

Saitama Sustainable Cities Summit

~E-KIZUNA Global Summit~

2022.11.22-11.24

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Saitama Sustainable Cities Summit~E-KIZUNA Global Summit~

Saitama City hosted the Saitama Sustainable Cities Summit ~E-KIZUNA Global Summit~ to work with other cities throughout Japan and the world. Participating cities exchanged ideas and information on effective policies to achieve sustainable cities through a positive cycle of economy, society, and environment, while strengthening partnerships and contributing to the realization of a decarbonized society.

Theme Realizing sustainable cities through immediate action

[Concept] The 10 years to 2030, the target year of the SDGs, is a turning point to the future. Advanced mobility through CASE, innovative energy policies with RE100 and building a smart city utilizing advanced technologies contribute to the realization of sustainable cities. Our hope is to work in partnership with cities and companies to maintain a global environment of abundant nature, in which humanity can continue to live in comfort. We build a sustainable city for our children who will be the leaders of society in the future.



Period	Tuesday, November 22 nd to Thursday, November 24 th , 2022
Venue	Palace Hotel Omiya [Conference] Sonic City Main Bldg. [Exhibition] 1-7-5 Sakuragi-cho, Omiya Ward, Saitama City, Saitama Prefecture 330-0854, Japan
Host	Saitama City
Co-host	ICLEI Japan
Support	Ministry of Foreign Affairs of Japan Ministry of Economy, Trade and Industry of Japan Ministry of Land, Infrastructure, Transport and Tourism of Japan Ministry of the Environment of Japan
Sponsors	23 companies (refer to page 35)
Format	Hybrid
Participants	(Conference) 329 people from 15 cities in 9 countries around the world, 22 cities and 50 companies and organizations in Japan participated in the summit. (Side Events) 465 people (Pre- Events) 305 people
Online Viewers	Live Streaming: 181 people (conference: 120 people/ Pre-Event: 61 people) Video Distribution: 2099 views (conference: 1473 views/ Pre-Event: 626 views) (As of the end of December 2022)

Program



»» November 22nd (Tue) Program

Time	Program
13:30-14:30	Opening Ceremony / Keynote Speech
15:30-16:15	Plenary Session - Global Challenges and the role of the Local Governments: Local governments in the G7 Countries
18:00-20:00	Reception

»» November 23rd (Wed) Program

Time	Program		
10:00-11:30	Breakout Session 1 Realization of energy efficiency and adoption of microgrids together with on-site renewable energy	Breakout Session 2 Innovative mobility services for sustainable modes of transport	Breakout Session 3 Building a resilient city successfully adapting to climate change
13:00-14:30	Breakout Session 4 The nexus of clean energy towards a net-zero-emission future	Breakout Session 5 Making an ambitious transition to a zero-emission mobility	Breakout Session 6 Sustainable development of a data-driven smart city through Public-Private Partnerships
15:45-17:00	Closing Session		
18:00-20:00	Reception		

»» Technical Tour

Date & Time	Location
November 24 th (Thu) 9:00-13:00	<ul style="list-style-type: none"> Urban Design Center of Misono – UDCMi / Smart Home Community District / Omiya Bonsai Art Museum

»» Side Events

Date & Time	Overview
November 22 nd (Tue) 10:00-18:00	Next generation vehicles by automotive manufacturer, enterprises' leading sustainable technologies and more were exhibited at the Sonic City Main Bldg. On the 23rd, the 21st Saitama City Environment Forum was also held at Kanazuka Park.
November 23 rd (Wed) 10:00-16:30	

»» Pre-Event

Date & Time	Overview
November 22 nd (Tue) 10:00-12:00	Children's Forum for Saitama SDGs was held. Students from municipal schools introduced the efforts of each school and held panel discussions etc.



Speakers

<Opening Remarks>

SHIMIZU Hayato, City of Saitama (Japan), Mayor

<Remarks from our Honored Guests>

KUNISADA Isato, Ministry of the Environment, Japan, Parliamentary Vice-Minister

HISAMOTO Kizo, Mayors Association of Designated Cities, Chairman / City of Kobe, Mayor

<Message from Sister City>

Ed Gainey, City of Pittsburgh (United States), Mayor

<Keynote Speech>

Gino Van Begin, ICLEI, Secretary General

TAKEUCHI Kazuhiko, Institute for Global Environmental Strategies (IGES), President

»» Opening Remarks

SHIMIZU Hayato, City of Saitama, Japan, Mayor



Thank you for the introduction. I am SHIMIZU Hayato, the mayor of Saitama City. Many people have come to today's "Saitama Sustainable Cities Summit ~ E-KIZUNA Global Summit." Everyone, welcome to Saitama City. Thank you for being here. Thank you also to all speakers from domestic and international cities, including ICLEI's Secretary General Gino Van Begin and IGES President TAKEUCHI Kazuhiko. Lastly, I'd like to thank everyone who has made this event possible.

Our city has many new policies aimed at creating a carbon-free society and sustainable city. These include the "Next-Generation Transport Policy" and the "Smart City Initiative." However, as the stress on the world's environment increases, we seek to improve sustainability not just at the country level, but at the city level too. As such, we held this Summit to be a place where cities and companies from around the world can meet. Here, we will discuss effective policies, share ideas, and deepen partnerships. These all aid in the realization of a carbon-free society.

Think about the children of the future. We must work with our partners to leave them a livable world with a rich natural environment. My work comes out of this belief. My goal for the "Saitama Sustainable Cities Summit~E-KIZUNA Global Summit~" is for this dream to become reality. This Summit is to learn from advanced case studies and ideas from others around the world. We hope that you will take this chance to bring about, "realizing sustainable cities through immediate action."

Finally, it is my honor to thank ICLEI Japan for co-sponsoring the Summit, each Ministry for their support, and the companies that supported the Summit. Thank you very much.



»» Remarks from Our Honored Guests

KUNISADA Isato, Ministry of the Environment, Japan, Parliamentary Vice-Minister



Hello, everyone. I am KUNISADA Isato, Parliamentary Vice-Minister of the Environment, Japan.

I would like to extend my heartfelt congratulations on holding the Saitama Sustainable Cities Summit, E-KIZUNA Global Summit. I would like to thank everyone who has been committed to holding this event, including Saitama City Mayor, Mr. SHIMIZU Hayato, people from the Saitama municipal government, and people from ICLEI Japan, the co-organizer of the event.

I heard that the E-KIZUNA Summit has been held since 2009 for the purpose of exchanging opinions and strengthening partnerships toward achieving sustainable cities. Now, due to the progress in climate change and the globalization of supply chains, challenges faced by cities are directly linked to global trends, making it an opportune time for the E-KIZUNA Summit to have been developed and expanded into a global summit. At the COP 26 UN Climate Change Conference held last year, the negotiation on the rules for implementing the Paris Agreement was completed, and the global phase shifted from "negotiation" to "implementation." At this crucial time when we are trying to accelerate the global initiatives in the "decisive decade" or by 2030 toward achieving the goal of limiting global warming to 1.5 degrees Celsius, we are facing a new crisis in terms of energy security, which is triggered by Russia's invasion of Ukraine, in addition to COVID-19. However, even in this time of hardships, we must not break pace toward decarbonization. In particular, the transition to decarbonization must be carried out as soon as possible in cities that account for 70% of global GHG emissions. The campaign intended to achieve net zero-carbon emissions, Race to Zero, has been gaining speed in cities around the world. In Japan, in response to the goal set by the national government to achieve carbon neutrality by 2050, 797 local governments, which cover as much as 95% of the total population of the country, have declared their commitment to net zero carbon emissions by 2050. In order to achieve zero carbon cities, the national government formulated the Regional Decarbonization Roadmap, based on which the national and local governments work together to promote regional decarbonization that will be a growth strategy for regions, including not only urban areas but also rural areas.

By FY2025, Japan will designate at least 100 areas as "Decarbonization Leading Areas" that will aim to achieve carbon neutrality ahead of the national target year of 2050, and provide financial support to these areas by granting the subsidy for promoting renewable energy and local decarbonization. Saitama City has been selected as such leading area in the first round of selection for its Green Co-Creation Model through public-private academic partnership having been highly evaluated. Furthermore, with a view to supporting the transition to decarbonization in overseas cities through collaboration among local governments, the Ministry of the Environment supports city-to-city collaboration with 45 cities and regions around the world, including the collaboration between Saitama City and Kuala Lumpur. In addition, Japan also collaborated with the United States and launched the Japan-US Global Subnational Zero Carbon Promotion Initiative. Japan is also enhancing collaboration with other developed countries, such as by holding a workshop at COP27 to share knowledge among cities of the four countries, namely, Japan, the US, Australia, and India. Next spring, the Ministry of the Environment will hold the Zero Carbon City International Forum in cooperation with ICLEI and IGES (Institute for Global Environmental Strategies), and further deepen discussions on climate actions of cities, following today's discussions. In 2023, Japan will host the G7 Climate, Energy and Environment Minister's Meeting in April in Sapporo City, and the G7 Summit Meeting in May in Hiroshima. In order to enhance dialogue with major actors of cities toward the G7 Summit, the Zero Carbon City International Forum 2023 will be held in collaboration with the Third Urban 7 (U7) Mayors Summit on the consecutive days. While working closely with Mr. HISAMOTO Kizo, Chairman of the Mayors Association of Designated Cities, who is present at today's event, we will make further contribution to cities' climate actions and achievement of SDGs.

