

References

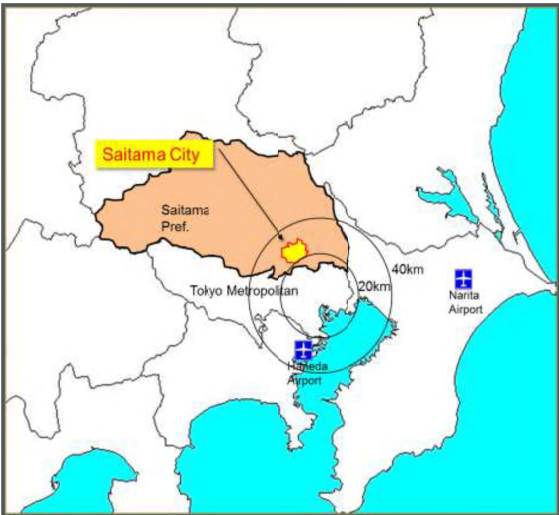
Smart City Saitama Model

Smart Home Community in the Misono District Initiative

29 July 2022 (Fri)

**Osamu Kanda, Supervisor, Department of Futuristic City Promotion,
Urban Strategy Division, Saitama City**

Introduction to Saitama City



30 minutes from Tokyo!

Population: approx. 1,330,000
Area: 217.43 km²



Views of Saitama City



Views of Saitama City



Culture of Saitama City



named Juun
Style: Moyogi(Curved Trunk)
Estimated Age: 800 years

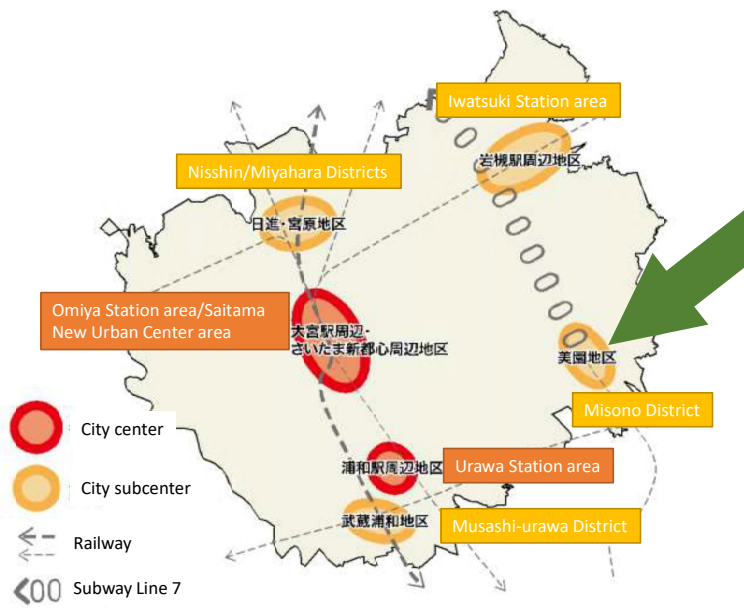
5

Tour de France at the Saitama Criterium



6 November 2022
J:COM presents the 2022
Tour de France at the Saitama Criterium

The Project Stage: Misono District



【Misono District】

- Urban subcenter located in the south-eastern part of Saitama City
- Urawa-misono Station opened in 2001 by the Saitama Railway Corporation



▪ Saitama Stadium 2002



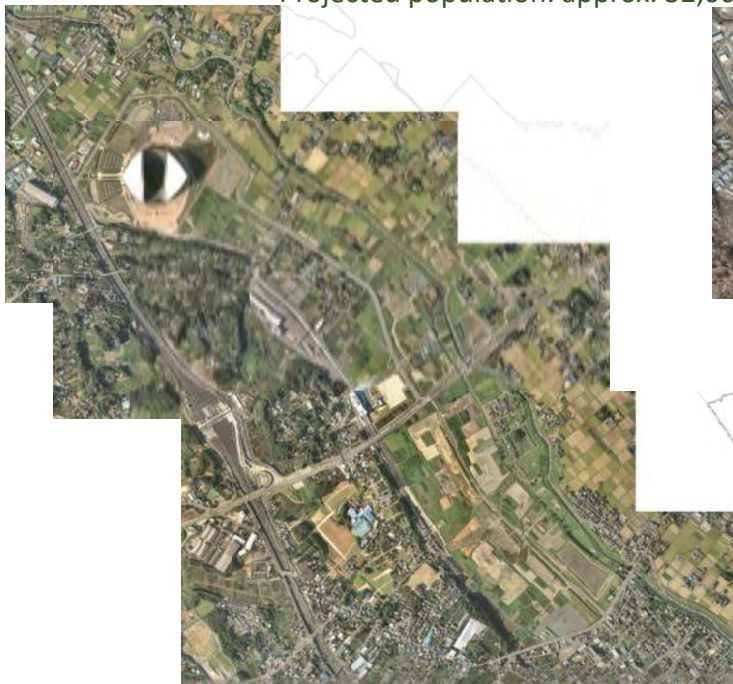
7

Misono Wing City (land re-zoning project)

2002

Project area: approx. 320 ha
Projected population: approx. 32,000

2021



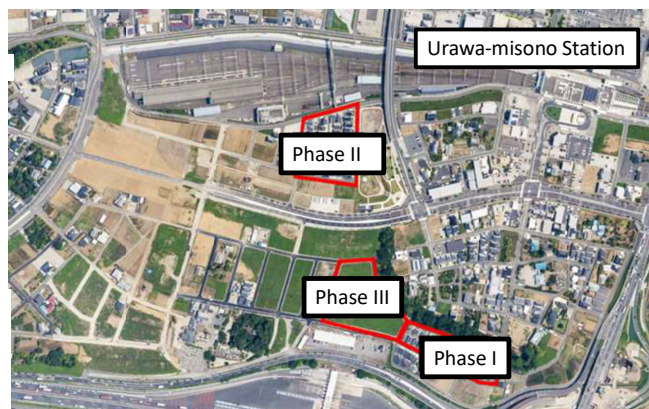
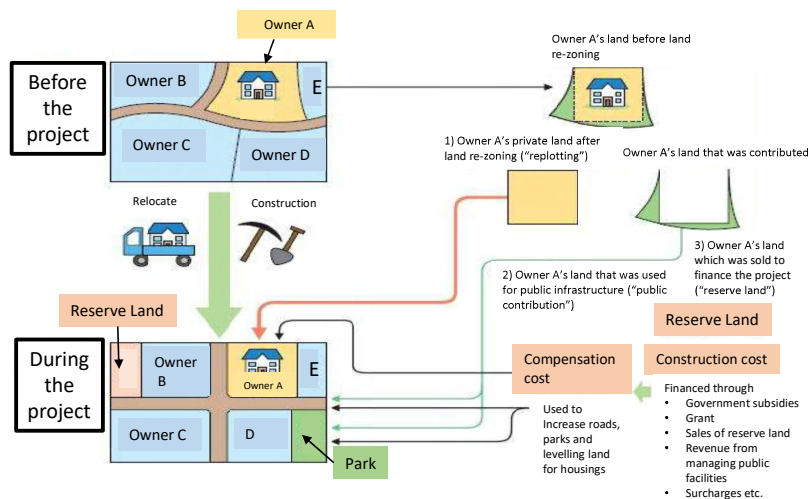
Land Re-Zoning Project

Land Re-Zoning Project
Approx. 320ha of city-owned land

Utilise for
community development

Call for project proposals

- City that guarantees energy security and is low-carbon
- Fostering a face-to-face close-knit local community, and a city that is comfortable to live in



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Smart City Initiatives in Saitama City



Decarbonisation
From 2009
E-KIZUNA Project
(promoting next-generation
vehicles)

Decarbonisation + resilience
From 2011
Special Zone for Next-generation Vehicles and
Smart Energy
(decarbonisation, energy security (resilience))

Decarbonisation + resilience + revitalisation
of local economy
From August 2015
Smart City Saitama Model
(illustration of the ideal Saitama City)

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Special Zone for Next-generation Vehicles and Smart Energy

► 11 March 2011 Great East Japan Earthquake

Experience with black outs and gasoline shortages

1) Facilities should be **equipped with self-reliant decentralised power sources**

2) **Multiple sources of energy** are needed for the flow of people and goods in the community

→Saitama City aims to realise an environmental future city that is “comfortable to live in, vibrant and continuously growing”.



Creating Smart Home Communities

Strong and flexible low-carbon community model



Supplying diversified energy even during disasters

Building more Hyper Energy Stations



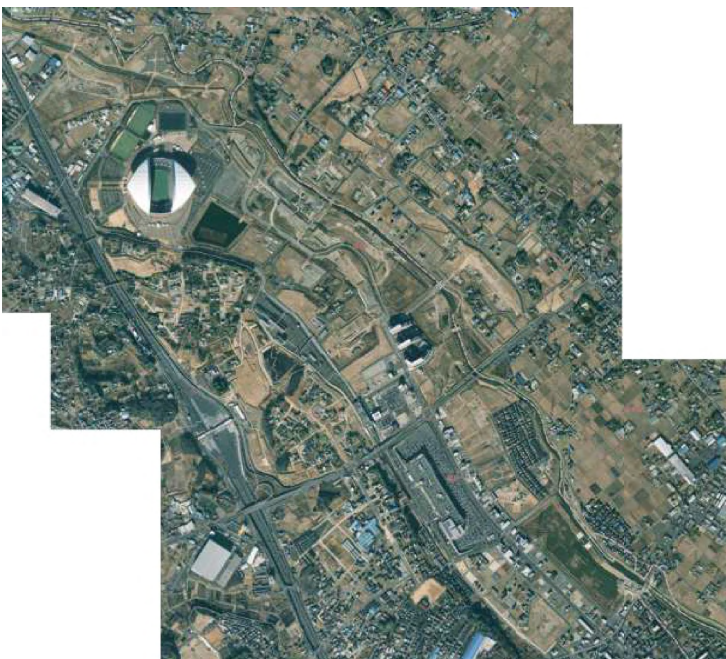
Low-carbon transport, mobility support for the elderly and child-rearing generation

Promoting Low-carbon Personal Mobility

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Misono Wing City (land re-zoning project)

2012



▪ Originally an agricultural area with few residents, there were virtually no shops and commercial facilities.

▪ Many landholders were in no hurry to monetise land that was conveniently located near the train station, thus development was slow to start (there was no need to start).

