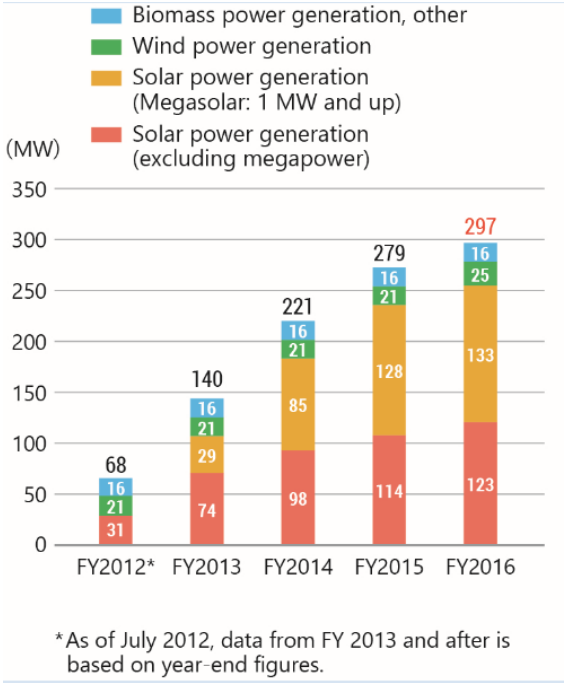
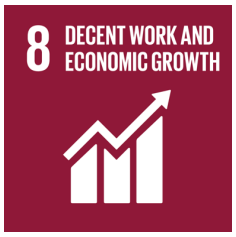


Fig. 14: Volume of renewable energy introduced in Kitakyushu (FY 2012 to 2016)
(Source: City of Kitakyushu, 2018e)



Goal 8
Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Target 8.2
Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors

Target 8.5
Achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

(Reference) UN indicators for targets 8.2 and 8.5

8.2.1 Annual growth rate of real GDP per employed person

8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities

8.5.2 Unemployment rate, by sex, age and persons with disabilities

Kitakyushu has developed as a leading industrial city in Japan since the start of operations of the first steelworks in the country in 1901. Companies from various industries such as the material industry (steel, chemicals, etc.), processing and assembly industry (machinery, automobiles, etc.), and environmental-related industry (recycling, etc.) have located in Kitakyushu along with the advanced technologies (the headquarters of global companies, such as Yaskawa Electric Corporation and TOTO, are located in Kitakyushu) nowadays. The public and private sectors are also working on "inbound business" utilizing tourism resources, such as World Heritage sites in the city, and industrial tourism, through factory tours.

There are also 10 universities in Kitakyushu, each with its own distinct personalities, such as the

Kyushu Institute of Technology and the University of Occupational and Environmental Health. In particular, the Kitakyushu Science and Research Park is conducting research focusing on environmental and information technologies. The results of active collaboration among industries, academia, and the government and the business development of research outcomes are leading to the creation of artificial intelligence (AI), nursing care robots, development of the recycling industry and creation of employment. Specifically, Kitakyushu has identified Key Performance Indicators (KPI) to increase the number of researchers in autonomous driving from 35 in FY 2014 to 50 in FY 2019 and Key Performance indicators (KPI) on attracting a total of 20 research and development departments between FY 2015 and 2019 by actively accepting human resources from other affiliated graduate schools.

However, the gross regional product (GRP, nominal) of Kitakyushu in FY 2014 was JPY 3.5358 trillion, the economic growth rate (nominal) was 4.3%, and the (actual figures: chain method) was 2.1%. Changes in the economic growth rate (FY 2002 to 2014) are shown in Fig. 15. (City of Kitakyushu, 2015)

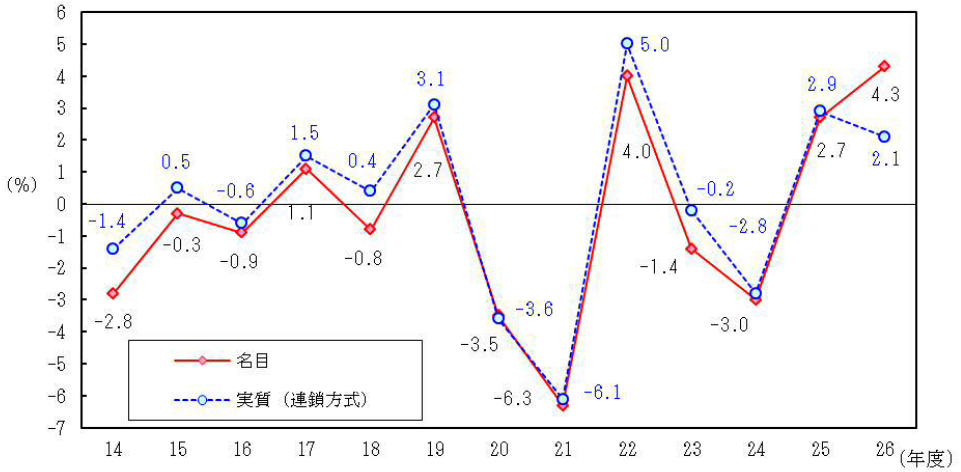


Fig. 15: Economic growth rate in Kitakyushu (FY2002-2014) (Source: City of Kitakyushu, 2015)

However, the values for "per employed person" in UN indicator 8.2.1 have not been calculated.