I would like to conclude my greeting by expressing my hope that this event will lead to the development of sustainable cities.



»» Remarks from Our Honored Guests

HISAMOTO Kizo, Mayors Association of Designated Cities, Chairman / City of Kobe, Mayor



Hello, everyone. I am Kizo HISAMOTO, Mayor of Kobe and Chair of the Japan Designated Cities Mayors' Association, JDCMA for short – an organization of 20 major cities in Japan. I would like to thank the City of Saitama, as well as all the other stakeholders participating today, for the opportunity to speak at this wonderful summit, and congratulate you on the impressive number of participants that you have gathered. Furthermore, please allow me to express my heartfelt gratitude to the Honorable Mr. Hayato SHIMIZU, Mayor of Saitama, stakeholders from Saitama City, and ICLEI Japan for their efforts leading up to this summit.

Our association has been participating in U7 activities since 2021 and will take over the U7 Summit from Germany as the organization representing the major cities of Japan – the host country of next year's G7 Summit. I feel that the role of the cities is more recognized domestically and internationally now, and that the local governments of all levels are now expected to be involved in policy-making on an equal footing with the central governments. Next year's summit will build upon previous initiatives, while evaluating their achievements and aiming to include the unique characteristics and strengths of the host country. Specifically, we would like to raise "SDGs" and "Peace" as central concepts. I want to advocate for the role of local governments and their contribution to tackling common international challenges related to sustainable development – including the promotion of peace and democracy – climate change, biodiversity conservation, disaster preparedness and resilience planning, as well as measures to combat inflation and rising energy prices. Furthermore, I would also like to mention the need and importance of establishing international networks, such as inter-city cooperation and multi-level corporations. At the same time, our association cannot make this upcoming summit a success all by itself. Therefore, we shall work in close cooperation with both our national governments, and the local governments of all the other U7 countries.

At this summit, we shall discuss various ways for our cities to achieve sustainability, and I hope that we will have many fruitful discussions.

Finally, I would like to conclude my remarks by expressing my best wishes for the continued good health of everyone present here today, and also the further development of the City of Saitama. Thank you very much for your kind attention.

»» Message from the Sister City

Ed Gaaney, City of Pittsburgh (United States), Mayor



Welcome to the Saitama Sustainable Summit of 2022. My name is Ed Gaaney, and I'm Mayor of the City of Pittsburgh. As a partner of Saitama for over 24 years, it is my distinct honor and pleasure to congratulate you on hosting this important summit. Welcome to all the representatives from across the world committed to sustainability and environmental protection. I look forward to hearing the results that come out of this summit. I know you will have a great time. Thank you.



»» Keynote Speech

Gino Van Begin, ICLEI, Secretary General



o v e r v i e w

The ICLEI works with over 2500 cities, towns, regions, prefectures, and provinces in more than 125 countries to achieve sustainable local and regional governments and communities worldwide. Unfortunately, we are currently not on the right path toward sustainability. The global challenges we face reveal the vulnerability of social structures and inequalities among communities. Global warming, predominantly caused by

cities, has majorly impacted millions of people, particularly those in developing countries, through an increase in natural disasters. Urban road transport and energy are the most significant sources of emissions, but the current urban infrastructure remains insufficient for a rapidly growing global population. The urban population is projected to expand from 3.6 billion today to almost 7 billion by 2050, which will require considerable investments in cities. Implementing comprehensive and sustainable solutions in such times is challenging; however, we must make the right choices now, as they will determine whether we can transform ourselves into a peaceful, renewable, resilient, and nature-based society.

The Five Developmental Pathways

From an ICLEI perspective, sustainable development is and can only be the sole model for urban development in the 21st century and the only way to address and reverse the various problems and dangerous trends of today. The ICLEI appeals to its members to implement sustainable development through five developmental pathways. The first pathway is the “low emission development pathway.” We believe that all development projects must have net zero emissions and be climate-neutral. A large number of ICLEI members in Japan have adopted ambitious energy-efficient renewable energy targets. Additionally, investing in autonomous decentralized energy systems can help create new jobs. The second pathway is the “nature-based development pathway,” which enhances urban biodiversity and accelerates sustainable development through nature-based solutions. The third pathway is the “circular development pathway,” which aims to decouple urban economic development from resource consumption and waste generation and facilitate a linear, circular economy. The fourth pathway is the “resilient development pathway,” which integrates preventive risk measures in urban planning and municipal operations. Resilience must be at the core of local sustainability strategies, and the rights and needs of the socially vulnerable must be considered. The fifth pathway is the “equitable and people-centered development pathway.” ICLEI believes that sustainable development can only matter if we put equity and people at the heart of our action; thus, we ask our members to adopt an “equitable and people-centered approach in the sustainable urban planning processes.” The ICLEI network has seen a strong uptake in terms of concrete activities, and we congratulate you for your efforts in developing activities around the SDGs in Japan.

In conclusion, we must make a common and ambitious pledge toward sustainable development.

Local governments are the closest to the citizens and can best engage with communities to understand their perspectives and involve them in driving local transformation with lasting global impact.



»» Keynote Speech

TAKEUCHI Kazuhiko, Institute for Global Environmental Strategies (IGES), President



o v e r v i e w

Establishing Sustainable and Resilient City Regions for Localizing SDGs

Many global challenges, such as the intensification of climate change and biodiversity loss, have been discussed on multiple occasions. In particular, the years leading up to 2030 constitute a “decisive decade for the future” of humanity, comprising various sustainability milestones that must be achieved.

Moreover, global challenges are interrelated, and discussions must be pursued simultaneously at the global, regional, and local scales.

Japan’s 5th Basic Environment Plan and the Circulating and Ecological Sphere (CES)

In Japan, the 5th Basic Environment Plan was established in 2018 to build a sustainable society by integrating environmental, economic, and social aspects based on the Sustainable Development Goals (SDGs). Hence, the concept of a “Circulating and Ecological Sphere” (CES) was formulated as a way of localizing the SDGs. In this context, “circulating” refers to the circulation of materials and the atmosphere, while “ecological” refers to living in harmony with nature. The idea is to create a sphere where both are fulfilled. In other words, disaster risk reduction and mitigation measures should be taken while preserving ecosystems and considering adaptation to climate change. In addition, the promotion of the 3Rs (reduce, reuse, and recycle) and the decarbonization of society are needed. For example, expanding renewable energy sources and increasing energy efficiency are necessary. On the other hand, as we do not live in a closed world, it is crucial to promote the exchange and sharing of information and collaboration with people from other parts of the world, which is also the basic idea behind CES.

The Importance of Local CES

For instance, the circumstances surrounding the recycling of rare metals differ from those surrounding household waste. Thus, it is necessary to promote the 3Rs in appropriate areas according to the characteristics of various resources. Building sound relationships between urban and rural areas is crucial at the local scale. Saitama City has urbanized and conserved rural areas, such as the *Minuma Tambo* paddy fields. By combining these areas appropriately, I believe that a sound city and surrounding rural environment can be created. This is one of the models to be considered in the future, where different areas are linked together while promoting self-reliance and decentralization. The Ministry of the Environment also supports efforts toward creating such a society.

Efforts are also currently underway to combine CES’s key elements to achieve a net-zero society. Many local governments have already set net-zero targets. However, it is not enough to merely declare that they are aiming for it; local governments and residents need to develop specific steps and processes. This will also require collaborative efforts with the private and academic sectors.

The CES-Asia Consortium as a Regional Platform

We at the IGES have agreed to establish a consortium in Asia to promote CES. The CES-Asia Regional Platform seeks to address challenges, such as climate change and biodiversity loss, by sharing concepts and exchanging and communicating ideas while considering local and regional characteristics.

Thank you for your attention, and I look forward to engaging in discussions with you at this summit.



<Moderator>

UCHIDA Togo, ICLEI Japan, Executive Director

<Panelist>

Peter Kurz, City of Mannheim (Germany), Mayor / Chair of the Global Parliament of Mayors

Markus Lewe, City of Münster (Germany), Mayor / President of Association of German Cities

Marcus König, City of Nuremberg (Germany), Lord Mayor

SHIMIZU Hayato, City of Saitama (Japan), Mayor

Theme

Global Challenges and the Role of the Local Governments: Local Governments in the G7 Countries

Local and national partnerships within the G7 framework were initiated in 2016 at the Environment Ministers' Meeting held in Toyama, Japan, with a parallel session of mayors from cities representing G7 countries; this culminated in the reaching of a new stage with the formation of Urban7 (U7) in 2021.

U7 is a coalition of local government councils from G7 countries. In 2021, the first G7 U7 Urban Summit was hosted by Core Cities UK under the UK Presidency, where a joint declaration was adopted for measures against COVID-19, the role of cities towards a decarbonized society, and the role of cities in inter-city collaboration of urban networks. Under the German Presidency in 2022, the Association of German Cities (Deutscher Städtetag), Global Parliament of Mayors, and ICLEI –Local Governments for Sustainability– promoted the collaboration of national councils of local governments, and this resulted in a declaration entitled “Embracing the Urban World: Cities, Urbanization and Multilevel Cooperation as Drivers of Change for Peace, Democracy and Sustainability.”