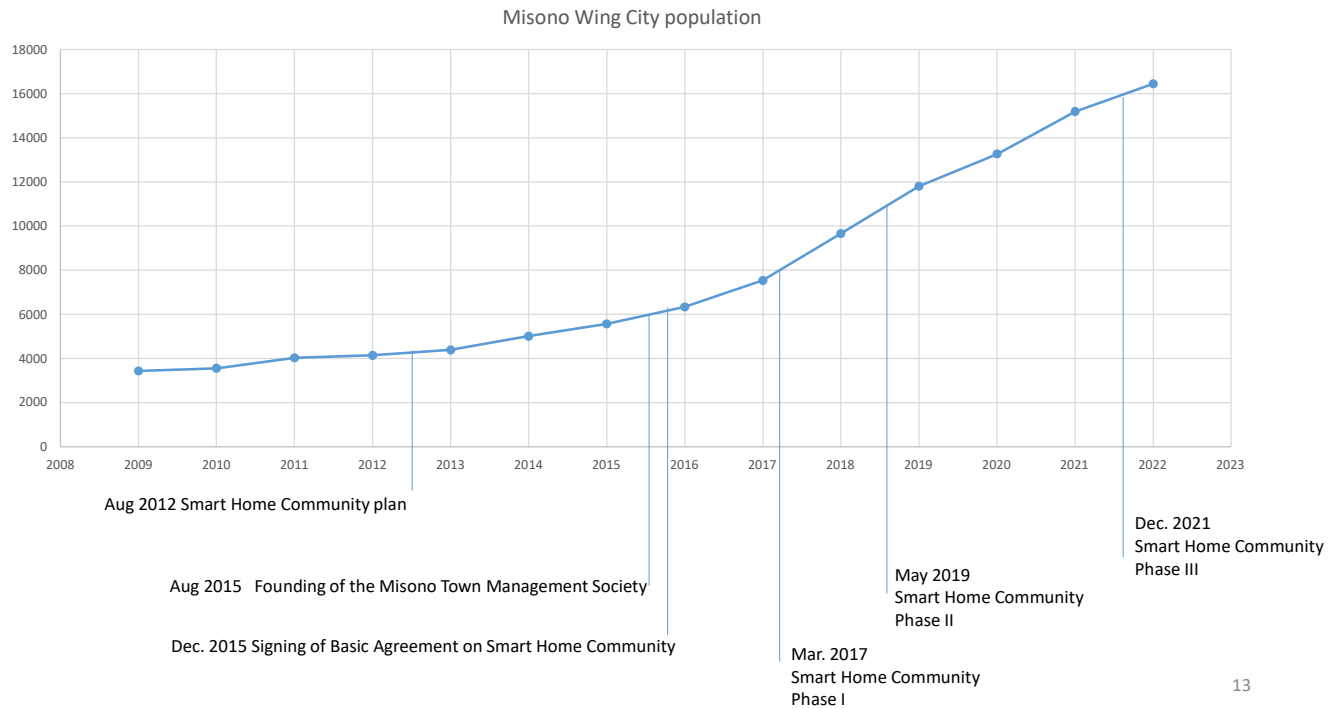
▪ Developers judged the development of high value-added housing to be high risk because it was difficult to visualise the town's future.



Project proposals were not adopted!

12

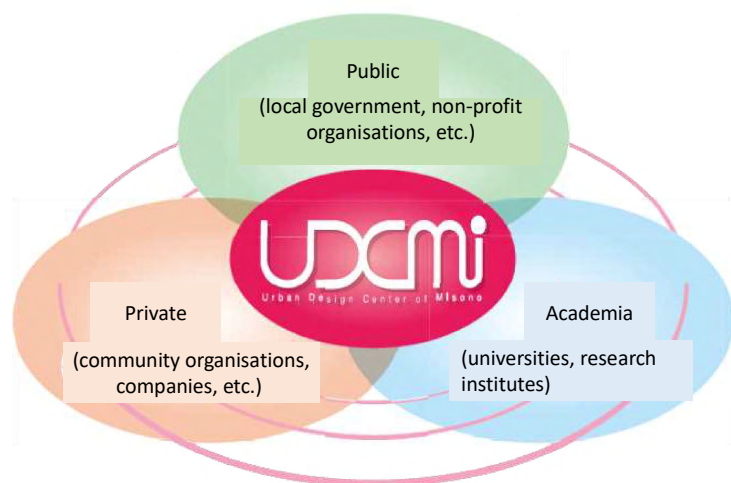
The Challenge: Smart City Saitama Model



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The Challenge: Smart City Saitama Model

Area Management: Establishment of the Urban Design Center of Misono (UDCMi)



14

Developing Area Management

Utilising public spaces



Misono town spaces



Marché events Misono Market Last Friday of every month, 3:00 to 7:00 pm

Clean-up events



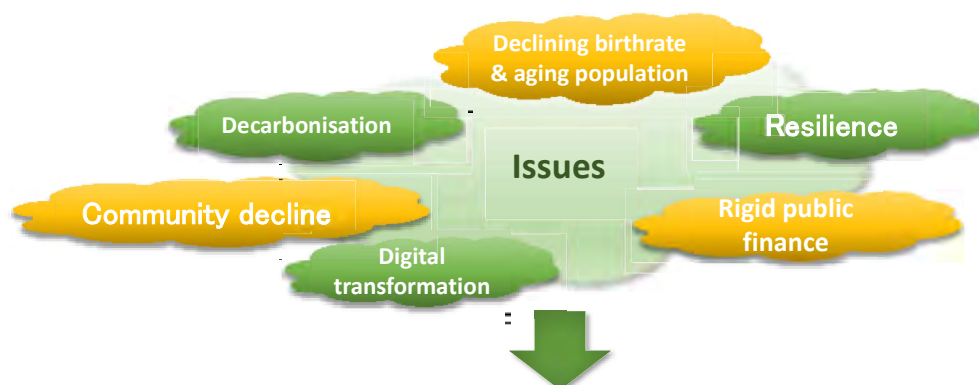
Blue flag: Ayase River Clean-up Walk in Misono



AI on-demand taxi

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The Challenge: Smart City Saitama Model



Harnessing the power (technology/know-how) of private companies
Streamlining operation and services of local government

◆ Focusing on creating a **“Data-driven Smart City”** to achieve sustainable growth and development!

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Multi Mobility Sharing



From the "Open Street" App
HELLO CYCLING (screenshot)



Mobility as a Service

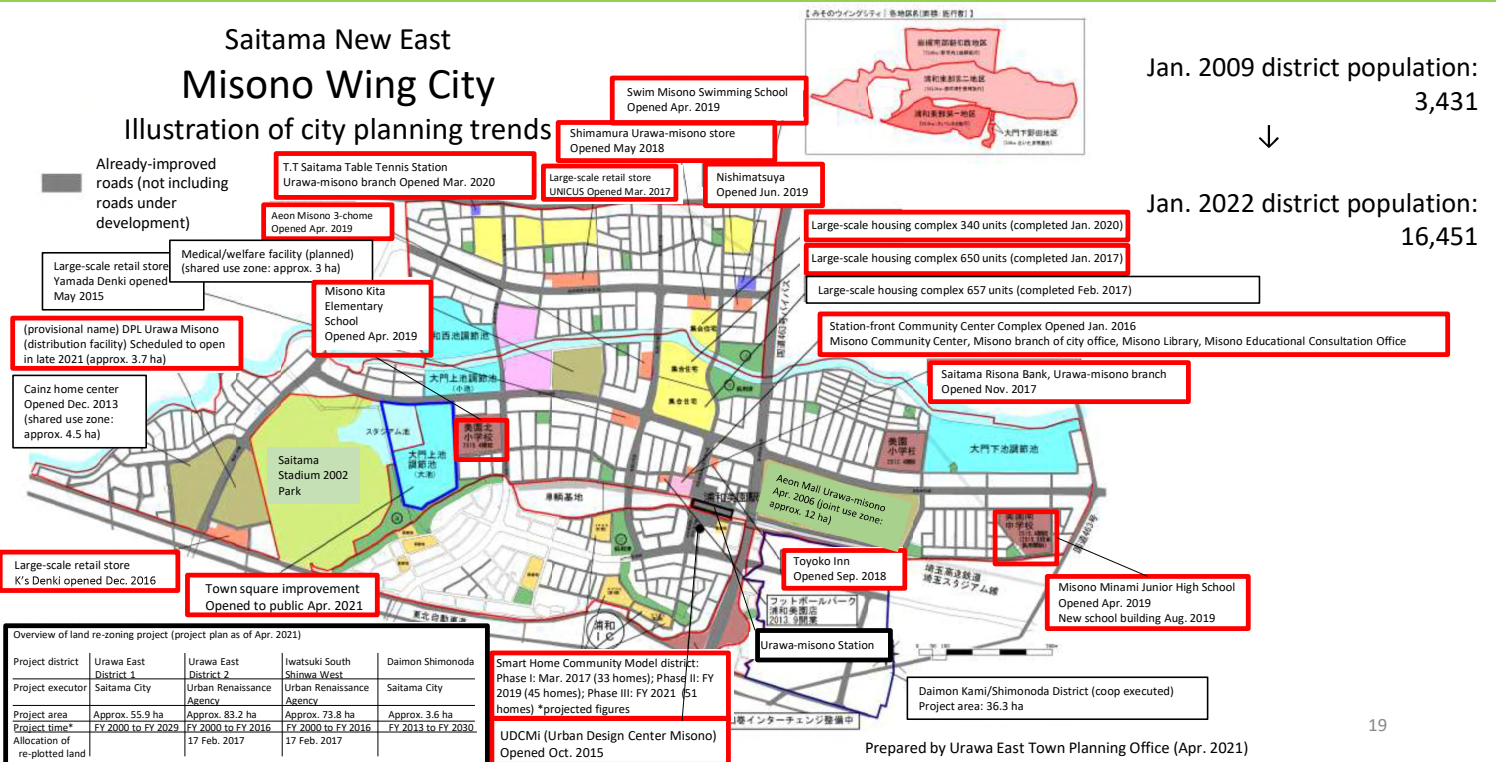


Mobility station of the future

 **Open Street**
(Providing the project platform)

 **ENEOS**
(Energy supply & management)

Transition of the Misono District

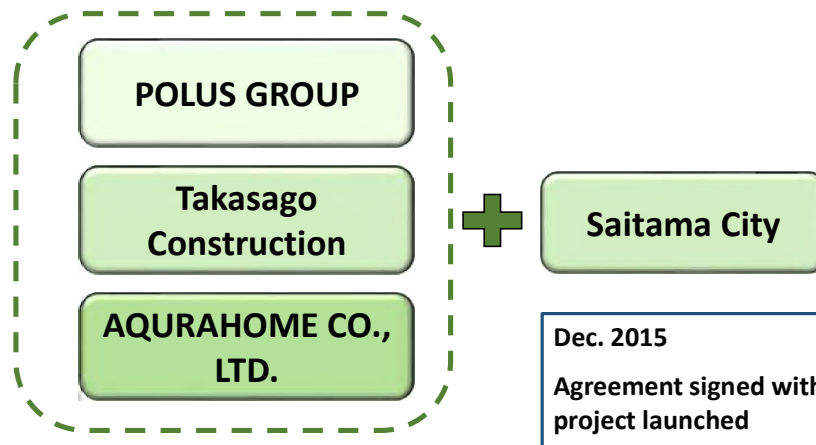


Project Implementation Structure

Selection of companies based on proposals

- City that guarantees energy security and is low-carbon
- Fostering a face-to-face close-knit local community, and a city that is comfortable to live in

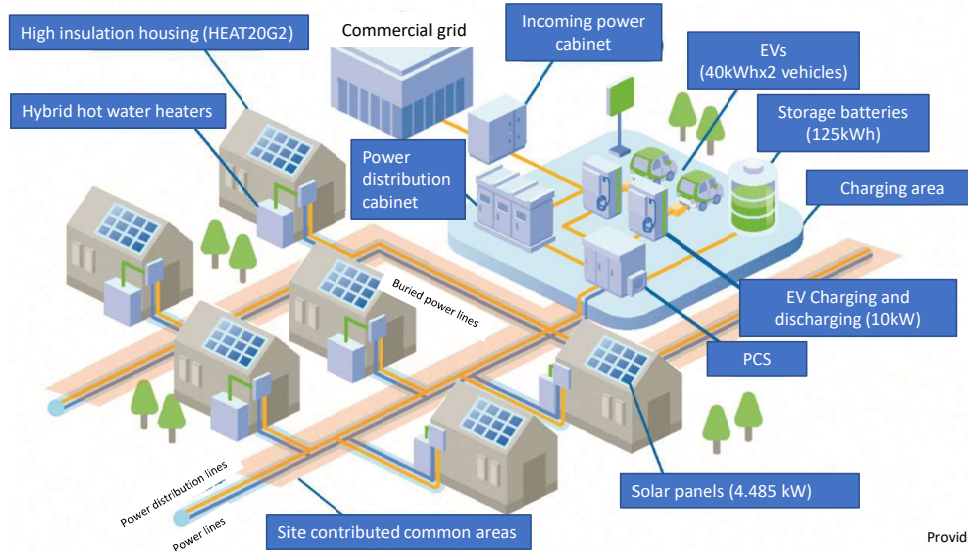
● Partners in town improvements and housing construction



Smart Home Community

○ Decarbonisation and energy security

- Visualisation of electricity usage (HEMS)
- Installation of solar panels
- Underground power lines improves landscape and removes risk of utility poles collapsing during a disaster



Provided by: Loop Inc

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Undergrounding of Power Lines

- Undergrounding of power lines improves the landscape and protects the town from collapsed utility poles during disasters



(Source) Ministry of Land, Infrastructure, Transport and Tourism website:
http://www.mlit.go.jp/report/press/road01_hh_001086.html



Photo courtesy of Tepco Town Planning Co., Ltd.