No statistics are available for indicator 8.5.1. However, when looking at the gross income per taxpayer (Table 2), Kitakyushu ranks low at 17 out of 20 ordinance-designated cities in Japan (City of Kitakyushu, 2017b)

Table 2: Gross income tax per taxpayer by ordinance-designated city (Source: City of Kitakyushu, 2017b)

Rank	Organization /city name	Gross income tax per capita (yen)	Rank	Organization /city name	Gross income tax per capita (yen)
1	Yokohama City	3,840,476	11	Sendai City	3,266,381
2	Kawasaki City	3,794,874	12	Sagamihara City	3,243,901
3	Saitama City	3,673,955	13	Sakai City	3,234,282
4	Nagoya City	3,660,079	14	Hamamatsu City	3,107,218
5	Osaka City	3,580,555	15	Okayama City	3,100,857
6	Chiba City	3,527,828	16	Shizuoka City	3,091,493
7	Kobe City	3,460,055	17	Kitakyushu City	2,984,583
8	Kyoto City	3,288,507	18	Kumamoto City	2,963,099
9	Hiroshima City	3,278,273	19	Sapporo City	2,960,321
10	Fukuoka City	3,272,175	20	Niigata City	2,873,034
* Gross income tax corresponds to municipal tax					
(Materials) Survey on situation at municipal tax sections in FY 2015					

Kitakyushu's figures for unemployment rates by gender, in regard to indicator 8.5.2, are worse than the national average, and have deteriorated over the years (1995 to 2010) (Table 3). By gender, women have a followed a more gradual slope than men. (City of Kitakyushu, 2017b)

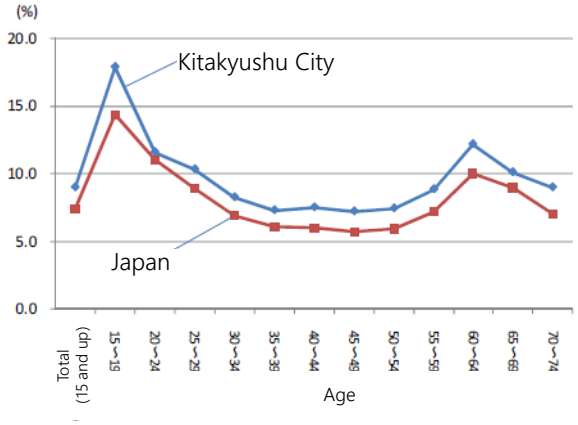
Table 3: Changes in unemployment rates in Kitakyushu (1995-2010) (Source: City of Kitakyushu, 2017b)

(Unit:%)

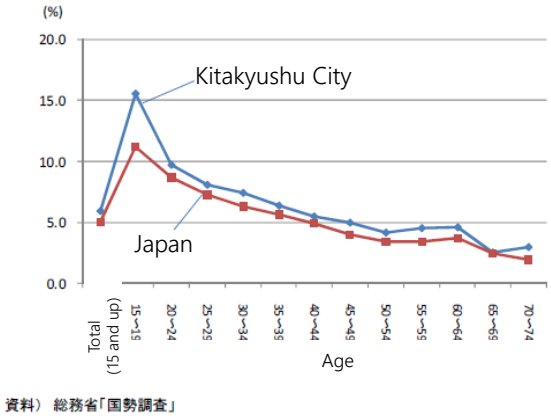
		1995	2000	2005	2010
＜Total＞	Kitakyushu	6.3	6.1	7.7	7.7
	Japan	4.3	4.7	6.0	6.4
＜Men＞	Kitakyushu	7.0	6.7	8.9	9.0
	Japan	4.6	5.1	6.7	7.4
＜Women＞	Kitakyushu	5.3	5.3	6.2	5.9
	Japan	3.8	4.2	4.9	5.0

By age group (Fig. 16 below), figures for both men and women are higher than the national average.

<Male>



<Female>



資料） 総務省「国勢調査」

Fig. 16: Changes in unemployment rates by gender and age (Source: City of Kitakyushu, 2017b)

For this reason, Kitakyushu aims to expand into widely-attractive industries and employment in the future that will help improve local income, such as the concentration of wind power generation industries and new business styles with the use of nursing care robots.



Goal 9
Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
Target 9.4
Upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency

(Reference) UN indicators for target 9.4

9.4.1 CO_2 emission per unit of value added

Industrial and urban infrastructure, such as expressways, central international ports, and a 24-hour airport, are all in place in Kitakyushu, which has developed as an industrial city. Due to technological

innovations through the city's experience in overcoming pollution, efficient production processes and supply chains have also been established in companies.

However, greenhouse gas (GHG) emissions in the Kitakyushu are characterized by a large amount of emissions in the industrial sector, with the industrial sector accounting for about 70% of the total by sector (Fig. 17).

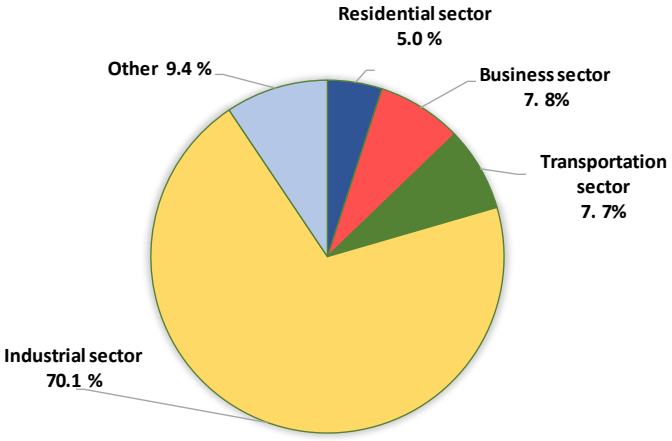


Fig. 17: GHG emissions in Kitakyushu by sector (FY 2014)

When looking at the changes in total emissions, emissions in FY 2014 increased by 1.6% compared to the previous year (Fig. 18), even as the situation has not changed significantly in recent years. Analyses have shown that the reason for this is that the shipment value of manufactured goods in the industrial sector increased (from 1.93 trillion yen to 2.13 trillion yen), which increased energy consumption. This is calculated based on assessments of emissions in the industrial sector and energy consumption per shipment value of manufactured goods, which shows that energy efficiency rose from 7.4 TJ/100 million yen (2013) to 7.0 TJ/100 million yen (2014). Going forward, Kitakyushu expects to see additional technological innovation to improve energy efficiency and infrastructure in order to form a sustainable industrial base (City of Kitakyushu, 2018e).