As the Presidency shifts to Japan in 2023, the Japan's Mayors Association of Designated Cities will need to promote the activities of the U7 both at home and abroad in the coming year.



UCHIDA Togo



Peter Kurz



Marcus König



SHIMIZU Hayato



Markus Lewe



Remarks

- ◆ Mayor Peter Kurz outlined the work of Urban7 and its accomplishments. He stated, “Together, U7 mayors drafted an ambitious declaration, which calls on national governments to work with us as partners to address global challenges.” He added “...it is important to note that the G7 presidency recognized that cities should be partners in a broad range of policy decisions not just urban development...the G7 heads of state tasked ‘relevant Ministers to develop a joint understanding of good urban development policy’.” He also reported that he was invited to participate in the G7 Urban Development Ministers Meeting on behalf of the U7, where he had the opportunity to “...discuss –at eye level with the ministers– the ways in which multi-level governance can unleash the potential of cities.” To conclude, Mayor Kurz expressed his confidence that the momentum created in Germany will lead to great success in Japan in 2023.
- ◆ Lord Mayor Marcus König spoke about the sustainability and climate change initiatives which are under way in the City of Nuremberg. He introduced the city’s efforts pertaining to bicycle and public transportation infrastructure, investments in parks and green areas, and the development of a master plan for mobility in addition to the installation of solar panels on buildings. Furthermore, he pointed out that the two pillars of climate change action are a roadmap to 2030 and a handbook on climate change adaptation measures, explaining Nuremberg’s ambitious targets for carbon neutrality while also presenting case studies of technical cooperation with partner countries.
- ◆ Mayor SHIMIZU Hayato introduced various initiatives in Saitama City, with a focus on the themes of the summit’s Breakout Sessions. In this context, he outlined the “E-KIZUNA Project,” explaining that it is a decarbonization initiative aimed at promoting next-generation vehicles to curb carbon dioxide emissions from the transport sector. He also declared that as part of the project, the “E-KIZUNA Summit” has been held nine times with the participation of Japanese local governments and companies for the purpose of creating an inter-city network. He urged that, more than ever before, it is necessary to engage at the city and national levels to achieve sustainable cities, and that he hopes to play a major role as one of the forerunners in leading decarbonization.
- ◆ Mayor Markus Lewe presented five lessons learned in terms of the success of the Association of German Cities over the past year. He stated the following: “First, we brought together a group of organizations and networks with a common vision...Second, we engaged mayors from the Global South...The third element was the willingness of so many in the German federal government to treat cities as partners...Fourth, we were involved from the beginning, joining in the G7 ministerial meeting and they included the U7 in the process of planning the meeting and drafting the communiqué.” Last, he stated that the fifth lesson learned was that “Finally, cities were included at eye level in the ministerial meeting” and that the U7 “...had the opportunity to discuss ways in which multi-level governance could unleash the potential of cities directly with the ministers.” In conclusion, Mayor Lewe declared that the urban perspective needs to be further strengthened in the dialogue on global development and that he anticipates great success in Japan.

Summary of the discussion

On global issues, such as climate change, biodiversity loss, and soaring energy prices:

- Today’s world faces many crises, including inflation and war, which are impacted at the local level and require inter-city cooperation. By amplifying the voices of the cities to reach a transnational level, urban perspectives can be incorporated into solutions that address current global issues.
- Climate change and other factors are serious threats, and active investment and business restructuring are essential for avoiding negative impacts on local economies and livelihoods. The promotion of DX and investment in the future are also important, along with financial support for SMEs and consumers.

On perceiving global issues as one’s own:

- Some aspects remain difficult for citizens to visualize as “their own,” or, in other words, relevant to themselves. Such a perspective should be factored in at an international level, as cities possess on-the-ground experiences and connectivity with their local people.
- Households and the industrial sector account for a substantial proportion of greenhouse gas emissions, indicating that the actions of individuals are critical. It is imperative that citizens, diverse entities, and local governments cooperate to promote awareness and initiate remedial measures.

On U7’s activities:

- The influence of cities on the G7 framework has expanded considerably over the past year, and it is crucial that progress continues after Japan assumes the G7 Presidency.
- Japan’s Mayors Association of Designated Cities is also considering specific proposals. Its members believe that prompt action on climate change measures is becoming increasingly important.



»» Realization of energy efficiency and adoption of microgrids together with on-site renewable energy

<Facilitator>

FUJINO Junichi, Institute for Global Environmental Strategies (IGES), Principal Researcher

<Panelist>

Datuk Seri Mahadi Che Ngah, City of Kuala Lumpur (Malaysia), Mayor

Kelly King, County of Maui (United States), South Maui County Councilmember

Nuatali Nelmes, City of Newcastle (Australia), Lord Mayor

SUZUKI Yasutomo, City of Hamamatsu (Japan), Mayor

KOJIMA Yusuke, Loop Inc., Director of PPS business group and technical development

SHIMIZU Hayato, City of Saitama (Japan), Mayor

Background

Conventional large-scale, centralized power infrastructures are vulnerable to widespread outages in the event of a power cut due to problems with the grid. Therefore, it is necessary to build a highly-resilient distributed energy system and regional microgrid that can provide a stable supply of electrical power, even in the event of a disaster, utilizing local renewable energy and unused heat in areas of a given size in a geographical manner.

In order to achieve a decarbonized, energy-secure city, it is crucial not only to maximize the amount of renewable energy introduced, but also to optimize electricity consumption and maximize local energy self-sufficiency by improving energy efficiency through building insulation and renovation, and by implementing energy management systems (EMS).



FUJINO Junichi



Datuk Seri Mahadi Che Ngah



Kelly King



Nuatali Nelmes



SUZUKI Yasutomo



KOJIMA Yusuke



SHIMIZU Hayato



Remarks

<Kuala Lumpur> A project was launched to establish a “carbon neutral growth centre” in Kuala Lumpur’s Wangsa Maju District as a platform to achieve the goal of carbon neutrality by 2050. It aimed at converting more than 85% of the streetlights to LED, installing solar power systems, and constructing a solar farm. The initiative also includes a free EV bus service within the city center and the “1 Community 1 Recycle Programme” which offsets rents through recycling.

<Maui> Hawaii has set a goal of 100% renewable energy generation by 2045. The council has promoted moves toward energy efficiency, such as regulating the types of outdoor lighting and proposing local updates to the energy conservation code. There are also initiatives to promote the local production and processing of biodiesel. In cooperation with the Japanese company Hitachi, Ltd., the County of Maui is exploring smart grid technology and implementing “JUMPSmartMaui” – a pilot project that includes EV charging control based on electricity grid supply and demand forecasts.

<Newcastle> Newcastle has set an operational target of becoming carbon neutral by 2030, with the aim of reducing electricity use, including 100% LED lighting in the city, with short-term goals over a five-year period. Another element of the initiative is to explore the best practice for water and waste efficiency to minimize the volume of waste sent to landfills and determine how to engineer changes through the supply chain network. The city invested in a 5 MW solar farm that has been built on a former landfill site.

<City of Hamamatsu> The Hamamatsu Micro-grid Project is a regional resilience model for the production and consumption of energy from renewable sources, and is a highly cost-effective business model. At present, eight microgrids have been set up, and energy-efficient facilities have been built to improve their management, to manage Hamamatsu City’s energy supply systematically, and to provide renewable energy flexibility between the facilities. In 2021, the city succeeded in reducing CO2 emissions by 1,369 tons and achieved energy self-sufficiency of 38% with significant energy savings.

<City of Saitama> In Saitama City, smart home communities have been developed as a model for decarbonized urban areas. These communities are characterized by the installation of solar panels and energy management systems to ensure local production for local consumption of renewable energy, energy security, highly airtight and heat-insulated housing based on the city’s standards, and the creation of common space to encourage community building among residents.

<Loop Inc.> The company Loop Inc. participated, as an energy provider, in Phase 3 of Saitama City’s Smart Home Community Project. It developed a decentralized power system, “enepლაზა,” which uses data to forecast power generation and demand while managing the electrical power concentrated in the charging area, including the control of water heaters. EVs installed within the area are also used as storage batteries, and dynamic pricing has been adopted for electricity rates to increase the self-sufficiency rate of solar power (renewable energy).

Summary of the discussion

- ◆ Although there is still much to be done to achieve the goal of zero-carbon cities by 2050, it is essential that the world works in harmony to ensure that the planet is safe and viable for human habitation for future generations.
- ◆ Partnerships need to be sought, and innovative projects are necessary to develop microgrids and enable those microgrids to include more renewable energy.
- ◆ Microgrids also have issues when it comes to the efficiency and affordability of renewable energy from solar sources; hence, there is a need to look at new technologies.
- ◆ Equally important is the data-driven analysis and visualization of progress. Local governments and businesses ought to be able to use data for quick decision-making; promoting DX is also a vital element.
- ◆ The creation of employment opportunities is key, as thousands of jobs are linked to the energy supply, and new value will be created along with new industries in local regions.
- ◆ Cities will be able to move closer to achieving their goals by sharing a spectrum of best practices, such as setting targets (including short-term goals) and steady implementation (including tangible case studies).