Photo courtesy of POLUS GROUP

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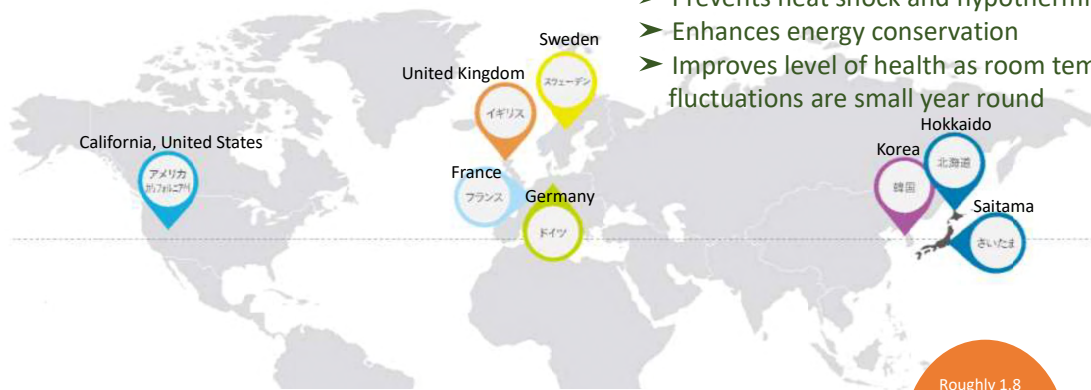
HEAT20 Grade 2

- Highly insulated highly airtight performance housing (HEAT20 Grade 2)

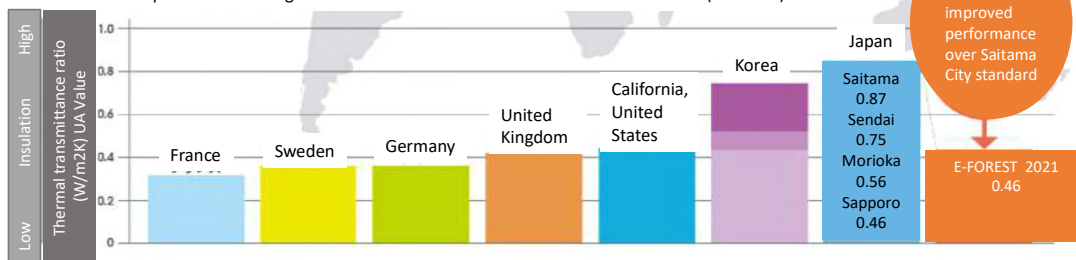
- Prevents heat shock and hypothermia
- Enhances energy conservation
- Improves level of health as room temperature fluctuations are small year round

High airtightness and high insulation standard
“HEAT20 Grade 2”

With a UA value of 0.46, the average thermal transmittance of external walls maintains a room temperature of approximately 15° C even when the building is not heated in winter, thereby preventing hypothermia and heat shock.

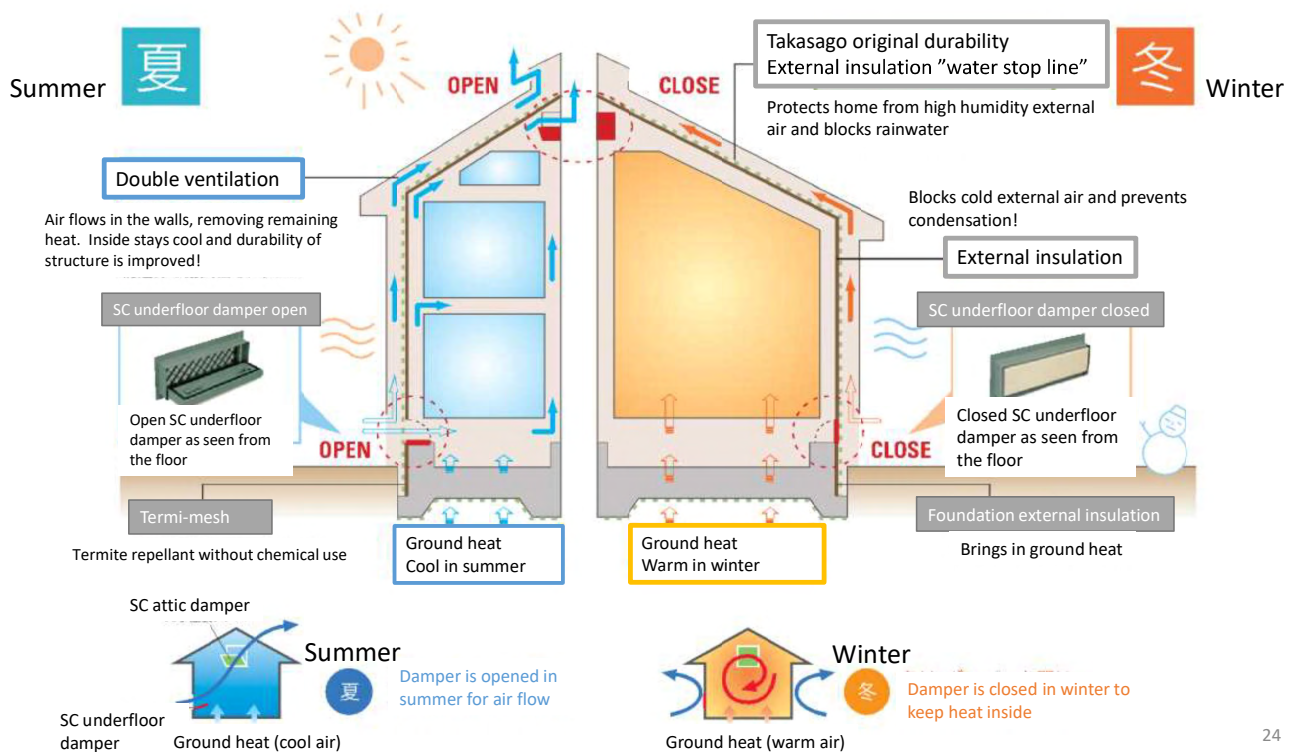


International comparison of housing standards for thermal transmittance of external walls (UA value)



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Example of Housing Specifications



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Example of Housing Specifications



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Common Spaces

- Layout that facilitates neighbourly relationships between residents
- Formation of management associations, mini-events for residents



Photo courtesy of POLUS
GROUP

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Thank you for your attention!

Growing with You
Saitama City



さいたま市

For more information: Department of Futuristic City Promotion, Urban Strategy Division, Saitama City

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E-mail: e-kizuna.project@city.saitama.lg.jp



KL City Introduction to eneplaza

2022.7.29

Energy Innovation Section, GX Promotion Department
Electricity Business Division, Loop Inc.

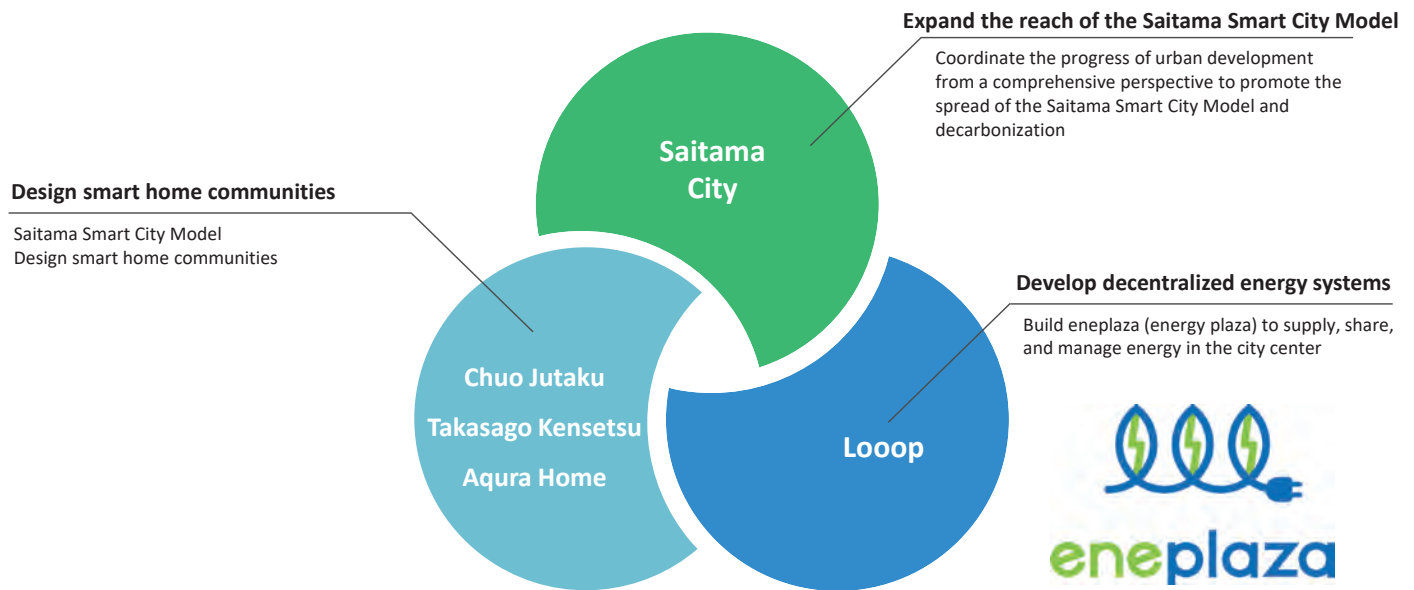
Introduction



**eneplaza is a decarbonized and resilient smart home community
in Urawa Misono, Saitama City.**

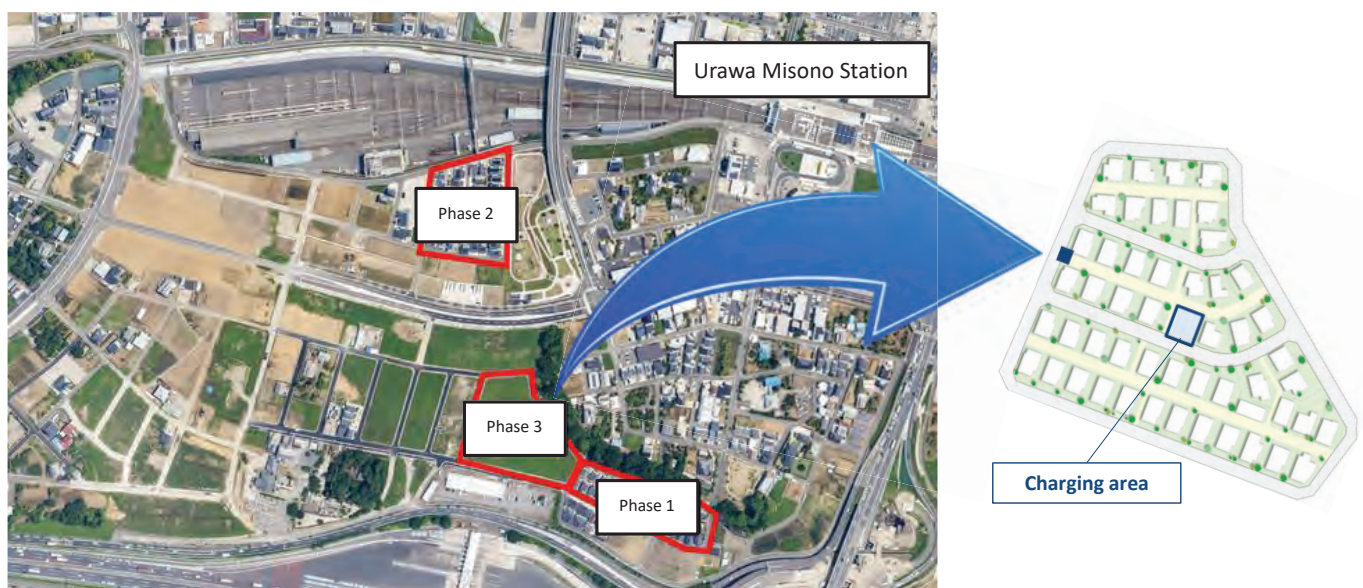


Creation of a model to promote the spread of decarbonized, circular communities in Phase 3 of the Smart Home Community Project



eneplaza was introduced as the finishing touch to the Smart Home Community Project in order to achieve Saitama City's vision of becoming carbon neutral by 2050.