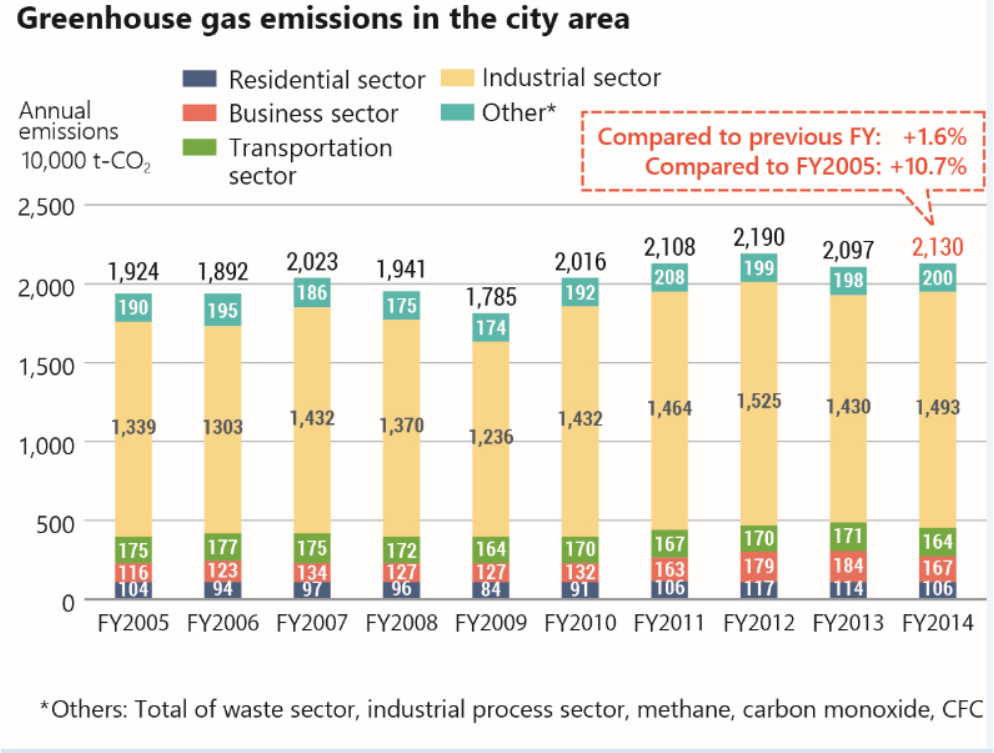


Fig. 18: Changes in GHG emissions in Kitakyushu (FY 2005 to 2014)



Goal 12
Ensure sustainable consumption and production patterns
Target 12.5
Substantially reduce waste generation through prevention, reduction, recycling and reuse

(Reference) UN indicators for target 12.5

12.5.1 National recycling rate, tons of material recycled

Kitakyushu Eco-Town was established in 1997, the country's first and largest recycling base. Eco-Town is responsible for the circulation of various resources both in Japan and overseas, from waste paper, PET bottles, and food waste, to automobiles, fluorescent lights, cellphones, and medical equipment. Eco-Town also improves awareness of the 3Rs (reduce, reuse, recycle) in the industrial world and lives of the general public through pioneering actions to introduce charged bags for household waste and the complete separation of waste. Recycling rates for municipal waste is among the best level in Japan.

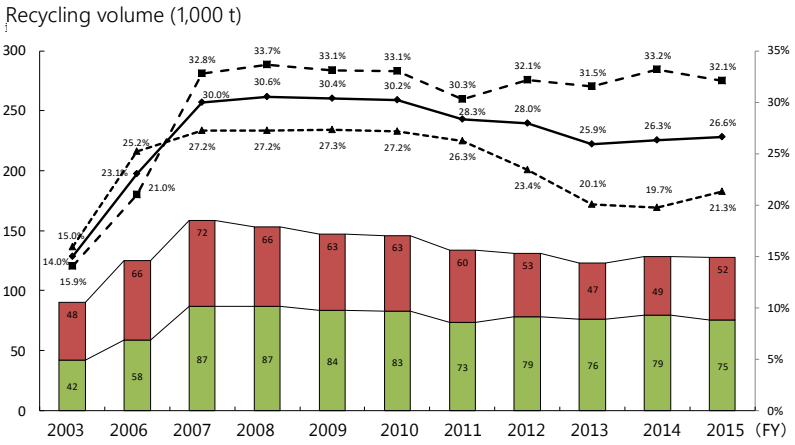


Fig. 19: Resource recovery and recycling rates in Kitakyushu (2003 to 2014) (Source: City of Kitakyushu, 2016)