»» Innovative mobility services for sustainable modes of transport

<Facilitator>

ISHIDA Haruo, The University of Tsukuba, Professor Emeritus

<Panelist>

Daniel Alsina, Barcelona City Council (Spain), Director of Superblock Technical Office Barcelona

Kristin Hull, Portland Bureau of Transportation (United States), Planning and Project Development Division Manager

MUROI Shohei, Aizuwakamatsu city (Japan), Mayor

SUZUKI Hiroyuki, Toyota Motor Corporation, MaaS Business div. Connected Company, General Manager

SHINOZAKI Yasuo, City of Saitama (Japan), Director General, City Planning Bureau

Background

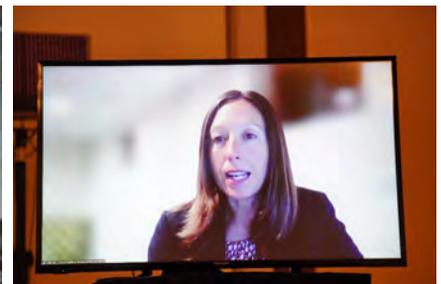
The shift to new transport systems such as MaaS, and mobility-sharing, will help reduce reliance on private cars and encourage the use of electrically-powered and automated public transport. This will also aid in alleviating traffic congestion, providing seamless and convenient mobility services, and reducing the environmental impact of mobility. To realize such next-generation mobility services, it is vital to address various issues related to sustainable operation, including access to open data acquired by transport operators and regions, system linkages, the development of legal systems, and design of fee structures, as well as optimization of the use of advanced technologies such as the IoT and AI. Additionally, when considering regional transport, it is important to approach transport issues in each region from the standpoint of local residents, for example, "urban areas with chronic traffic congestion" and "public transport in rural areas with chronic deficits," and investigate how highly effective mobility services should be.



ISHIDA Haruo



Daniel Alsina



Kristin Hull



MUROI Shohei



SUZUKI Hiroyuki



SHINOZAKI Yasuo



Remarks

<Barcelona> A presentation was made outlining the initiatives of “SUPERBLOCK BARCELONA” – a strategy geared toward the greening of streets through “green corridors” and the creation of more sustainable and pleasant public spaces. This project seeks to create a greener and richer environment by reducing the number of car lanes on roads, installing dedicated bicycle lanes, and creating green streets and squares accessible to local residents. Digital tools have been incorporated to capture the public’s needs, and input from citizen dialogue is reflected in the project.

<Portland> In terms of mobility, Portland places people first in planning decisions, prioritizes walking, cycling, and other means of transportation in said order, and provides more options for short trips. Investments will be made toward achieving a balanced transport system that saves space for longer trips by car and uses road space more efficiently. The city is also promoting the “Rose Lane” project, which aims to improve the bus and streetcar networks. Plans are in place to convert spaces previously used by cars into public transport spaces by prioritizing and increasing the efficiency of buses.

<Aizuwakamatsu City> In the hilly and mountainous areas of Aizuwakamatsu, a system has been established whereby residents can make on-demand bus reservations through household TVs. The electric vehicles used are recharged via local wind power generation, and the system operates based on both a local mutual aid system and digital technology. Moreover, to realize a sustainable ecosystem, the Aizu Samurai MaaS Project Council was formed to promote the provision of collaborative services among various operators. A regional management system has also been established in collaboration with the public and private sectors, together with the use of a City OS for data and service coordination, while smart city initiatives are also being promoted.

<City of Saitama> In order to achieve a society that is not excessively dependent on private vehicles, Saitama City has been working jointly with private operators to pilot a service in which electrically-assisted bicycles, scooters, and ultra-compact EVs are used as shared mobility vehicles that can be selected in accordance to specific usage scenarios. The service is being expanded through the addition of more rental ports, and its usage is steadily increasing. The city has also commenced demonstration tests of AI on-demand transport and electric kickboards, and is striving to create a society where various means of transport are used, and shared use can be achieved.

<Toyota Motor Corporation> By combining technologies such as CASE –new areas of “Connected” cars, “Autonomous/Automated” driving, “Shared,” and “Electric”– to address various social issues, Toyota is creating new mobility values and promoting initiatives to realize ever-more rewarding lifestyles. Specific examples of collaborative efforts with local governments include the introduction of a citywide on-demand service in Tomioka City, the implementation of online medical services in Ina City, where mobility vehicles equipped with online medical equipment visit patients, and, using a similar system, a mobile service for administrative procedures in Iwaki City. The company believes that new services will continue to emerge in various fields, including the medical and administrative MaaS.

Summary of the discussion

- ◆ While mobility is an essential part of daily life and economic activities, decarbonization in the transport sector is crucial for achieving the overall goal of zero emissions, as transport accounts for a large proportion of total CO2 emissions.
- ◆ Ensuring business profitability is a universal challenge. People-to-people communication and engagement are essential for driving the vision forward, and ICT is an effective tool to achieve this goal.
- ◆ In rural areas, there is often resistance to new initiatives; however, through continued efforts to resolve local issues, such initiatives have gradually gained understanding.
- ◆ Improving convenience and satisfaction works as an incentive to take advantage of better services, such as the introduction of new digitally-enabled mobility and aggregation of multiple mobility services.



»» Building a resilient city successfully adapting to climate change

<Facilitator>

UCHIDA Togo, ICLEI Japan, Executive Director

<Panelist >

Micael Nord, City of Malmö (Sweden), Director for Business and External Relations

Flore Marion, City of Pittsburgh (United States), Climate and Resilience Planner

FUJITA Hiroyuki, City of Kyoto (Japan), Chief Resilience Officer

HOSODA Chie, Tokyo Gas Network Co., Ltd., Branch manager, Saitama branch office

OGAWA Hiroyuki, City of Saitama (Japan), Deputy Mayor

Background

As a result of the progression of global warming, there is growing concern regarding the occurrence of complex natural disasters that are both increasingly unpredictable and larger in scale, while there is also heightened interest in the importance of building resilient cities that are adaptive to climate change, beyond the framework of conventional disaster prevention measures.

To build resilient cities that can adapt to climate change, it is essential to promote comprehensive adaptation strategies in terms of both hardware and software, such as the introduction of renewable energy, decentralizing energy networks, urban greening, and constructing platforms for collecting, monitoring, and analyzing weather data, along with promoting awareness-raising activities for local residents and strengthening of community disaster management, including the identification and early rescue of residents in need of assistance in the event of an emergency. Furthermore, the key to reinforcing adaptation to climate change is the advancement of scientific analysis to predict and detect the nature and scale of damage caused by complex disasters beforehand and establishment of local disaster prevention mechanisms and risk management systems that can respond to local challenges, such as an aging population.



UCHIDA Togo



Micael Nord



Flore Marion



FUJITA Hiroyuki



HOSODA Chie



OGAWA Hiroyuki



Remarks

<Malmö> Malmö faces many challenges due to sea level rise, torrential rainfall, and heat waves. The city is currently engaged at the local, regional, and national levels with plans to build housing and infrastructure, and a regional roadmap in partnership with businesses, featuring the construction of 10,000 new homes and 20,000 new workplaces alongside the redevelopment of Malmö's coastal harbor areas, that is, the installation of sea-level-rise defenses. Malmö also hosted the ICLEI World Congress 2021-2022 earlier this year, establishing the Malmö Commitment on inclusive and equitable communities.

<Pittsburgh> Pittsburgh is at high risk of flooding during periods of torrential rainfall and has experienced many historical stresses, including economic and racial inequity, aging infrastructure, and environmental degradation. Strategies to address this situation include initiatives such as converting vacant land into urban farms, activating heating and cooling centers to welcome residents on extreme temperature days, and undertaking over 140 green infrastructure projects to counteract landslides. Additionally, in cooperation with non-profit organizations, natural enhancements and increased employment have been achieved through initiatives involving removing non-native plant species and planting native trees.

<City of Kyoto> Selected as one of the world's "100 Resilient Cities" –a list pioneered by the Rockefeller Foundation in 2016–, Kyoto City developed the "Resilient Kyoto Strategy" in March 2019. In 2021, in collaboration with Kyoto Prefecture, the Kyoto Climate Change Adaptation Center was established to address the impacts of climate change and adaptations that can be made, while also consolidating the latest knowledge on climate change and further promoting the linkage of these activities to businesses.

<City of Saitama> Saitama City has introduced policies to promote the broader use of electric vehicles since 2009 as an initiative to curb carbon dioxide emissions and reinforce the city's resilience in the event of disasters. Efforts have been made to improve hardware, such as charging facilities, as well as raise awareness among local residents. The city is also undertaking a multi-mobility sharing project in the form of a new urban transportation system that combines the convenience of mobility and improved urban circulation, while reducing the environmental load. In the Misono area, one of the city's subcenters, a smart home community has been developed as a model for a decarbonized urban area.

<Tokyo Gas Network Co., Ltd.> Gas cogeneration systems are characterized by their high energy efficiency because the exhaust heat produced when electricity is generated can be used for heating, cooling, and hot water supply. Smart energy networks are systems designed to network a community's heat and electricity supply to optimize demand and supply for the entire region while also contributing to strengthening resilience by mitigating the volatility of renewable energy sources. As part of its efforts to decarbonize gaseous energy, the Tokyo Gas Group is aiming to establish "methanation," to synthesize methane using renewable energy so as to produce hydrogen, which will then be combined with the CO2 emitted during power generation.