- **Saitama City and Loop jointly applied for and were selected** to receive the Ministry of the Environment's FY2019 Subsidy for CO₂ Emission Control Measures in September 2019.
- Phase 3 of Urawa Misono E-Forest contains 52 plots (including 1 charging area).
- Residents will start to move into this area from December 2021. All units have been sold as of June 2022.



Source: Saitama City website

Smart Home Community Project (Phase 3)



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エネルギーフリー社会の実現

5

Awards and Recognition

Awards

Good Design Award 2021


**GOOD
DESIGN
AWARD
2021**
FY 2021 Minister of the Environment's
Award for Climate Action

FY 2021

Climate Action

Minister of the Environment Award

FY 2021 New Energy Award (Community Partnership Category)
New Energy Foundation Chair's AwardFY 2021
New Energy Award(Award name)
New Energy Foundation
Chair's Award(Award-winning project)
Saitama Smart City Model
centered around Phase 3 for
the Urawa Misono area(Community Partnership Category)
Organizer: New Energy Foundation

Visit by Environment Minister Tsuyoshi Yamaguchi (Jan 2022)

**Environment Minister Visits Advanced
"Decarbonized" Area in Saitama City**

Carbon zero +Follow

January 13, 2022 18:58

Save



Environment Minister Yamaguchi (second from left) and Saitama Mayor Shimizu Hayato (second from right) are briefed on the area in Saitama City that is promoting decarbonization initiatives (January 13, Midori-ku, Saitama City)

Environment Minister Yamaguchi Tsuyoshi visited the Urawa Misono area in Midori Ward, Saitama City on March 13 to inspect the city's "decarbonization" efforts. Saitama City's initiatives are likely to attract attention as a leader in decarbonization-focused urban development with the Ministry of the Environment planning to invite local authorities that are actively working on decarbonization to take part in a subsidy program to be launched on March 25.

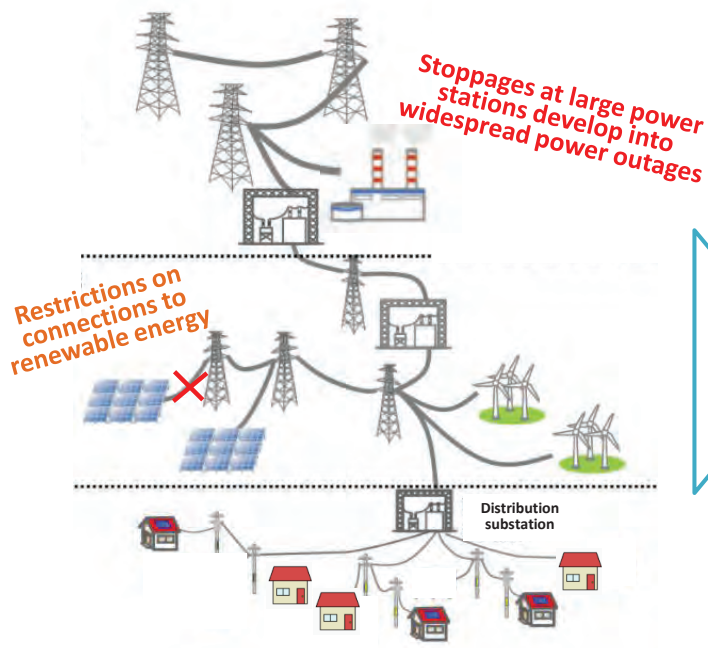
Source: The Nikkei (January 13, 2022)

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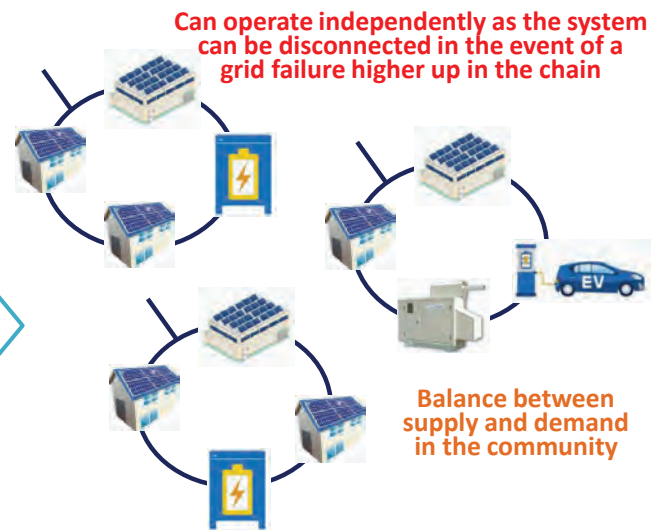
6

Centralized power systems -Current challenge-



Electricity generated in areas located a distance away is delivered to consumers via long transmission and distribution lines

Decentralized power systems -One type of solution-



Electricity is produced locally on site for local consumption

Elements of eneplaza

Power generation side

- PV
- Storage battery

Demand side

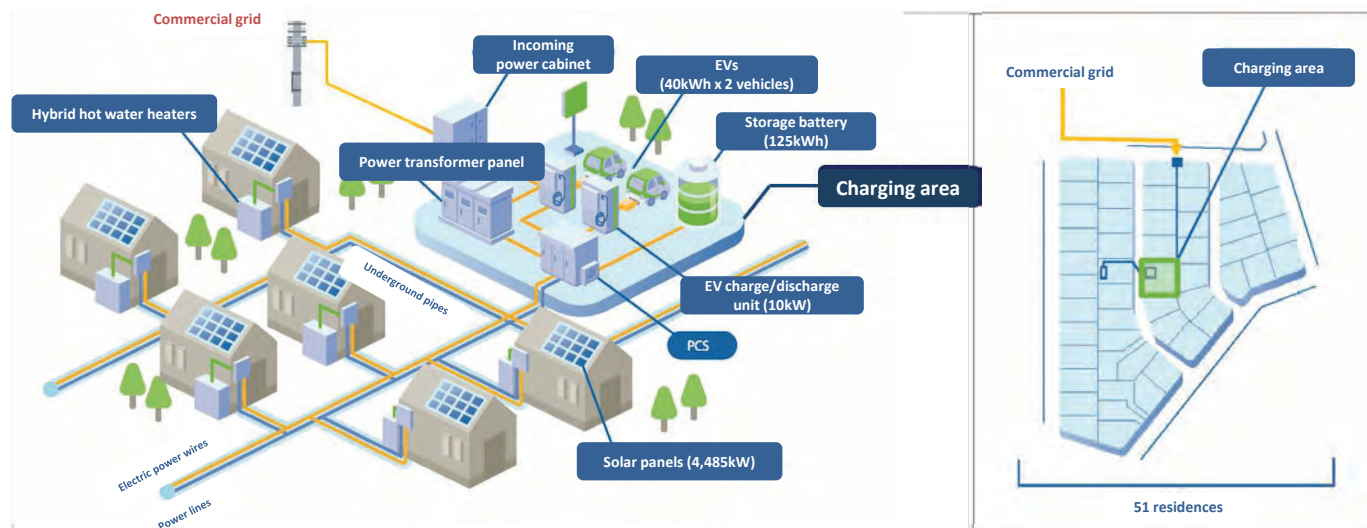
- Hot water heaters
- Variable price menu
- EV sharing

Integration and exchange at the community level

Matches power generation to demand and vice versa

Achieves integration and exchange of renewable at the community level

- Loop supplies electricity in the area as a registered specified electricity transmission and distribution utility (power generation → distribution → retail).
- Creation of smart city aiming at decarbonization (maximizing self-sufficiency with renewable energy) and strengthening resilience.



■ Power generation side

- With the installation of solar panels on 51 residences, electricity generated on roofs is collected by the PCS in charging areas, converted from DC to AC, and then distributed to individual homes.
- Any surplus electricity that is generated is stored in large storage batteries and EVs, and then distributed to individual homes.
- Electricity supply can continue uninterrupted as microgrids return to a state of independent operation even in the event of a grid power outage.

■ Demand side

- With the installation of hybrid water heaters in 51 residences, autonomous control systems are used to heat water when surplus solar power is generated (using Loop's own control logic)
 - Provision of a dynamic pricing rate menu (MISONO Renewable Energy Power) in which the unit price of metered electricity changes according to surplus electricity generated with solar power. The system displays the unit price and usage for the following day on a device installed in individual homes to encourage customers to adjust their behavior.
- Creation of "Demand Side Flexibility" maximizes the ratio of self-sufficiency with the use of renewable energy

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Features of eneplaza

POINT

1

Increase local production and consumption rates for energy

- Installation of solar panels on the roofs of all residences
- Centralized electricity generation and storage systems

POINT

2

Safeguard resilience

- Installation of power and telecommunication lines underground
- Design of microgrids capable of independent operation
- Introduction of V2G (Vehicle to Grid) technologies

POINT

3

Value-added creation

- Hot water control according to generation of surplus power
- Dynamic pricing rates
- Shared mobility services

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エネルギーフリー社会の実現

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Increase local production and consumption rates for energy

Development of Loop's own power grid for the integration and exchange of generated electricity

❑ Installation of solar panels on the roofs of all residences

- Installation of solar panels (approx. 4.4kW) on the roofs of all 51 residences (installation of solar panels with a capacity of approx. 228 kW across the entire area)

❑ Centralized electricity generation and storage systems

- Installation of large power conditioners and storage batteries in the centrally located charging area
- Aggregation of all electricity generated by solar panels in the charging area and appropriate distribution in line with electricity usage in individual residences (integration and exchange of electricity)
- Two electric vehicles (EVs) are also located in the charging area. During the week, these vehicles are used for energy management, but they are available to residents for car-sharing services on weekends and holidays (Promotes decarbonized transportation)

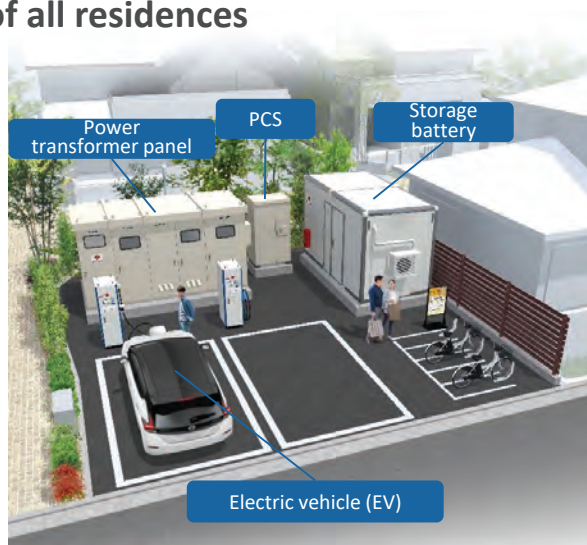


Illustration of charging area

Point 2: Safeguard resilience

Safeguard resilience (Secure energy in the event of a disaster)

Build up energy security to ensure a stable supply of electricity in the event of a disaster

❑ Installation of power and communication lines underground

- Reduced risk of power outages due to disasters with the installation of underground power and communication lines in the area

❑ Design of microgrids capable of operating independently

- Design of microgrids capable of ensuring uninterrupted electricity supply in the event of a grid power outage using solar power, storage batteries and EVs within the area

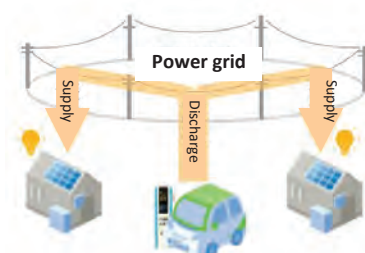
- State-of-the-art energy system with uninterrupted connections to the grid when the grid is restored.