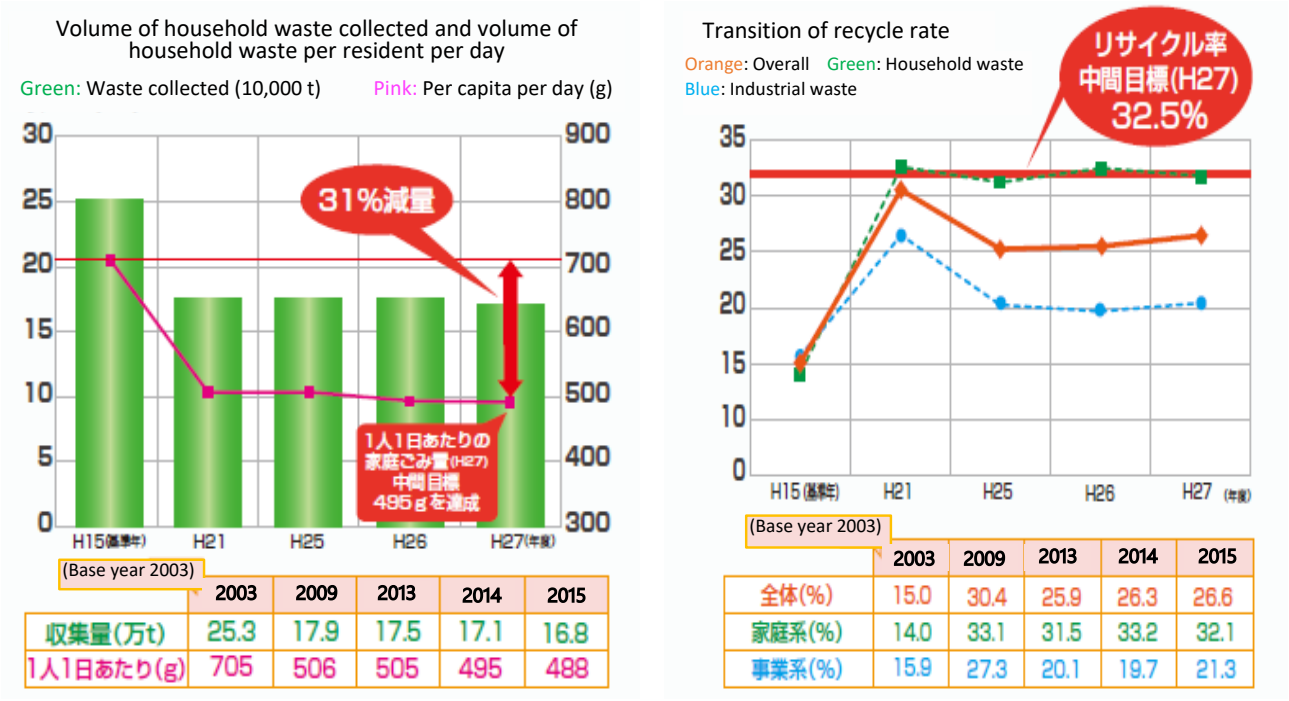


Fig. 20: Changes in volume of household waste and recycling rates in Kitakyushu (2003-2015)



Goal 17
Strengthen the means of implementation and revitalize the global partnership for sustainable development
Target 17.7
Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed
Target 17.17
Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships

(Reference) UN indicators for targets 17.7 and 17.17

17.7.1 Total amount of approved funding for developing countries to promote the development, transfer, dissemination and diffusion of environmentally sound technologies

17.17.1 Amount of United States dollars committed to public-private and civil society partnerships

The above UN indicators target the national government, therefore not necessarily optimal for use by local governments. In the future, Kitakyushu will need to discuss what indicators are appropriate for use at the municipal level.

Kitakyushu is actively forming partnerships in various fields and at different levels both in Japan and overseas. The city has a number of partners with which it has concluded cooperation agreements and memorandums of understanding, as shown in Fig. 21 below.

- Municipalities in Japan
  Fukuoka City (Fukuoka Prefecture), Oguni Town (Kumamoto Prefecture), Shimonoseki City (Yamaguchi Prefecture), Kamaishi City (Iwate Prefecture)
- Municipalities overseas
  Dalian (China), Surabaya (Indonesia), Hai Phong (Viet Nam), Phnom Penh (Cambodia), Davao (Philippines), Norfolk and Tacoma (US), Incheon (Korea)
- Organizations in Japan
  Japan International Cooperation Agency (JICA), Japan External Trade Organization (JETRO)
- International organizations
  Organisation for Economic Co-operation and Development (OECD), United Nations Industrial Development Organization (UNIDO), World Bank
- Frameworks with multiple cities
  (Japan) Northern Kyushu City Area Cooperative Core City Area Concept (6 cities, 11 towns), collaboration with four major cities along the Kyushu Shinkansen line (Cities of Kagoshima, Kumamoto, Fukuoka)
  (Overseas) The Organization for the East Asia Economic Development (3 cities in Japan, 4 cities in China, 3 cities in Korea), international educational exchange by The University of Kitakyushu (39 universities and 1 research institution from 13 countries around the world)

Fig. 21: Main partners cooperating with Kitakyushu

In particular, Kitakyushu has carried out international cooperation for many years with municipalities in the Asian region, such as technology transfer and human resources development in the fields of waste management, water supply and sewage, and urban planning. In recent years, Kitakyushu has been working on stepping up business development to make international environmental cooperation activities even more sustainable. In the future, it will be important to have active support and investment by governmental and financial institutions, as well as the development of rules in partner countries. A number of Kitakyushu's cooperation activities and businesses are on-going in Asia, including achievements in technical cooperation in the water service sector called the "Phnom

Penh Miracle" (potable water and dramatic improvements in the percentage of the population connected to water supply (25% to 90%), water supply time (10 hours to 24 hours), and non-revenue water rates (72% to 8%) in the rebuilding of Cambodia after civil war. Such case of Cambodia was introduced by the Japanese government as an excellent example of the SDGs in public-private partnerships at HLPF2017. (City of Kitakyushu, 2017a)

In order to ensure that international environmental cooperation is sustainable, it will be necessary to promote projects on a business basis. It will be important to have the active support and investment from the government and financial institutions, as well as the development of rules in partner countries in the future as well.