Summary of the discussion

- ◆ The influx of people into cities is responsible for the huge number of new construction projects and associated carbon emissions. Cities must closely monitor global warming, forest degradation, and population decline while engaging in rational discussions on how these factors contribute to environmental destruction.
- ◆ One of the cornerstones of a sustainable society is self-sufficiency in food, energy, and other resources.
- ◆ It is essential to continue developing partnerships and collaborations with academia and industry, as the challenges faced by cities have many commonalities and linkages.
- ◆ Japan's disaster management focuses on earthquakes, but it can also share its experience and expertise in flood management.
- ◆ It is crucial that cities support their residents in mitigating the effects of climate change and disasters, and cross-regional cooperation and knowledge-sharing are encouraged.



»» The nexus of clean energy towards a net-zero-emission future

<Facilitator>

KASHIWAGI Takao, Tokyo Institute of Technology, Distinguished Professor / Professor Emeritus

<Panelist >

Marcus König, City of Nuremberg (Germany), Lord Mayor

Sally Capp, City of Melbourne (Australia), Lord Mayor

MATSUBARA Takeshi, Matsuyama City (Japan), Deputy Mayor

KOUNO Makoto, TEPCO Power Grid, Incorporated, General Manager, Saitama Branch Office

SHIMIZU Hayato, City of Saitama (Japan), Mayor

Background

To achieve a zero-carbon society, the energy sector, which accounts for the majority of global greenhouse gas emissions, must break away from its dependence on fossil fuels and maximize the amount of renewable energy introduced in accordance with the geographical characteristics and potential of each city.

To achieve net-zero emissions with renewable energy as the primary source, a system of area management and local production for local consumption of energy is required, considering the characteristics of each region, including the development of power systems, reduction of generation costs, stable power supply, sector coupling, and the use of DX technology. Furthermore, from the perspective of diversifying the primary energy supply structure, efforts are underway to utilize hydrogen fuel, which can be produced from a wide variety of energy sources, and can be stored and transported easily. Thus, the development of hydrogen fuel technology and hydrogen supply infrastructure is a key element for decarbonizing energy.



KASHIWAGI Takao



Marcus König



Sally Capp



MATSUBARA Takeshi,



KOUNO Makoto



SHIMIZU Hayato



Remarks

<Nuremberg> Nuremberg is home to the headquarters of many businesses, large and small, as well as numerous research and scientific facilities, including a new technical university. Among the many collaborative efforts in the clean energy sector, hydrogen is a major focus of measures to combat climate change, and several projects are being introduced. New technological solutions for controlling and restructuring the energy supply are also being tested in an effort to improve the energy efficiency of buildings and other architectural structures.

<Melbourne> Melbourne created the “Melbourne Renewable Energy Project,” and has been working with universities and other stakeholders to purchase renewable energy in an effort to shift the region’s energy consumption from coal to wind power. Moreover, the “Power Melbourne” project will make affordable renewable energy available to local residents by connecting a network of mid-scale batteries, helping to achieve the goal of cities powered by renewable energy and with net zero emissions by 2040.

<Matsuyama City> The “Matsuyama Sunshine Project,” launched in 2009, is actively involved in the use of solar energy by holding seminars and supporting the creation of new environmental businesses, thereby contributing to raising public awareness and revitalizing the region. The “eco-jia” project involves the production of recycled hypochlorite from salts contained in the leachate at the general waste final disposal site, and its use as a disinfectant at sewage treatment plants. This is the first practical application of salt recycling in Japan and has succeeded in reducing CO2 emissions by 51% compared to conventional methods.

<City of Saitama> Saitama City was selected by the Japanese Government as one of the nation’s “Decarbonization Leading Areas.” Under the concept of “A Green Co-creation Model Through Public-Private-Academic Collaboration From Saitama,” energy management is carried out in all five areas to promote the decarbonization of the region. Specific initiatives include the introduction of renewable energy in public facilities, development of thermal energy centers and decarbonization model city blocks. Going forward, the city’s efforts will also include forming VPPs and visualizing energy models using 3D urban models, aiming to achieve a balance between GX and DX.

<TEPCO Power Grid, Incorporated> The four initiatives of the TEPCO Group focus on promoting energy saving and electrification on the demand side and decarbonization of power sources and zero-emission fuels on the supply side. Specific cases include the installation of over 20,000 chargers nationwide by e-Mobility Power –a company co-founded by Japanese car manufacturers– and an energy management system in which the TEPCO Group acts as an aggregation coordinator for the control of distributed energy resources and provides electricity supply and demand adjustment services. The aim is to achieve, a 50% reduction in the CO2 emissions from sold electricity by 2030.

Summary of the discussion

- ◆ Despite concerns regarding energy security and soaring prices arising from the war in Ukraine, achieving carbon neutrality by 2050 is a high-priority, long-term commitment.
- ◆ Hydrogen is one of the key elements when it comes to achieving carbon neutrality.
- ◆ Multiple energy sources are required to stabilize the grid from the perspective of stable electricity supply.
- ◆ It is critical to maximize the use of local resources, such as renewable energy, in cooperation with academia and local companies, and make full use of state-of-the-art technology.
- ◆ While climate change is a growing threat and poses a significant economic burden, it should be viewed as an opportunity, in the belief that the natural benefits of clean technology and clean energy will add value to local economies and create jobs. Such discussions will be instrumental in helping people transition to renewable energy.



» Making an ambitious transition to a zero-emission mobility

<Facilitator>

KUBOTA Hisashi, Graduate School of Saitama University, Professor

<Panelist>

Ulrich von Kirchbach, City of Freiburg im Breisgau (Germany), Deputy Mayor

Sture Portvik, Agency for Urban Environment City of Oslo (Norway), Manager Electro Mobility

ENDO Junichi, Nissan Motor Co., Ltd., Senior Vice President, Marketing and Sales Japan-ASEAN

MAMADA Kazuo, City of Saitama (Japan), Director General, City Strategy Headquarters

Background

The transport sector accounts for approximately one-quarter of global CO2 emissions, making it the second-largest source of emissions, following the power generation sector. In particular, promoting the decarbonization of vehicles fueled by gasoline and diesel oil is a priority in terms of being able to achieve carbon neutrality by 2050. The proliferation of e-mobility, such as EVs, PHVs, and micro-mobility, is essential for the decarbonization of vehicles. Nevertheless, for e-mobility to become widespread and contribute to the reduction of CO2 emissions, there are various issues that must be addressed, such as reducing initial and running costs, increasing cruising range, shortening charging time, improving charging infrastructure, raising awareness of e-mobility among consumers and creating demand, on the premise that charging is carried out using a renewable energy source. Facilitating the proliferation of e-mobility and making the lives of residents more convenient requires not only the efforts of national and local governments, but also the promotion of complex initiatives that incorporate the perspective of urban development in faceted collaboration with private companies, universities, local residents, and other stakeholders.



KUBOTA Hisashi



Ulrich von Kirchbach



Sture Portvik



ENDO Junichi



MAMADA Kazuo





Remarks

<Freiburg> Freiburg has decided to pursue the ambitious goal of becoming climate neutral by 2035. Car use accounted for 39% of all local traffic in the city in 1982, but this figure dropped to 21% in 2016. Public transport vehicles are also being steadily converted into e-buses. The city has invested heavily in public charging infrastructure, and the purchase of electric and hybrid cars is increasing rapidly, while the electrification of the city administration's car fleet is steadily progressing. The Green City Office was established in 2008 as a means of interacting with other cities and regions and learning from each other. This serves as a central contact point for professional visitors interested in sustainable urban development in Freiburg.

<Oslo> Top 10 selling car models in the City of Oslo are BEVs. There is also a focus on the electrification of commercial vehicles, with 27% of heavy trucks now electric or biogas, while the aim is to electrify all taxis by 2024. Although there are many charging points in the city, 30% of the population does not have access to private parking; therefore, subsidy schemes are encouraging further installations. Challenges such as the manufacturing rate of chargers amidst the rapid spread of EVs, and the space available for charging, are also being addressed, including the development and validation of fast mobile chargers and wireless charging solutions.

<City of Saitama> The "E-KIZUNA Project" was launched by Saitama City in 2009, with the aim to reduce CO2 emissions from the transport sector through the widespread use of electric vehicles. Under the three basic strategies of (1) installing EV chargers, (2) creating demand and providing incentives, and (3) community-based educational activities, the project has introduced measures including the construction of charging facilities, subsidizing the purchase of next-generation vehicles, taking the lead in introducing EVs in official vehicles, and holding EV classes at schools. The city concluded an E-KIZUNA Project Agreement with nine companies, consisting primarily of leading car manufacturers, and conducted various pilot demonstrations, while the opinions collated from the past nine national summits were incorporated into proposals submitted to the national government.

<Nissan Motor Co., Ltd.> Following the release of the first-generation LEAF in 2010, Nissan has sold more than 700,000 EVs to date, and currently has three models in its range. The 4R Energy Corporation, established jointly with the Sumitomo Corporation, has led to the refabrication and reuse of used EV batteries. As part of the "Blue Switch" initiative, Nissan is working with numerous local governments and companies to resolve diverse social issues, including disaster relief, by using EVs as mobile batteries. Under the long-term vision of "Nissan Ambition 2030," the company is committed to investing 2 trillion yen in electrification over the next five years, launching 15 new EV models, and developing all-solid-state batteries.