❑ Introduction of V2G (Vehicle to Grid) technologies

- V2G is used to connect electric vehicles (EVs) to the power grid and extracts electricity charged to storage batteries in EVs for supply to other locations.
- The area's power grid maintained by Loop serves to support a stable supply of electricity in the event of a power outage with the integration and exchange of electricity discharged from EVs in the area (Maximizes available supply time).



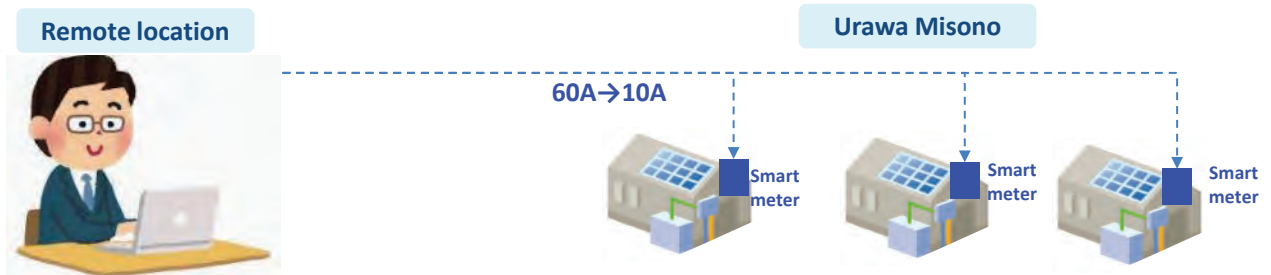
Illustration of area



V2G conceptual diagram

In the event of a grid power outage and independent operation, current limiting is carried out using smart meters to ensure an uninterrupted supply of electricity with the use of limited power storage resources.

Current limiting (60A→10A) is carried out remotely at the instruction from management.



Current limiting instructions sent to smart meters

In autonomous operation, up to 1,000 W is available at the same time!

Examples of what can be used

Refrigerator 300 W	Smartphone 5 W	TV 500 W	Lights 80 W
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Point 3: Encouraging changes in consumer behavior

Dynamic Pricing

Use of electricity when a large amount of solar power is generated is eco-friendly for your wallet and the environment

□ Lower electricity rates when surplus power is generated

• Loop offers independent daily forecasts of surplus rates for solar power for the following day based on information such as weather forecasts and the amount of electricity consumed by individual households.

• Electricity rate plans are offered to households in the area in which the metered price fluctuates according to forecasted surplus rates.

Basic rate (Contracted ampere use: 60A)		¥2,500/month (incl. tax)
Metered rate		
Daytime (6:00-23:00)	Phase 1 When the surplus rate is negative (less than 0%) 	¥30/kWh
	Phase 2 When the surplus rate is between 0% and under 70% 	¥25/kWh
	Phase 3 When the surplus rate is 70% or above 	¥20/kWh
Nighttime (23:00-6:00)		¥30/kWh

* Surplus rate = (Forecasted solar power generation - forecasted electricity usage in area) / forecasted electricity usage in area
 * If no electricity is used at all, the basic rate is equivalent to 50%.
 * All rates above include the equivalent of consumption tax.

Rate structure for MISONO Renewable Energy Power



MISONO Renewable Energy Power

Customers are notified about the metered rate for the following day around 19:00 on the previous day via a smart speaker (Amazon Echo Show8) that is on loan to individual households.

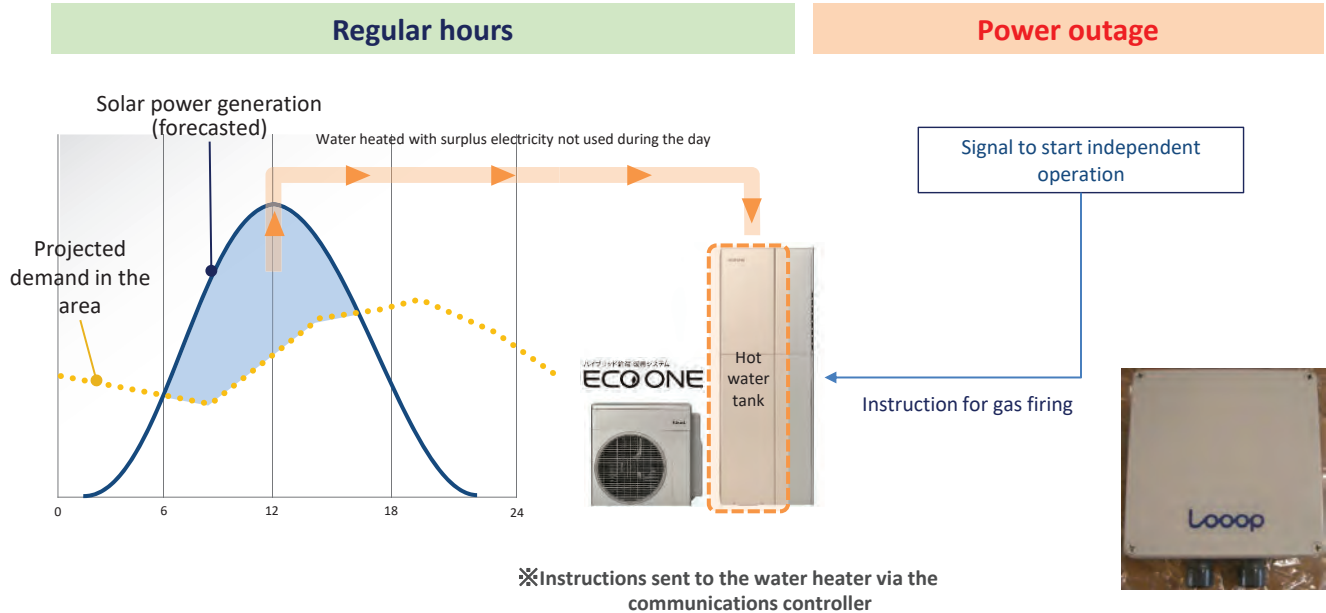


Image of smart speaker screen

Effective use of renewable energy by shifting electricity use to times when surplus electricity is high!

Hybrid hot water control

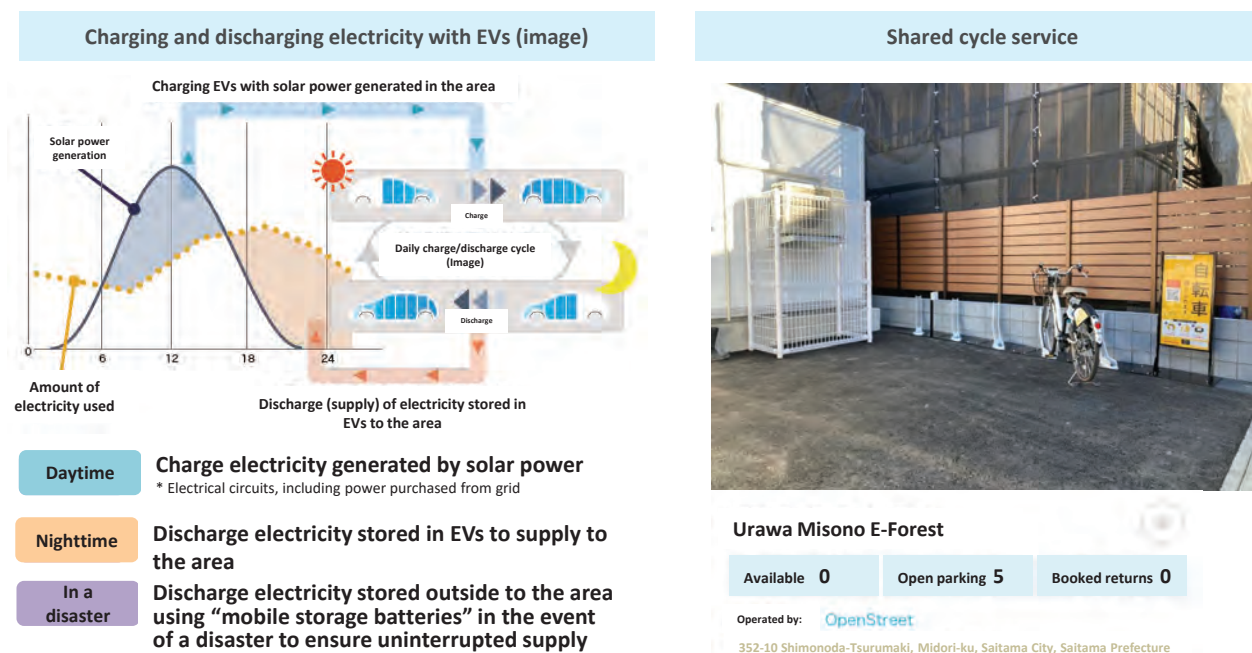
- Projected solar power surplus is based on forecasts for solar power generation, demand, and electricity usage for heating water.
- Maximizes the use of solar power heating water when there is a surplus of power.
- Instructing gas firing automatically, the area can use electricity which generated on roofs and stored in a large batteries, for purposes other than hot water supply in the event of a power outage.



Point 3: Shared mobility services

Shared services for EVs and bicycles

- EVs located in the charging area are used as storage batteries during the week for energy management. On weekends and holidays, these vehicles are used by residents for car-sharing services. These EVs are also used as mobile storage batteries during disasters.
- Loop provides bicycle-sharing services in cooperation with OpenStreet Co., Ltd. (5 bicycles are located in the charging area)



eneplaza uses smart technology to create safe, comfortable and decarbonized lifestyles.