5. Measures and Means of Implementation

In the city's proposal to the Japanese government under the SDGs Future City Initiative, Kitakyushu raised its own SDGs vision of "Fostering a trusted Green Growth City with true wealth and prosperity, contributing to the world", as shown in Figure 22. To achieve this vision, Kitakyushu has set 17 specific actions that fit with the city's basic concept based on the three pillars of the economy, society, and environment.

These initiatives are being implemented in cooperation with a diverse set of stakeholders under the Kitakyushu SDGs Future City promotion headquarters. To finance these initiatives, Kitakyushu will be utilizing subsidies under the local government SDGs model project as part of regional creation initiatives supported by the Japanese government, as well as investing its own municipal expenses in each area. However, support that enables better cross-sectoral and integrated applications are needed as subsidies from the national government already exist in each area.

Since the SDGs are being translated into action in the Japanese government's SDGs Action Plan 2018 from the perspective of Society5.0, empowerment of the next generation of women, and regional revitalization, the proactive support of the government is needed for research and development and technology transfer to substantiate the SDGs through Society5.0, as well as to empower vulnerable groups, including the next generation of women.

Financially, as ESG investment evolves globally, even local financial institutions will need to develop frameworks to promote investment in consideration of the SDGs.

In order to appropriately manage the progress of the SDG initiatives at the local level, it will be necessary to clarify role-sharing by the national and local governments, companies, and civil society for each goal, as well as to share statistical data from the national government.

Plans are also in place in Kitakyushu to mobilize funds and human resources in the future in collaboration with the private sector and universities through the Kitakyushu SDGs club (tentative name) and agreements.

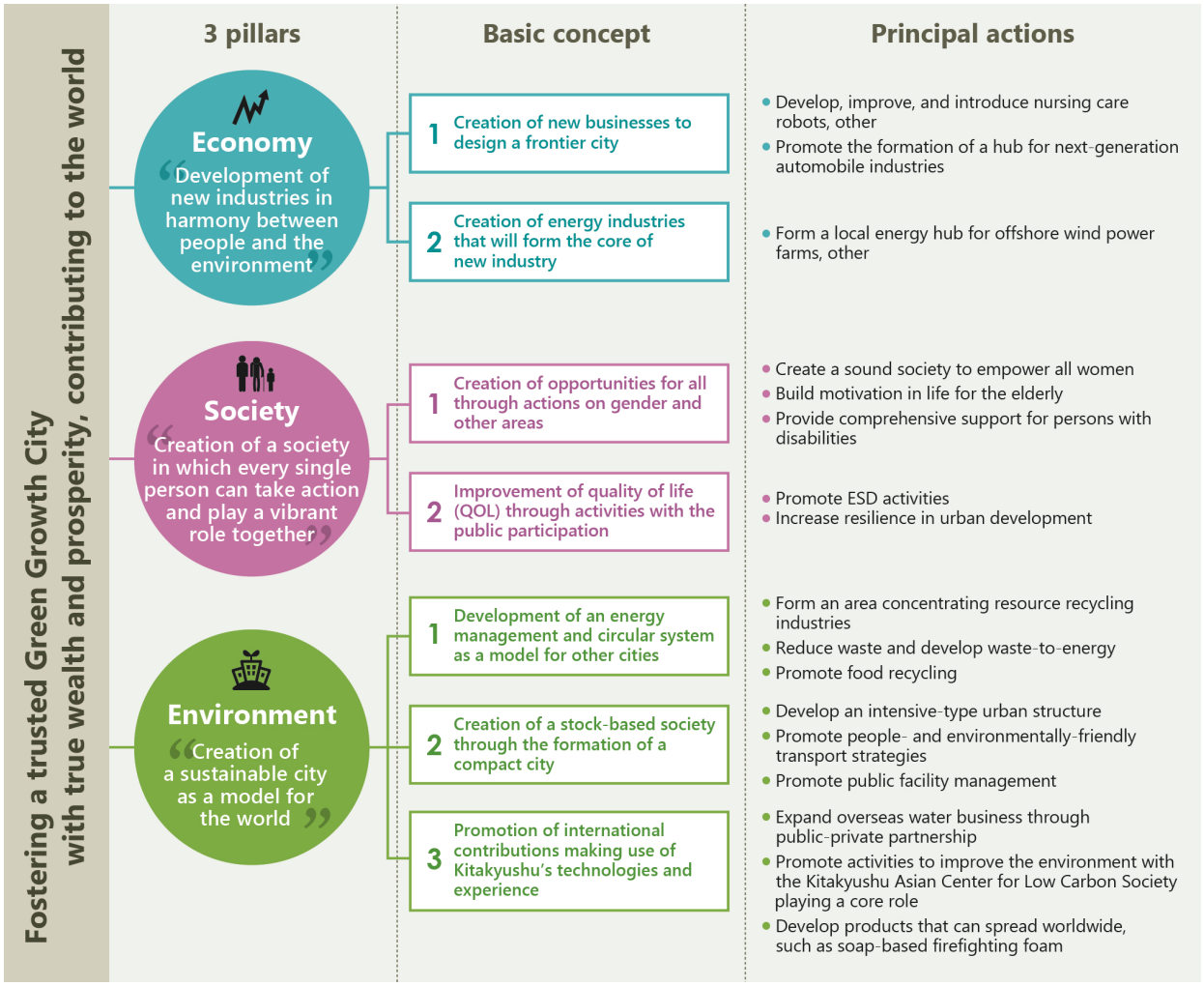


Fig. 22: Initiatives to achieve Kitakyushu City's SDGs Vision

Details on the 17 specific actions to achieve the SDGs Vision follow below.