Summary of the discussion

- ◆ Stable policies that facilitate virtuous collaboration between the public and private sectors are essential for the diffusion of EVs. A balanced perspective is required across sectors, not only for the popularization of EVs, but also to increase the use of public transport, micro-mobility, and sharing.
- ◆ The transformation of public transport and enhancement of the cycling environment are key. The promotion of bicycle use will also lead to changes in road route planning. Meanwhile, other solutions must be pursued, particularly in rural areas where car mobility is necessary.
- ◆ It is important to accelerate the shift to EVs while simultaneously reducing CO2 emissions through the use of renewable energy sources.
- ◆ In Japan, which is prone to natural disasters, the growing use of EVs as mobile batteries and emergency power sources in the event of a disaster will help bolster the resilience of its cities.
- ◆ While charging is said to be most efficient when performed at home, the installation of charging facilities at housing complexes will present a challenge if they are to spread and expand in the future. Therefore, it is necessary to establish local or national policies and standards.



» Sustainable development of a data-driven smart city through Public-Private Partnerships

<Facilitator>

NISHI Hiroaki, Keio University, Professor

<Panelist>

Oscar Ricardo Macedo Schmeiske, IPPUC- Institute of Research and Urban Planning of Curitiba (Brazil), Coordinator of Research and Geoinformation

Michal Postranecky, Czech Technical University (Czech), Director of the CIIRC / Center of City of the Future

NAKAYAMA Hideyuki, City of Tsukuba (Japan), Smart City Strategy Division, Division Director

KASHIWAGI Michiteru, Softbank Corp., General Manager

OGAWA Hiroyuki, City of Saitama (Japan), Deputy Mayor

Background

In the wake of the COVID-19 pandemic and the rapid development of various technologies, including digitization, AI, and IoT, the advancement of "data-driven smart cities," which incorporate new technologies into city planning to improve the quality of life of residents and efficiency of urban activities, is an important aspect of city development.

The application of various kinds of data –such as local data in the form of open data– to upgrade and streamline local life services and urban infrastructure, including transportation and energy, will lead to the enhancement of the living environment and optimization of social costs in accordance with the lifestyles and life stages of the people. To effectively and sustainably operate a data-driven smart city based on City OS, a cross-sectoral data and system utilization framework is required for each organization, regardless of region or sector (public or private). A close collaborative and cooperative system with local governments, private companies, residents and other urban management stakeholders is necessary to achieve this.



NISHI Hiroaki



Oscar Ricardo Macedo Schmeiske



Michal Postranecky



NAKAYAMA Hideyuki



KASHIWAGI Michiteru



OGAWA Hiroyuki



Remarks

<Curitiba> Curitiba's smart city initiatives include the development of a BRT (Bus Rapid Transit) system, which has been adopted by a number of cities worldwide. In the area of data utilization, "Hypervisor" –a project based on smart city operation systems– uses data science, analytics, AI, and machine learning to integrate information systems and operation centers under a central structure. The platform is supported by a digital twin in the city, allowing effective communication with remote devices, simulation, and predictive analyses.

<Pilsen> Pilsen's "Smart City Initiative" comprises projects based on six strategies in the area of mobility, such as improving mobility through visualization of traffic intensity, efficient control of public transport through improved resident systems, and smart systems for parking. Smart city technology is also applied in cyber security systems, drone-based rescue systems, and mapping of city heat zones using satellite imagery. Furthermore, a digital twin project is under way, which will lead to AI-based predictions and simulations in the future.

<City of Tsukuba> In the City of Tsukuba, an online voting pilot project has been in operation since 2018. Digitalization of student healthcare at elementary and junior high schools is also under way, which has contributed to reducing the risk of infection among students. Moreover, experiments are being carried out on the use of drones and robots for the delivery and transport of goods. The city has further introduced the "Tsukuba Super Science City Vision," in which industry, government, and academia work together to tackle social issues across a diverse range of fields for citizens, with the cooperation of experts from the University of Tsukuba and other institutions. The use of cutting-edge science and technology, Individual Number Cards ("My Number"), development of data linkage infrastructure, measures to combat the digital divide, and development of digital infrastructure are also being pursued in conjunction with the aforementioned efforts.

<City of Saitama> Under the "Smart City Saitama Model" project, new services are being developed and provided in the fields of energy, mobility, and health, based on the use of data combined with AI and IoT. As part of the project, the "Saitama Data Integration Platform" was established to manage and utilize the various types of data collected. For example, in the Misono area, with the cooperation of local residents, data on purchases, health check-ups, and other elements is collected to provide optimized services, identify issues, and promote other initiatives aimed at improving the quality of life of Misono's residents.

<Softbank Corp.> Softbank plans to prepare a range of network services to support the digital transformation of municipality in accordance with various phases of the process. Diverse approaches, including online services such as QR payments, can also play a role in City OS. Additionally, the company is working on MaaS in the field of mobility, such as bicycle sharing. By combining various types of data, there is the potential to create new value and contribute to the digitalization of local communities and Japan as a whole.

Summary of the discussion

- ◆ Creating a universal platform will make it easier to share data among different local governments, reduce initial costs, and increase sustainability.
- ◆ Although national government funding is used for projects, from the perspective of sustainability, the projects must become self-supporting. The key to this is sustainable monetization.
- ◆ It is important that the services are commensurate with the public's needs and worth the money paid for them. Although using personal data can provide a more tailored service, this poses the challenge of balancing its use with security and legal restrictions.
- ◆ Collaboration with the private sector is essential in managing and operating data. New businesses can be created through new challenges undertaken by the government.



Speakers

KASHIWAGI Takao, Tokyo Institute of Technology, Distinguished Professor / Professor Emeritus
FUJINO Junichi, Institute for Global Environmental Strategies (IGES), Principal Researcher
ISHIDA Haruo, The University of Tsukuba, Professor Emeritus
KUBOTA Hisashi, Graduate School of Saitama University, Professor
NISHI Hiroaki, Keio University, Professor
UCHIDA Togo, ICLEI Japan, Executive Director
Gino Van Begin, ICLEI, Secretary General
SHIMIZU Hayato, City of Saitama, Japan, Mayor

»» Report of the Outcomes of Breakout Sessions

Moderated by Mr. Takao Kashiwagi, Distinguished Professor, and Professor Emeritus at the Tokyo Institute of Technology, the breakout session facilitators provided an overview of the presentations delivered by the cities and companies in the six sessions, reporting key points of discussion and a summary.



FUJINO Junichi

Breakout Session 1

Realization of energy efficiency and adoption of microgrids together with on-site renewable energy

There were many ambitious goals set. The importance of implementing available solutions, showing local government leadership, establishing face-to-face partnerships, presenting visible advanced case studies and global commitments was shared. Other points shared included how to transit to a circular economy, how to protect future jobs in the process of transitioning to a carbon-neutral and sustainable society, and the dire importance of economic reality.

Breakout Session 2

Innovative mobility services for sustainable modes of transport

Each city harbors different local characteristics and challenges and is pursuing initiatives using a variety of ideas and plans, but they are equally strong in their commitment to building a decarbonized, sustainable, and innovative transportation system. It was also shared that concepts such as “innovative, smart mobility” are not only relevant in the ICT world but also extend to the analog world, including infrastructure, legislation, and community building.

Breakout Session 3

Building a resilient city successfully adapting to climate change

While various examples of initiatives to reinforce urban resilience were shared, the importance of soft measures to reinforce community resilience was stressed, in addition to the clear need to improve infrastructure and other hard aspects. To achieve this, it is equally important to promote collaboration with businesses and involve citizens; examples of the promotion of lifestyles that impose fewer burdens on the environment were also shared.



ISHIDA Haruo



UCHIDA Togo



KASHIWAGI Takao

Breakout Session 4

The nexus of clean energy towards a net-zero-emission future

The large-scale introduction of renewable energy is deemed highly effective in achieving a carbon-neutral society but requires the development of high-capacity batteries. Electrification of mobility is also crucial to reduce CO2 emissions from the transport sector. Progressive energy management systems, such as the development of decentralized energy systems and regional microgrids, will lead to greater resilience and smart cities, and various aspects were discussed at each breakout session.



KUBOTA Hisashi

Breakout Session 5

Making an ambitious transition to a zero-emission mobility

A comprehensive approach is important if initiatives are to achieve zero emissions. E-mobility is one of the greener policies, and there has been discussion on how and where to increase the number of charging facilities. The importance of a holistic view of the entire life cycle, from production to disposal, is also highlighted. The promotion of e-mobility offers an opportunity to alter urban infrastructure and improve mobility in urban and rural areas.



NISHI Hiroaki

Breakout Session 6

Sustainable development of a data-driven smart city through Public-Private Partnerships

In addition to sharing progressive smart city case studies, there was discussion on the issues regarding who should manage and operate the data and its monetization. To achieve an effective and sustainable operation, a cross-sectoral utilization mechanism for data and systems is necessary, and it will continue to be important for local governments and private companies to exchange their expertise and work in collaboration.

»» Summary of the Summit

Mr. UCHIDA Togo, Executive Director of ICLEI Japan, asked Mr. Gino Van Begin, Secretary General of ICLEI, to share his views on the role of local and national governments, what the international community should strive for in the future, and his impressions of this forum. Mr. Van Begin remarked that the summit presented a wide range of ideas, case studies, and

meaningful discussions on the most urgent issues faced by governments around the world. He added that it is also important to emphasize that multiple crises, including climate change, are, in fact, connected and require a comprehensive response; that local governments must take the lead in sustainable development; and that they must work together at multiple levels, including national and local governments, as well as the public, private, and academic sectors. Following Mr. Van Begin's comments, Mr. Uchida concluded the session, stating that these discussions would also be presented under the G7 and U7 framework.