Under
normal
circumstances

■ **Energy costs**

Rates

- Less expensive annual rates (at least 1%) than the renewable energy menus of other major electricity providers

Demand management

- Lower electricity rates as a result of changes in behavior based on dynamic pricing
- Optimal control for water heaters depending on the status of surplus electricity

Housing performance

- Reduced energy costs with ultra-high insulation specifications for buildings

■ **Comfortable lifestyle**

- Use of smart home devices to visualize electricity rates
- Accessible EVs and bicycle sharing services on weekends

In
emergencies

■ **Resilience**

- Uninterrupted use of electricity in the event of a power outage as the microgrid operates independently
- Use of EVs to supply electricity at power supply spots nearby if they are used as mobile storage batteries

High Level Talks on Zero Carbon City Kuala Lumpur

T2KLLCS

TOKYO TO KUALA LUMPUR LOW CARBON SYSTEM

A case for successful city-to-city collaboration
towards accelerating net-zero transition

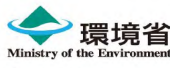
Ho Chin Siong
Chau Loon Wai

08 August 2022



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

IGES
Institute for Global
Environmental Strategies



TOKYO
METROPOLITAN
GOVERNMENT



Embassy of
Japan
in Malaysia

JETRO
Kuala Lumpur

Project of developing a policy framework for building energy efficiency through city-to-city collaboration between **Kuala Lumpur** City Hall and **Tokyo** Metropolitan Government

T2KLLCS

2019-2021
3 phases



TOKYO
METROPOLITAN
GOVERNMENT



Partners:

IGES
Institute for Global
Environmental Strategies



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

UTM LOW CARBON
SIA
RESEARCH CENTRE



Sponsor:



環境省
Ministry of the Environment

PHASE 1 (FY2019)

25, 27 Mar 2019 Initiation Discussions (via emails)

Apr-May 2019 Outreaching to DBKL, SEDA, TMG

17 May 2019 UTM Official Communications with IGES and MOEJ

27-28 Jun 2019 Kick-off Meeting @ KL

10 Jul 2019 Skype Meeting

29-31 Jul 2019 ISAP @ Tokyo

23 Aug 2019 T2KLLCS Launching @ KL

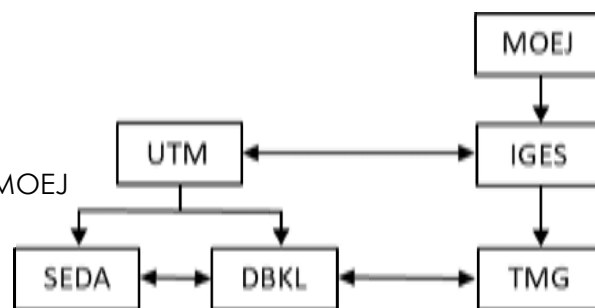
16 Oct 2019 APUF7 IGES Side Event @ Penang

17 Oct 2019 TMG & IGES Visit to DBKL

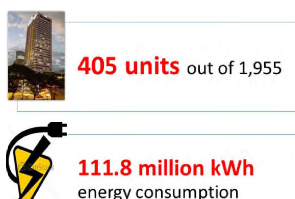
11 Dec 2019 COP25 Japan Pavilion Side Event @ M

13-18 Jan 2020 Training @ Tokyo

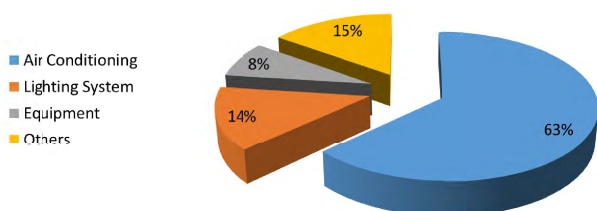
2 Mar 2020 Final Reporting to MOEJ



PHASE 1 (FY2019) OUTCOMES



T2KLLCS: **63%** OF POWER CONSUMPTION BY KLCH BUILDINGS IS FROM AIR CONDITIONING SYSTEM



Building Envelope	1	Infiltration - Airtight Building Envelope
	2	Reduce Direct Sunlight - Shading, Window Blind
	3	Insulation - Green Roof, Roof Insulation, Wall Insulation, Window Tinted, Window Glass
Air-Conditioning System	4	Outdoor Air Ventilation Control
	5	Zoning & Control of Air Distribution System - VAV, Temperature & Humidity Control, Setback & Shut-off Control, Off-hour control
	6	High Efficiency Fan System
	7	High Efficiency Air Filtration
	8	Effective Piping & Ducting Insulation
Lighting	9	High Efficiency Unitary Air Conditioning System - Single Split, Package, Multi Split, VRF
	10	High Efficiency Centralized Air Conditioning System - Chiller, Hydronic System, Cooling Tower
	11	Control of Centralized Air Conditioning System - Automation & Optimization
Energy Management Control System	12	Lighting Control - Daylight Control, luminance Control, Zoning Control, Motion Control, Off-hour Control
	13	High Efficiency Lighting System - Indoor & Outdoor
	14	Control of Equipment, Monitoring of Equipment, Integration of Equipment and Other Sub-systems, Energy related Data Collection and Analyses
	15	Solar PV

	Scenario 1	Scenario 2
CO ₂ EMISSION IMPROVEMENT	35%	47%
Approach	Moderate	Aggressive
CO ₂ EMISSION REDUCTION	12.5 million kgCO ₂ e/year	16.9 million kgCO ₂ e/year
Monetary saving	MYR 7 million/year	MYR 9 million/year

PHASE 2 (FY2020)

14 May, 4, 10, 17 Jun 2020 Four (4) Pre-Project ZOOM Meetings

23 Jun 2020 Kick-off Meeting

7, 24 Jul; 5 Aug; 1 Sep 2020 ZOOM Meetings

24 Jul 2020 DBKL Mayor signed the TMG-DBKL MoU

4, 7, 22 Sep 2020 WEBEX Meetings

1 Oct 2020 Datuk Seri Mahadi Che Ngah Appointed 13th Mayor of KL

21 Oct 2020 ICLEI Daring Cities 2020 – Launching of Carbon Neutral KL 2050

27 Oct, 10 Nov 2020 WEBEX Meetings

22 Dec 2020 ZOOM Meeting

6 Jan 2021 ZOOM Meeting

14 Jan 2021 International Forum on SDG for Regional Revitalisation

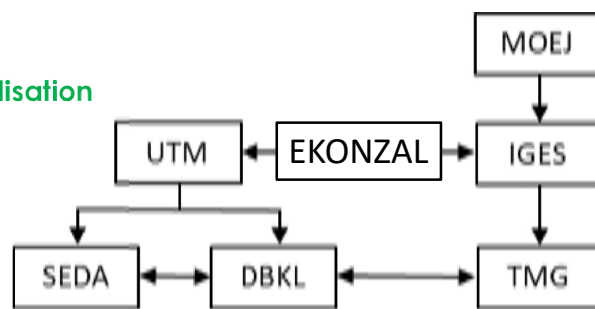
21 Jan 2021 Solar PV Installation Evaluation Discussion @ KL

25, 27 Jan 2021 ZOOM Meetings

5 Feb 2021 T2KLLCS 2021 Webinar

5 March 2021 Final Reporting to MOEJ

17 March 2021 Zero Carbon Cities International Forum



PHASE 2 (FY2020) OUTCOMES- RM 28mil budget

PHASE 2 – Air-condition Equipment

Buildings & Equipment

- City Hall Tower 1 – AHU (To Be Replaced in 2023) budget obtained
- City Hall Tower 1 – Auditorium Chiller, Pump, Cooling Tower & AHU (To Be Replaced in 2023) budget obtained
- City Hall Training Centre – Academic Tower Variable Refrigerant Flow(VRF) system (To Be Replaced in 2021) budget obtained
- City Hall Tower 3 – Chiller, Pump, Cooling Tower & AHU (To Be Replaced in 2022)

Chillers **Water Pumps** **Cooling Tower** **AHU**

PHASE 2 – New Potentials Solar PV for KLCH Buildings

Community Centre **Pudu Ulu Park Office** **Multipurpose Hall Ampang Hilir**

PHASE 2 – New Potentials Solar PV for KLCH Buildings

Sepak Takraw Stadium **Count Down Clock KL** **Kuala Lumpur Library**

PHASE 2 – Kuala Lumpur Solar PV (Private Initiatives)

KEA Cheras **Duke-Phase Toll** **KEN Tower-TTDI** **UTM-Semarak**

PHASE 3 (FY2021)

7 Apr 2021 DBKL-UTM T2KLLCS 2021 Way Forward Discussion

21 Apr, 3, 9 Jun, 1 Jul 2021 Four (4) Pre-Project ZOOM Meetings

7 Jul 2021 TMG-KL extended (Jakarta) Webinar 2021

19 Jul 2021 Kick-off Meeting

29 Jul 2021 ZOOM Technical Meeting

2 Aug 2021 UTM-DBKL Google Meeting (Work Plan and Roadmap)

9 Aug 2021 IGES-UTM ZOOM Meeting

18 Aug 2021 ZOOM 2nd Technical Meeting

6 Sep 2021 DBKL-UTM Technical Meeting (Project Scoping and Data Update)

22 Sep 2021 TMG and IGES Feedback (via email)

5 Oct 2021 IGES-UTM ZOOM Technical Discussion

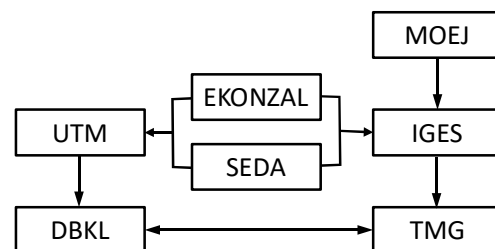
6 Oct 2021 T2KLLCS Action Plan Discussion (Google Meet) – Mayor Chaired

15 Oct 2021 DBKL-AEON-TMG-IGES-UTM-SEDA ZOOM Meeting (Wangsa Maju CNGC Collaboration)

10, 11 Nov 2021 COP26 @ Glasgow UNFCCC Official Side Event, MOEJ SE, LoCAR-Net SE, C40 SE etc.