(1) Develop, improve, and introduce nursing care robots, other

Related goals (3, 8)
Targets (8.2)



- Kitakyushu promotes the development and manufacturing of nursing care robots, taking advantage of Kitakyushu's strength in manufacturing technologies, as well as their introduction to nursing care facilities.
- By doing so, Kitakyushu aims to not only improve efficiency, but also to support the independence of the elderly, reduce staff workloads, and achieve a state of "advanced nursing care" that will enhance the expertise and motivation of staff.
- In addition to reducing social insurance costs in Japan, Kitakyushu also strives to connect these initiatives with international technical cooperation and businesses targeting the aging society through the development of overseas markets in the future, including with Asia.

(2) Promote the formation of a hub for next-generation automobile industries

Related goals (8, 9)
Targets (8.2) (9.4)



- In recent years, Kitakyushu has built a mobility system that utilizes the most high-profile autonomous driving technologies, aiming to develop a base for next-generation automobile industries.
- Kitakyushu supports the movement of residents, including the elderly, and supplements public transportation in depopulated areas by expanding applications for autonomous driving.
- These actions will lead to a reduction in the number of traffic accidents and a more efficient flow of human and logistical traffic, as well as reduction in CO_2 emissions resulting from a shortage of labor.

(3) Form a local energy hub for offshore wind power farms, other

Related goals (7, 8, 9, 13)
Targets (7.2)



- Kitakyushu advocates for the installation of offshore wind power using the general sea area and high-efficiency thermal power plants making use of biomass to generate electricity.
- From the vantage point of using power, Kitakyushu strives to provide a low-carbon, stable supply of power both within and outside the city and reduce energy costs through energy management by a "local energy company".
- Kitakyushu promotes the introduction of renewable energy and the reduction of CO_2 emissions, in addition to its development as a model local energy base.

(4) Create a sound society to empower all women

Related goals (5, 8)
Targets (5.5) (8.5)



- Kitakyushu offers support to women in employment, those looking to improve their career prospects, and those eying a return to the labor force, with the Woman Work Café Kitakyushu serving as a base to provide total support for working women.
- These actions will further fuel the participation of women in society and lead to the creation of a society with a new perspective.

(5) Build motivation in life for the elderly

Related goals (3, 11, 13, 17)
Target (17.7)



- Kitakyushu also supports volunteer and economic activities by the elderly that make full use of their rich life experiences, knowledge and skills through the training university for the elderly, activity station for finding the sense of purpose in one's life, and cram school for being active in one's lifetime.
- Kitakyushu provides support to the elderly for employment to allow them to continue to work and enjoy an active lifestyle, focused around the Senior Hello Work (employment support center).
- These actions will lead to improvements in the health of the elderly and resolve issues on the lack of workers in a society with a rapidly declining population, allowing each person to v a fulfilling life as they gain new resolve.

(6) Provide comprehensive support for persons with disabilities



Related goals (5, 8)
Target (8.5)

- Based on the Kitakyushu City plan for support persons with disabilities, Kitakyushu will implement comprehensive and systematic measures to support the independence and participation of persons with disabilities in society.
- By doing this, Kitakyushu aims to create a society where persons with disabilities can enjoy active lives as members of society.
- Kitakyushu will also provide support to general employers through the Kitakyushu work support center for persons with disabilities to promote employment for those who may have difficulty in traditional forms of employment, such as improving wage levels by raising the standards of welfare-type work.

(7) Promote ESD activities



Related goals (4, 11, 17)
Target (17.7)

- Kitakyushu supports the operation of the Kitakyushu Manabito ESD Station, which is the base for all ESD activities in the city, in order to further expand civic activities carried out primarily by the city's residents that can be connected to the SDGs.
- Kitakyushu implements the number of courses, events, and programs in collaboration with residents, universities and other stakeholders to raise awareness and foster local leaders of the SDGs/ESD.
- These actions will improve the inherent power of each and every resident and lead to the development of a sustainable city by all residents.

(8) Increase resilience in urban development



Related goals (11, 17)
Targets (11.b) (17.17)

- Kitakyushu will support the development of a voluntary disaster-prevention system in communities based on the Kitakyushu City community disaster prevention plan, so that the city's residents can live in comfort and safety.
- Through these actions, Kitakyushu can improve its local disaster prevention capabilities, such as fostering an awareness of "self-help" for people to learn how to protect themselves and creating a climate of "mutual assistance" to help one another in the community.

(9) Form an area concentrating resource recycling industries



Related goals (7, 8, 9, 12, 13, 17)
Targets (12.5) (17.7)

- Kitakyushu is further encouraging the separation of resources, such as waste paper, cans, bottles, and PET bottles as local community-based environmental activities with residents and businesses both on board.

- Kitakyushu aims to improve recycling technologies for rare metals and lithium ion batteries.
- By developing new businesses both in Japan and overseas and building a sound material-cycle society in the Asian region, Kitakyushu aims generate employment in the environmental industry.
- These actions will not only raise recycling rates in the city, it will also improve recycling rates and promote the development of recycling businesses throughout the world.