Gino Van Begin



UCHIDA Togo



»» Closing Remarks

SHIMIZU Hayato, City of Saitama, Japan, Mayor



Thank you for the introduction. Please let me share a few closing words as Mayor of Saitama City.

On behalf of Saitama City, I would like to express my sincere gratitude to all of you for participating actively in the Saitama Sustainable Cities Summit despite your busy schedule.

I would also like to thank the facilitators and all the speakers for making today's breakout session so successful.

The focus of this year's summit was "Realizing sustainable cities through immediate action." I felt that the presentations by each city and company at today's breakout sessions and the panel discussions were significant and full of helpful content.

We hope this summit has been an opportunity to build partnerships and share information and opinions. We also hope the summit will improve each country's future efforts for sustainability.

Finally, I would like to express my deep appreciation for the support and cooperation of many people in hosting the "Saitama Sustainable Cities Summit ~E-KIZUNA Global Summit ~."

I would like to conclude my remarks by expressing my hope that our cities continue to cooperate with each other well into the future.

Thank you very much.

»» Photo Session



Declaration of the Saitama Sustainable Cities Summit

At the Closing Session, SHIMIZU Hayato, Mayor of City of Saitama issued the following declaration.

Declaration of the Saitama Sustainable Cities Summit

The impact of human activity on our global environment is increasing as the population increases throughout the world and economies expand. To address this issue, the United Nations adopted a list of Sustainable Development Goals (SDGs) in 2015 that serve as shared goals for international society to achieve a sustainable world by harmonizing the inseparable factors of the global economy, society, and environment.

In particular, the period up to 2030, which is also the target year of the SDGs, is an important turning point toward the realization of sustainable cities. On the first day of this summit, recent international trends as well as initiatives by countries, relevant organizations, and cities were shared. In addition, the importance of strengthening cooperative partnerships between cities or cities and nation states was emphasized. In the breakout sessions on the second day, discussions were held on the essential elements for the future development of cities, such as potential energy strategies to realize a decarbonized society, deployment of next-generation mobility and innovative mobility services, development of data-driven smart cities, and enhancement of resilience with adaptation to climate change.

Saitama city, the host of this summit, declares the following three commitments as part of its determination to take a new step toward the realization of a sustainable city. Furthermore, we share these commitments with the participants of this summit.

■ Ownership of community development

As policy implementers with the best understanding of the community, we aim to create a sustainable environment in which humanity can continue to live in comfort and pass the baton to the next generation.

■ Partnership with global community

Cities, companies, and related organizations aim to continuously collaborate with each other by leveraging their mutual strengths and pursuing synergies as one to achieve global goals.

■ Leadership in policy deployment

Actively participate in the policy-making process, including through dialogues with national policymakers, and contribute to strengthening multilevel governance toward the realization of sustainable cities.

Finally, Japan is going to chair the G7 summit in 2023. At the Saitama Sustainable Cities Summit, the German City Association, the World Conference of Mayors, and ICLEI shared their activities of the Mayors Summit 2022 (Urban7) and expressed their expectations for Japanese cities as the next chair. As the host of this summit and a member of the Association of Mayors of Designated Cities, Saitama city widely disseminated the outcomes of this summit and enhanced the policy dialogue process with government. Consequently, we will accelerate our efforts to achieve the SDGs' targets for 2030.

November 23, 2022
Mayor, City of Saitama
SHIMIZU Hayato



»» Technical Tour

A technical tour was organized to allow participants to experience both the city's technical initiatives and its traditional culture.

Transportation during the tour was provided by a hydrogen-fueled cell bus (cooperation by Tobu Bus Co., Ltd. and Seibu Bus Co., Ltd.).

During the bus ride, the participants were introduced to places of interest in Saitama City, such as the "Saitama New Urban Center," "Saitama Super Arena," "Minuma-tambo," and "Saitama Stadium 2002"; moreover, an explanation of "Smart City Initiatives in the Misono Area" was provided.

They were also shown an introduction video of Omiya Bonsai and an introduction video of Saitama City.

Date & Time : November 24th (Thu) 9:00-13:00

Participants : 22 people



Destination①

Urban Design Center of Misono – UDCMi Smart Home Community District (Phase 3)

After a briefing at the Urban Design Center of Misono (UDCMi) on the Misono Smart Home Community, a project that has achieved virtually 100% renewable energy, the participants toured the actual city block.





Destination② Omiya Bonsai Art Museum

At the Omiya Bonsai Art Museum, the world's first public "bonsai museum," participants had the opportunity to view the exhibits of bonsai – a traditional Japanese culture that Saitama City prides itself on.



»» Reception

Calligraphy Performance by the Calligraphy, Music and Art Departments of Saitama Prefectural Omiya Koryo High School

The event showcased the traditional art of calligraphy, which has been practiced for over 1,500 years, and provided an opportunity for local high school students, who will lead the next generation, to think about sustainability.

Bonsai Demonstration by Mr. KOTANA Akio of Fuyoen

Bonsai, a cultural tradition deeply rooted in Saitama City, was showcased through a *yoseue* (container gardening) demonstration that captivated the attention of many participants.



<Commentary by Students>

The design is a reflection of our strong desire and hope to ponder our future and take action. The concentric circles and radial lines signify "connectedness" and "progress" while the unfinished circles and lines symbolize our acknowledgment that growth and development are ongoing. To illustrate our passion to realize our vision, the words "we" and "realization" are highlighted in red, and "future" is powerfully expressed in large letters, to reflect our belief in the possibilities of the future that we will build.



Side Events / Concurrent Events



»» Side Events

In Sonic City Main Building B1, Exhibition Hall No. 1, the sponsors exhibited next-generation vehicles and advanced sustainable technologies.

Date & Time : November 22nd (Tue) 10:00-18:00
November 23rd (Wed) 10:00-16:30

V e n u e : Sonic City Main Bldg., Basement Floor, Exhibition Hall No.1

Participants : 465 people (2days Total)

Exhibiting company : 14 companies

Nissan Motor Co., Ltd.

An exhibit of Nissan ARIYA, Nissan Motor's crossover SUV electric vehicle (EV). Introduction of the Blue Switch program, which aims to solve local problems through the use of Nissan ARIYA to supply electricity to electrical appliances and promote the widespread use of EVs.



MITSUBISHI MOTORS CORPORATION

The MINICAB MiEV, is Japan's only commercial electric vehicle (EV).

In addition to its quiet and smooth performance, the MINICAB MiEV is an economical EV with a high load-carrying capacity and excellent usability, unique to the minicab line-up. Now is the time to redefine the working car with "EV x transport."



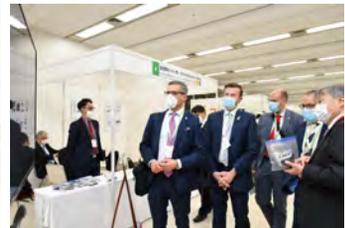
OpenStreet Co., Ltd / ENEOS Holdings, Inc.

The MaaS initiative was introduced through the exhibition of next-generation vehicles, shared mobility, and eco-friendly multi-mobility, which are currently being developed as part of the "Saitama City Smart City Promotion Project."



Sompo Japan Insurance Inc. / Sustainable Energy inc.

An exhibition of the "ISOP system," which generates energy from combustible waste. The system uses subcritical water treatment (decomposition by high-temperature, high-pressure steam), an environmentally-friendly technology that contributes to a decarbonized, resource-recycling society.



TOYOTA MOTOR CORPORATION / Saitamaken TOYOTA Group

[See, Learn, Move – Fuel Cells!]

Electricity from cars to power electrical appliances. Toyota's electric vehicles can be used as a "mobile power source" in emergencies.

Toyota's Fuel Cell Electric Vehicle (FCEV) MIRAI is environmentally friendly.



Side Events / Concurrent Events



KANEKA CORPORATION / Kaneka SC Housing System Co., Ltd

Aiming to “make the world healthier” through the power of chemistry, KANEKA contributes to the advancement of life, and environment of people worldwide. Kaneka Biodegradable Polymer Green Planet®, a material derived from biomass and which is biodegradable in soil and seawater, and Kaneka’s home Solar Circuit®, which contributes to healthy, comfortable living, and a decarbonized society were introduced.



Takasago Constructors Co., Ltd.

Aiming for a decarbonized society in terms of housing using Nishikawa timber – a material produced in Saitama Prefecture, Takasago Construction’s housing concept is “building houses that are friendly to people and friendly to the earth.”



Hitachi, Ltd. / Hitachi Social Information Services, Ltd.

The Hitachi Group’s AI-based Infectious Disease Forecasting Service (Influenza Forecasting) An introduction of Japan’s first initiative being promoted in a public-private partnership with Saitama City since 2019, with an overview of the service and a demonstration of its effects.



fine motor school

Eco-driving is friendly to people, the environment, and your wallet This school introduces “raku-eco” driving tips to help you learn eco-driving naturally while obtaining the license.



» Concurrent Events

The 21st Saitama City Environment Forum

A forum was held for local communities, schools, and businesses to interact with each other through presentations on their daily environmental conservation activities. The forum also creates a place for environmental education and learning to encourage many citizens to take interest in the environment.