7 Dec 2021 Menara 1 Reduction Potential Calculation Template (via email)

9 Dec 2021 LCBS for EE Retrofit and O&M (via email)



PHASE 3 (FY2021) OUTCOMES

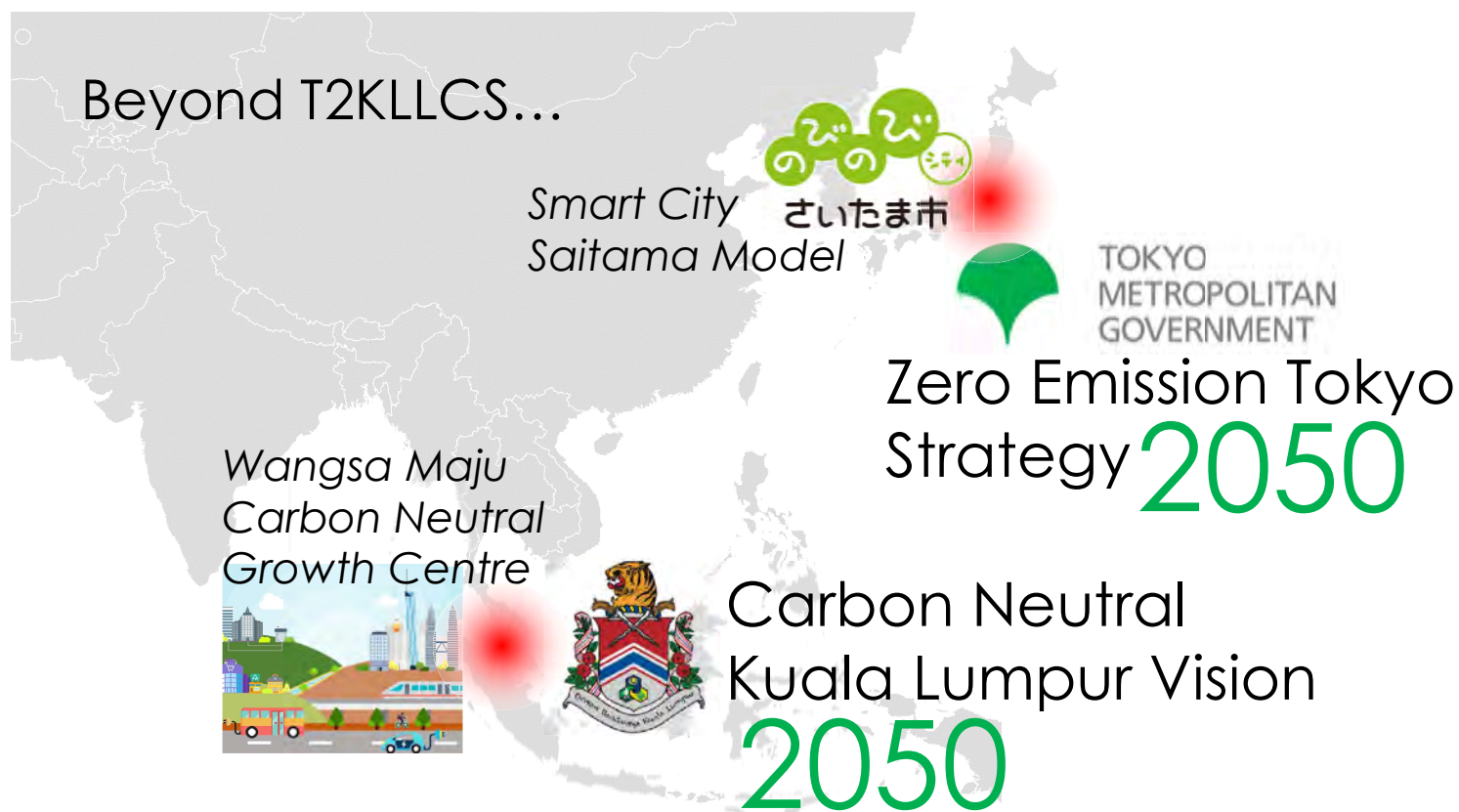
KL commitment to lead Asian Cities into carbon neutrality- UNFCCC COP26 GLASGOW



PHASE 3 (FY2021) OUTCOMES

FY2021: Complete the ASEAN first comprehensive public building energy efficiency system

	Components	Deliverables	
1	Conduct retrofit in FY2021 to 3 projects identified in FY2020	Implement	Apply to public buildings in Wangsa Maju and others
2	Identify 2 nd round of EE retrofit and RE budgeting in FY2021	Budget	
3	Draft low carbon public building guidance (for retrofits)	Document	
4	Draft low carbon public building guidance (for O&M)	Document	
5	Draft low carbon public building procurement plan for 2030	Document	
6	Present at COP 26	Presentation	

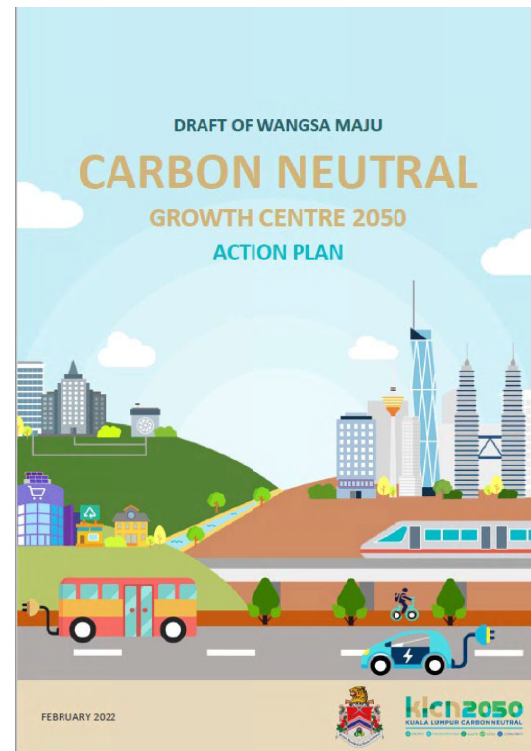


Beyond T2KLLCS...

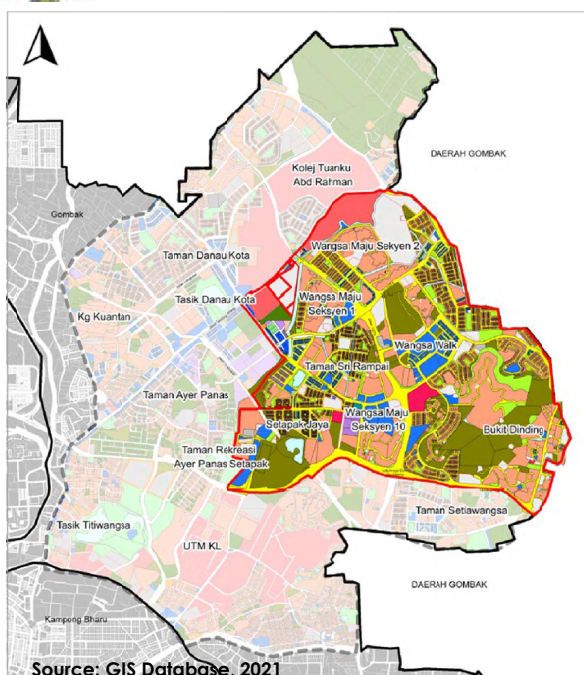
Accelerated adoption of EE and RE installation in public buildings, infrastructure and private buildings in Wangsa Maju CNGC – **VISIBILITY IS KEY!**

Low Carbon Building Specification for EE Retrofit & Low Carbon Building Specification for Operation and Maintenance (O&M) as recommended guidelines

Utilisation of localised GHG emission reduction potential calculation template for EE and RE in buildings

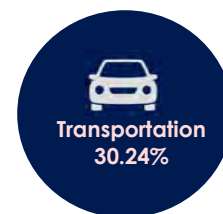
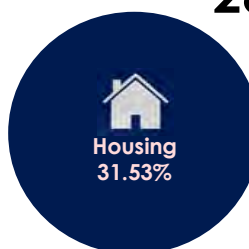


2.0 WANGSA MAJU CNGC ACTION PLAN – A SHOWCASE Wangsa Maju Carbon Neutral Growth Centre Profile



Source: GIS Database, 2021

Wangsa Maju Carbon Neutral Growth Centre 2649.2 acres



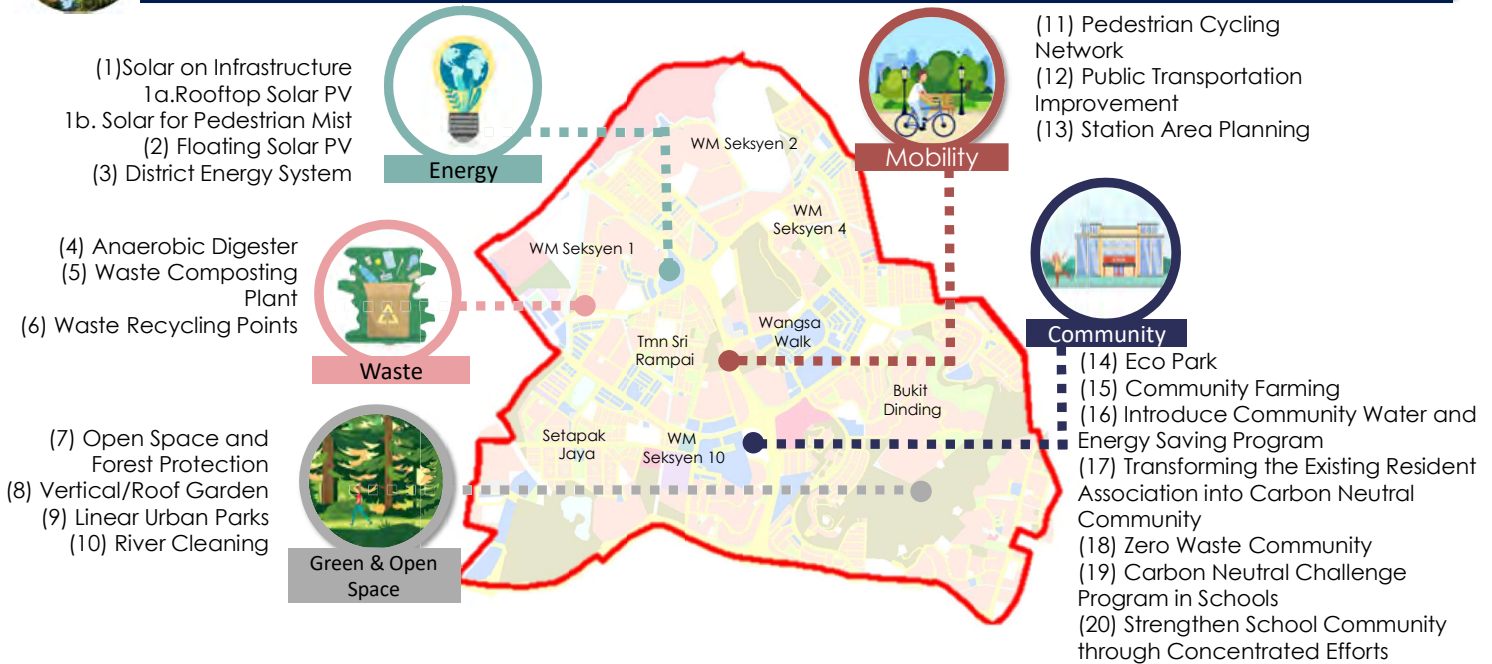
Source: Data GIS 2021

To develop the Wangsa Maju Growth Centre into a **thriving, prosperous, carbon neutral urban precinct**, serving as a **pioneer showcase** that is up-scalable to other Kuala Lumpur Strategic Zones for a progressive transformation of Kuala Lumpur into a **carbon neutral city by 2050**.



WANGSA MAJU CNCG 2050 ACTION PLAN

Carbon Neutrality Opportunities in Wangsa Maju Growth Centre



THANK YOU!

UTM-Low Carbon Asia Research Centre
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Faculty of Built Environment & Surveying
Universiti Teknologi Malaysia
81310 UTM Johor Bahru
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T: +60-7-5557359
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E: lwchau@utm.my

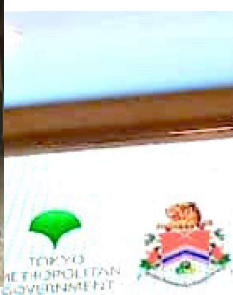


High Level Talks on Zero Carbon City Kuala Lumpur August 8th 2022

Developing an Institutional Framework Towards
Kuala Lumpur Zero Carbon City and Neighbourhood
in Collaboration with Tokyo Metropolitan Government and Saitama City

By:
Junichi Fujino
Ryoko Nakano

IGES
Institute for Global
Environmental Strategies



"Project overview of this
city-to-city collaboration"

Junichi Fujino (IGES)
Ryoko Nakano (IGES)

Aug 8, 2022@DBKL



Aug 2019



March 2021
Tokyo &
Online

Governor of Tokyo

Mayor of KL

Offered policy recommendations to KL on buildings while reducing own emissions

Announced aim to achieve carbon neutral by 2050 with TMG's support

**Leader of
Glasgow
Host of COP26**

Minister of Environment(at the time)

Praised the collaboration between TMG and KL saying it could serve as a good practice that could begin a domino effect for decarbonization

<https://www.iges.or.jp/jp/events/20210317>)



United Nations
Framework Convention on
Climate Change



IGES
Institute for Global

5

Feb 2021
Online

T2KLLCS 2021 Webinar

T2KLLCS

BACKGROUND

The DBKLCS webinars intended to introduce the Tokyo Metropolitan Government (TMG) and Kuala Lumpur City Hall's (DBKL) joint effort to counter climate change and limit global temperature rise within 1.5 degrees. Both cities are known internationally for their strong interests in this field. TMG has announced its commitment to achieve zero carbon by 2050, and DBKL is aiming to achieve carbon neutral ready by 2040 and carbon neutral by 2050.