(10) Reduce waste and develop waste-to-energy

Related goals (8, 9, 12, 13)
Targets (8.2) (9.4)



- Kitakyushu organizes lectures and classes on composting organic waste and separating resources at civic centers, as well as elementary and junior high schools in the city in collaboration with the city's residents and NPOs, in order to improve the awareness of each and every resident on waste reduction.
- Kitakyushu develops networks and expands businesses on waste-to-energy (power generation by waste) in cooperation with neighboring municipalities.
- The development of projects overseas, including in Asia, will not only reduce the volume of waste and CO_2 emissions in Japan, it will also lead to reductions in waste and CO_2 emissions around the world.

(11) Promote food recycling

Related goals (3, 4, 12)
Targets (4.7) (12.8)



- Kitakyushu is further promoting the reduction of food waste from school lunches and the recycling (composting) of vegetable waste and leftover food generated during the cooking.
- Kitakyushu also utilizes the compost produced through recycling for flowerbeds at schools and creates a space for education on both food and the environment.
- Learning about the importance of reducing and separating waste will lead not only to the development of an environment where children can be healthy and live active lives, it will also help with the development of human resources who can contribute to the creation of a sustainable society.

(12) Develop an intensive-type urban structure

Related goals
(3, 7, 8, 9, 11, 12, 13)
Target (11.3)



- Kitakyushu implements actions to promote the involvement of residents and businesses, etc. with an aim to form an intensive urban structure (compact city) based on the Kitakyushu City optimal location plan.
- These actions will lead to the concentration of various functions in the city, such as commerce, medicine, welfare, and administration, which will in turn create vibrant bases, stabilize the operation of public transport, and promote the efficient provision of administrative services, even with a declining population.

- These actions will also contribute to reducing disaster risks in sloped areas, promote healthy lifestyles by increasing opportunities for the elderly to take part in outdoor activities, and reduce CO_2 emissions by encouraging the use of public transport and making economic activities more compact.
- Together with the city's residents, Kitakyushu will share its future ideal image of an intensive-type urban city (compact city) with the use of i-urban renaissance promoted by the Cabinet Office.

(13) Promote people- and environmentally-friendly transport strategies

Related goals (3, 7, 8, 9, 11, 13)
Targets (11.1) (11.2)



- Kitakyushu promotes integrated transportation policies based on the Kitakyushu City environmental capital comprehensive transportation strategy (Kitakyushu City plan for the formation of a local public transportation network)." Kitakyushu plans to achieve the "provision of a community-based bus network" that will provide transport services in line with the actual situation in areas, which is one of the pillars of this plan.
- Through these actions, Kitakyushu will form a sustainable public transportation network that can support the declining population and super-aging society.
- Kitakyushu is actively engaged in mobility management for the elderly which will lead to the promotion of the use of public transportation and contribute to a reduction in traffic accidents, promotion of healthy lifestyles through walking, and reduction of CO_2 emissions.

* Provision of a community-based bus network: Provision of transportation services that fit with local conditions by improving efficiency using the mass transportation features of articulated buses and efficiently combining main trunk lines (bus/railways) and feeder lines, etc.

(14) Promote public facility management

Related goals (8, 9, 11, 12)
Targets (8.2) (9.4)



- Kitakyushu aims to efficiently manage public facilities by guaranteeing a long service life and safety, including the elimination and consolidation of facilities, based on the city's implementation plan for the management of public facilities.
- These actions will reduce any future financial burden related to public facilities, which is a major issue for societies with declining populations, and secure optimal civic services.
- Cleanup activities for public facilities by resident volunteers through existing activities, such as the Kitakyushu City Road Supporters and Park Society, will provide safe access to facilities and lead to the creation of a clean city and preservation of the community.

(15) Expand overseas water business through public-private partnership

Related goals (6, 8, 9, 17)
Target (17.7)



- Kitakyushu develops business overseas, mainly in Asian markets where growth is significant, with the public and private sector acting in partnership by combining the superior technical capabilities of businesses, business management and operational know-how in the fields of water supply and sewerage that have been developed in Kitakyushu throughout the past, and the city's information gathering capabilities and credibility, drawing fully upon the

human networks built up over the past decades through international technical cooperation (exchange).

- Kitakyushu can achieve the supply of potable water and prevent water leakages in developing countries through the provision of Kitakyushu's technologies and know-how on water supply and sewerage to countries overseas.
- In addition to international cooperation and the creation of business opportunities for companies, these actions will lead to the image of Kitakyushu overseas as a trusted partner.

(16) Promote activities to improve the environment with the Kitakyushu Asian Center for Low Carbon Society playing a core role



Related goals (8, 9, 13, 17)
Target (17.7)

- Kitakyushu offers strong support for international business development in local companies by utilizing the Kitakyushu Model, which packages the city's environmental-related technologies and society systems.
- Kitakyushu also expands training opportunities for human resources from overseas through training and dispatch in Japan and overseas.
- These actions will not only strengthen the international competitiveness of local businesses, it will also stimulate the local economy and create jobs. In this way, Kitakyushu will also be able to contribute to low-carbon development around the world.

(17) Develop products that can spread worldwide, such as soap-based firefighting foam



Related goals (8, 9, 11, 13, 17)
Target (17.7)

- Kitakyushu develops products, such as eco-friendly soap-based foam fire extinguishers, by taking advantage of the manufacturing technologies of local businesses to meet needs in Asian cities.
- Kitakyushu also uses its overseas networks to promote the expansion and use of these products.
- These actions will not only promote the development of business by local companies with other companies overseas, it will also contribute to identifying solutions to problems faced by cities around the world.