Date & Time : November 23rd (Wed)
10:00-16:00

V e n u e : Kanezuka Park and Sonic City Event Square

Exhibitors: 20 organizations

Participants: 191 people (Stamp rally)

On November 23rd (Wed), a joint stamp rally was held!



Pre-Event (Children's Forum for Saitama SDGs)

Date & Time : November 22nd (Tue) 10:00-12:00

Prior to the summit, students from municipal schools gathered for the "Children's Forum for Saitama SDGs." In addition to presentations on each school's sustainability initiatives, a panel discussion was held between representative students from elementary, junior high, secondary, and senior high schools and the Superintendent of the Saitama City Board of Education. All parties actively exchanged views on "a city that is 'comfortable to live in' and 'a city you want to continue living in'." During the panel discussion, students from the audience and remote participants from the schools also held group discussions in a hybrid format, whereby they talked about initiatives they could "do as their own" in their own classes and schools.



Sustainability Initiatives



In light of the summit's theme of Realizing Sustainable Cities, the following key initiatives were implemented to ensure that sustainability remains a priority throughout the proposal and planning stages of the event, and that the event is managed in line with the conference theme.

»» Initiatives at the Planning and Preparation Stage

(1) Planning public awareness programs

- Children's Forum for Saitama SDGs: An event was organized to bring together students from municipal elementary, junior high, and high schools in Saitama City to discuss a sustainable future.
- Side event: A side event was organized for the general public, where car manufacturers showcased next-generation vehicles and companies exhibited advanced sustainable technologies.
- Online streaming: The meetings were streamed live online and made available to the public.

(2) Planning for participants from Japan and overseas

- Technical tour: A tour was organized to enable participants to experience both technical (city initiatives) and traditional industries and culture (hospitality).
- Attractions at the reception: To illustrate the traditional industries and culture of Saitama City, a calligraphy performance by local high school students and a demonstration by a bonsai master from a local bonsai garden were organized.

(3) Proactive use of online content

- Announcements and notices regarding the event were made via the website, while information was sent to participants via e-mail to minimize the use of paper.

(4) Initiatives in the production of materials and construction

- To the greatest extent possible, equipment was ordered from venue facilities and local businesses to reduce the environmental impact of transport.
- The use of vinyl products (card cases) was avoided when creating participants' name cards, which were attached directly to lanyards.
- The card lanyards were produced using recycled textile material made from 100% recycled PET.

»» Initiatives During the Summit

(1) Initiatives in the distribution materials

- Paper-based distribution of the program was avoided, and a QR code for the website was printed on the back of the participants' name cards for guidance.
- Leaflets distributed at the side-event venues were printed in minimum numbers using paper which was composed of at least 80% recycled material.

(2) Initiatives in food and beverages

- To reduce food loss, the number of food and beverage orders was managed in advance to curtail the arrangement of an excessive number of meals.
- Drinking water was provided to speakers in pitchers and glasses instead of plastic bottles.
- Pastries served during coffee breaks were served on plates instead of being individually wrapped in plastic. Environmentally-friendly cutlery was also supplied without the use of plastic.
- The use of disposable containers was avoided by serving boxed lunches in multi-tiered food boxes.
- At the reception, the menu was prepared based on the concept of local production for local consumption.

»» Initiatives Post-Summit

(1) Carbon offsetting

- As part of the decarbonization effort, J-credits were used to offset a total of 1 ton of greenhouse gas emissions generated during the November 22-24 events.



»» November 22nd (Tue) Program

13:30-14:30 Opening Ceremony

Opening Remarks	SHIMIZU Hayato , City of Saitama (Japan), Mayor
Remarks from Our Honored Guests	KUNISADA Isato , Ministry of the Environment, Japan, Parliamentary Vice-Minister HISAMOTO Kizo , Mayors Association of Designated Cities, Chairman / City of Kobe (Japan), Mayor
Message from Sister City	Ed Gainey , City of Pittsburgh (United States), Mayor
Keynote Speech	Gino Van Begin , ICLEI, Secretary General TAKEUCHI Kazuhiko , Institute for Global Environmental Strategies (IGES), President

15:30-16:15 Plenary Session

Moderator	UCHIDA Togo , ICLEI Japan, Executive Director
Panelist	Peter Kurz , City of Mannheim (Germany), Mayor / Chair of the Global Parliament of Mayors ※Video Message Markus Lewe , City of Münster (Germany), Mayor / President of Association of German Cities ※Video Message Marcus König , City of Nuremberg (Germany), Lord Mayor SHIMIZU Hayato , City of Saitama (Japan), Mayor

»» November 23rd (Wed) Program

10:00-11:30 Breakout Session 1

Realization of energy efficiency and adoption of microgrids together with on-site renewable energy

Facilitator	FUJINO Junichi , Institute for Global Environmental Strategies (IGES), Principal Researcher
Panelist	Datuk Seri Mahadi Che Ngah , City of Kuala Lumpur (Malaysia), Mayor ※Online Kelly King , County of Maui (United States), South Maui County Councilmember ※Online Nuatali Nelmes , City of Newcastle (Australia), Lord Mayor ※Online SUZUKI Yasutomo , City of Hamamatsu (Japan), Mayor KOJIMA Yusuke , Looop Inc., Director of PPS business group and technical development SHIMIZU Hayato , City of Saitama (Japan), Mayor

10:00-11:30 Breakout Session 2

Innovative mobility services for sustainable modes of transport

Facilitator	ISHIDA Haruo , The University of Tsukuba, Professor Emeritus
Panelist	Daniel Alsina , Barcelona City Council (Spain), Director of Superblock Technical Office Barcelona Kristin Hull , Portland Bureau of Transportation (United States), Planning and Project Development Division Manager ※Online MUROI Shohei , Aizuwakamatsu city (Japan), Mayor SUZUKI Hiroyuki , Toyota Motor Corporation, MaaS Business div. Connected Company, General Manager SHINOZAKI Yasuo , City of Saitama (Japan), Director General, City Planning Bureau



10:00-11:30 Breakout Session 3
Building a resilient city successfully adapting to climate change

Facilitator	UCHIDA Togo , ICLEI Japan, Executive Director
Panelist	Micael Nord , City of Malmö (Sweden), Director for Business and External Relations Flore Marion , City of Pittsburgh (United States), Climate and Resilience Planner ✕Video Message FUJITA Hiroyuki , City of Kyoto (Japan), Chief Resilience Officer ✕Online HOSODA Chie , Tokyo Gas Network Co., Ltd., Branch manager, Saitama branch office OGAWA Hiroyuki , City of Saitama (Japan), Deputy Mayor

13:00-14:30 Breakout Session 4
The nexus of clean energy towards a net-zero-emission future

Facilitator	KASHIWAGI Takao , Tokyo Institute of Technology, Distinguished Professor / Professor Emeritus
Panelist	Marcus König , City of Nuremberg (Germany), Lord Mayor Sally Capp , City of Melbourne (Australia), Lord Mayor ✕Online MATSUBARA Takeshi , Matsuyama City (Japan), Deputy Mayor KOUNO Makoto , TEPCO Power Grid, Incorporated, General Manager, Saitama Branch Office SHIMIZU Hayato , City of Saitama (Japan), Mayor

13:00-14:30 Breakout Session 5
Making an ambitious transition to a zero-emission mobility

Facilitator	KUBOTA Hisashi , Graduate School of Saitama University, Professor
Panelist	Ulrich von Kirchbach , City of Freiburg im Breisgau (Germany), Deputy Mayor Sture Portvik , Agency for Urban Environment City of Oslo (Norway), Manager Electro Mobility ✕Online ENDO Junichi , Nissan Motor Co., Ltd., Senior Vice President, Marketing and Sales Japan-ASEAN MAMADA Kazuo , City of Saitama (Japan), Director General, City Strategy Headquarters

13:00-14:30 Breakout Session 6
Sustainable development of a data-driven smart city through Public-Private Partnerships

Facilitator	NISHI Hiroaki , Keio University, Professor
Panelist	Oscar Ricardo Macedo Schmeiske , IPPUC- Institute of Research and Urban Planning of Curitiba (Brazil), Coordinator of Research and Geoinformation Michal Postranecky , Czech Technical University (Czech), Director of the CIIRC / Center of City of the Future NAKAYAMA Hideyuki , City of Tsukuba (Japan), Smart City Strategy Division, Division Director KASHIWAGI Michiteru , Softbank Corp., General Manager OGAWA Hiroyuki , City of Saitama (Japan), Deputy Mayor

15:45-17:00 Closing Session

<ul style="list-style-type: none"> • Report of the Outcomes of Breakout Sessions • Summary of the Summit • Closing Remarks 	KASHIWAGI Takao , Tokyo Institute of Technology, Distinguished Professor / Professor Emeritus FUJINO Junichi , Institute for Global Environmental Strategies (IGES), Principal Researcher ISHIDA Haruo , The University of Tsukuba, Professor Emeritus KUBOTA Hisashi , Graduate School of Saitama University, Professor NISHI Hiroaki , Keio University, Professor UCHIDA Togo , ICLEI Japan, Executive Director Gino Van Begin , ICLEI, Secretary General SHIMIZU Hayato , City of Saitama (Japan), Mayor
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