6. Conclusion: Next Steps

Kitakyushu has set out its SDGs vision to achieve the SDGs as "Fostering a trusted Green Growth City with true wealth and prosperity, contributing to the world". The words, "true wealth and prosperity", "contributing to the world ", "trust", and "Green Growth City" used in this vision, are not new to Kitakyushu. Upon reflection, the Grand Design for a World Capital of Sustainable Development which expresses true wealth and prosperity, international environmental cooperation with developing countries, different types of partnerships connected by trust, and its identification as a Green Growth City, well admired by the world, is the path of Kitakyushu's history itself thus far. The SDGs are an extension of this. With universal standards, Kitakyushu will now be able to share our progress and challenges with partners both in Japan and overseas and learn from one another. Through this, Kitakyushu anticipates that solutions based on new, previously unknown perspectives will be generated.

The SDGs can be a means of creating a sustainable society for all with the integration of the three dimensions: economic, social, and environmental. In 2011, Kitakyushu was selected as a Future City by the Japanese government and has since been working to integrate these three dimensions, which also form the base of this concept. Even though there have been some achievements in these dimensions, issues remain, including population decline, super-aging, and sluggish growth in industries. SDGs are expected to act as a tool to solve these challenges.

Kitakyushu has already changed direction towards the promotion of the SDGs, with the incorporation of the SDGs into the revised version of the Kitakyushu City Basic Environmental Plan in 2017 and being selected for an award at the Japan SDGs Awards. In 2018, Kitakyushu was selected as a SDGs Future City by the national government. Organizations such as the Kitakyushu City SDGs Council (tentative) and Kitakyushu SDGs Club (tentative) are planned to be established by industries, the government, and public. Although a system for implementation is in the process of being developed, Kitakyushu will continue to actively promote the SDGs into the future.

As specific measures, Kitakyushu has set six priority targets and 17 concrete actions. The six priority targets include: Goal 5 (gender equality), Goal 7 (affordable and clean energy), Goal 8 (decent work and economic growth), Goal 9 (industry, innovation and infrastructure), Goal 12 (responsible consumption and production), and Goal 17 (partnerships for the goals). These priority targets are areas that Kitakyushu has traditionally regarded as strengths.

Utilizing these strengths, Kitakyushu aims to create synergistic effects in three dimensions and produce a ripple effect in other areas. For example, Kitakyushu will promote employment for persons with disabilities and the elderly (Goal 10: equality) in Japan's largest recycling industry (Goal 12).

Kitakyushu is also planning to use unused land and forests (Goal 15: life on land), itself a challenge, in biomass fuel and environmental education and improve productivity and create new services (Goal 8) using robotics and AI (Goal 9) as an integrated model project connecting the three dimensions in the next-generation local energy model Project, a project centered on energy (Goal 7), which is Kitakyushu's greatest strength. This project was selected as a local government SDGs model project by the Japanese government. Kitakyushu will be receiving financial support for this project as a leading SDGs action with a particular focus on these activities.

Kitakyushu has set 17 concrete individual actions connecting the economic, social, and environmental dimensions to basic concepts (ideal vision). In the economic dimension, Kitakyushu will promote the application of nursing robots, next-generation vehicles, and offshore wind farms and create new, advanced industries. In the social dimension, Kitakyushu aims to create a society that leaves no one behind by developing spaces for all people to be active through the promotion of diversity, ESD, and disaster prevention. In the environmental dimension, Kitakyushu will further strengthen recycling,

international environmental cooperation and business, and work to promote public transportation and the development of a compact city, which themselves are issues, to develop a sustainable city that can be a model for the world.

In the future, Kitakyushu will consider mainstreaming the SDGs into administrative plans and basic plans in all sectors of the city, offer spaces for public comments during the revision process, and develop plans that reflect the voices of the city's residents. Kitakyushu will also promote SDG symposiums and events, courses to train SDGs human resources, and offer hands-on experiences and ways to help residents and visitors alike visualize the SDGs with the installation of SDGs regional bases, in order to enlighten local businesses and residents on the SDGs and spread them throughout society. Kitakyushu will also disseminate information on the city's SDGs actions and strengthen partnerships with trainees from overseas who studied in the city.

Unfortunately, this review does not contain sufficient knowledge on the progress of the SDGs. However, in the future, it will be important to confirm the progress of Key Performance Indicators (KPI) for SDGs initiatives implemented over the short term (three years) in the SDGs Future City led by the Japanese government. Kitakyushu city hall also plans to regularly check the city's progress in the form of SDGs-related indicators in sector-specific plans under the Kitakyushu City Basic Environmental Plan.

In collaboration with international organizations, Kitakyushu will also develop indicators for SDGs that are specific to cities and regions that have not yet been developed. Kitakyushu was selected as one of the pilot cities and regions under OECD's Territorial Approach to the Sustainable Development Goals project and will carry out studies, analyses, and assessments on the SDGs until the end of 2019 together with pilot cities and regions around the world, including the south Denmark region (Denmark), Córdoba Province (Argentina), Flanders region (Belgium), Tuscany region and Friuli-Venezia Giulia region (Italy) (cooperation between the Kitakyushu City and IGES Kitakyushu Urban Centre). As a result, it will be possible to "create indicators to facilitate international comparisons at the urban and regional level", "develop evaluations and policy recommendations for each city and region through studies and analysis", "identify good practices", "share knowledge among model cities and implement peer learning", and "conduct high-level policy dialogues". Progress in Kitakyushu will also be monitored with the use of "indicators that facilitate international comparisons at the urban and regional level", which are planned to be developed.

Kitakyushu's history is one that involves a diverse set of stakeholders, including industries, government, academia, and the public from the time it was active in overcoming pollution (1960s) to today, and in promoting urban development with the participation of all members of society. Going forward, Kitakyushu will continue to develop together with various stakeholders, as it aims to become a new frontier for the SDGs.

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