The two governments have joined forces to develop a new low carbon system TXCLICS that will be used in KL and which utilizes the experience and knowledge TMG has gained in promoting energy efficiency and CO2 emission reduction in its own public buildings.

TMG has been supporting DBKL's capacity building efforts in policy making and implementation of low carbon building by offering its knowledge with due consideration of DBKL's interests and requirements. The first year of the project resulted with an analysis of 1955 public buildings' energy consumption and reduction potential. In the second year, the project participants have concentrated on budgeting the renovation of a number of model buildings with energy efficient appliances and identifying how to promote renewables.

This project has been supported by the Sustainable Energy Development Agency (SEDA) which is the agency in charge of Zero Energy Buildings (ZEB) in Malaysia, the Universiti Teknologi Malaysia (UTM) and the Institute for Global Environmental Strategies (IGES). The participants have convened through workshops and online meetings for over 20 times for the past two years.

OBJECTIVE METHOD AND LANGUAGE

This workshop will be held as a webinar in which project participants will present and discuss what has been achieved, as well as to identify the way forward. To enrich the discussions it is hoped that DBKL officials, participants from Malaysian and ASEAN cities other than KL, Japanese companies can participate.

T2KLLCS 2021 WEBINAR

February 5, 2021 16:00-17:30 (JST), 15:00-16:30 (MYT)

For participation, please click the following link or scan the QR code

<https://us02web.zoom.us/j/84289097647?pwd=NCs1YUJlYVlWSSQ0UStlcjQ1WHRCUjYyZ0pB>


Med-Eng-ID: 842 8009 7447 Pasword: 015406



Please note you will require a registered zoom account prior to the conference. You can find out more about zoom here: <https://zoom.us>

Introduced how the T2KLLCS was being implemented to municipalities in Malaysia and in ASEAN (such as Jakarta)

The Mayor of KL raised the idea of a new regulation in KL City in which real estate developers should use at least 30% renewable energy-derived electricity



The Mayor of KL



**TMG Senior Director for Climate Change and Energy,
Environmental Bureau**

ICLEI HQ

United Nations
Framework Convention on
Climate Change



IGES
Institute for Global Environmental Studies

KL's carbon neutral challenge was well recognized and highlighted at Climate COP26 in Glasgow.

Nov 2021
Glasgow



COP26 "Glasgow"

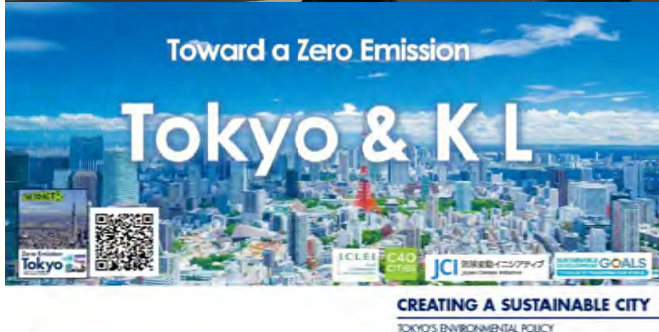
2021 United Nations Climate Change Conference-side event hosted by UTM and IGES 2021

Date and Time: Wed, 10 Nov 2021 (11:30-12:45)
Room: Forth Room (44 pax) Scottish Event Campus
Glasgow United Kingdom

Call for an integrative approach: Climate, biodiversity, disaster risk reduction and SDGs

Key International Collaborations-Integrative approach in Planning climate actions

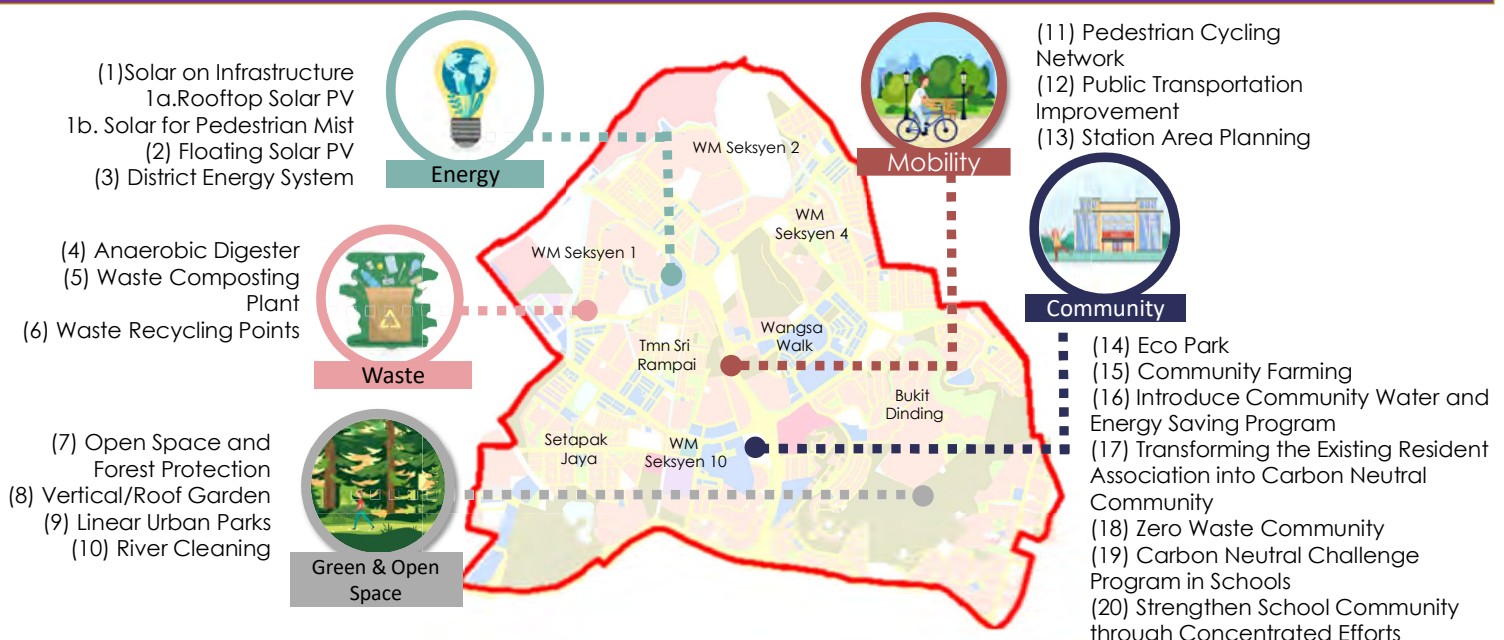
HO CHIN SIONG and Chau Loon Wai
UTM Low Carbon Asia
UNIVERSITY TECHNOLOGY MALAYSIA



5

Visualize Carbon Neutral at "Wangsa Maju" special district with new partner "Saitama City" where selected as one of 26 Japanese "Decarbonization Leading Areas"

April
2022



6

MOEJ "Developing an Institutional Framework Towards Kuala Lumpur Zero Carbon City and Neighbourhood in Collaboration with Tokyo Metropolitan Government and Saitama City" Project [Phase 2]

Tokyo Metropolitan Government (TMG)

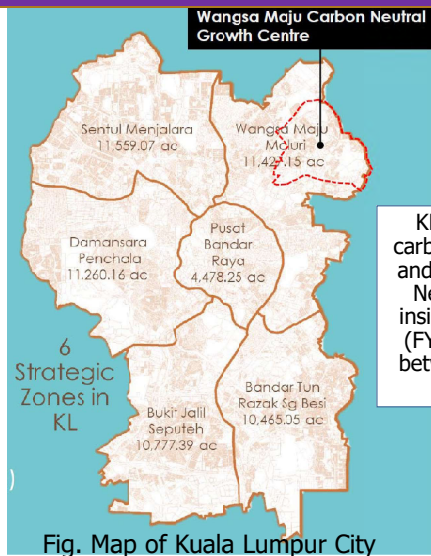
Support KL for sustainable policies and buildings ("Zero emission Tokyo Strategy" (by 2050), "Carbon Half" (by 2030) at whole city level

Saitama City Hall (Saitama)

Support KL for sustainable energy management (Misono "Smart Home Community"), sustainable mobility ("Shared Multi-Mobility") at neighbourhood level

Loop:
Private sector:
energy management

IGES:
Main coordinator



Kuala Lumpur City Hall (KL)

Streamline and enhance zero emission policies, ways to develop a zero emission neighborhood

SEDA (Sustainable Energy Development Authority):
Public sector: energy management and policies

KL city mayor declared carbon neutral city by 2050 and "Wangsa Maju Carbon Neutral Growth Centre" inside KL through "Phase1 (FY2019-2021)" activities between KL and TMG with IGES, UTM, SEDA

Universiti Teknologi Malaysia:
Local coordinator

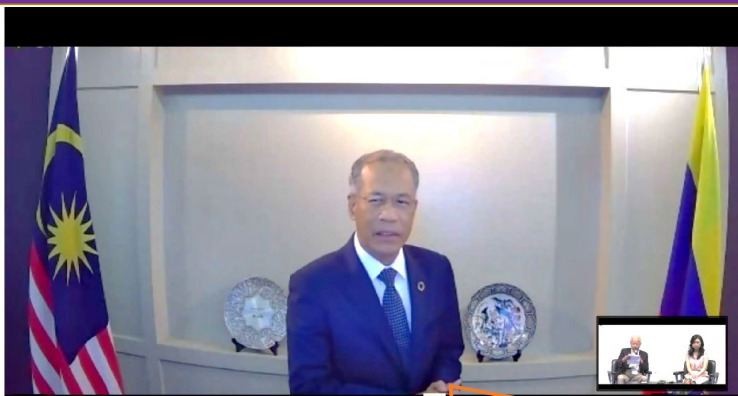
**FY2022-
FY2024
at max**

- 1 year: Introduce CN measures of TMG (city-wide) and Saitama (neighborhood etc.), early implementation with KL City Hall's budget.
- 2 year: Support localization of the introduced policies, mechanisms, of which some will be tested in the "Wangsa Maju Carbon Neutral Growth Center"
- 3 year: Action plan for "Wangsa Maju Carbon Neutral Growth Center" will be incorporated into concrete project proposals and support is offered for KL city wide decarbonization and to other cities.

KL mayor shared not only city-whole but also district-wise carbon neutral initiative to H.E. Yamaguchi, Minister of the Environment Japan and the world.

July 2022

Tokyo & Online



...partnership with Tokyo Metropolitan Government and IGES has enabled Kuala Lumpur City Hall's ...steady progress to achieve carbon neutrality by 2050



CO-CONVENED BY



Department of Economic and Social Affairs

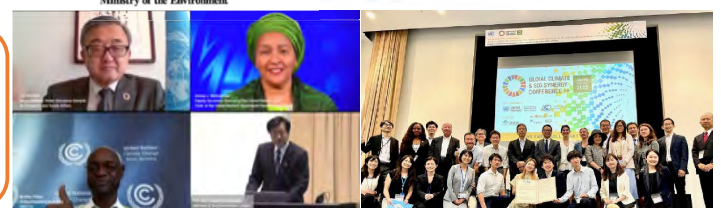


United Nations Climate Change

HOSTED BY



IN PARTNERSHIP WITH





High Level Talks on Zero Carbon City Kuala Lumpur

Developing an Institutional Framework Towards Kuala Lumpur Zero Carbon City and Neighborhood in Collaboration with Tokyo Metropolitan Government and Saitama City

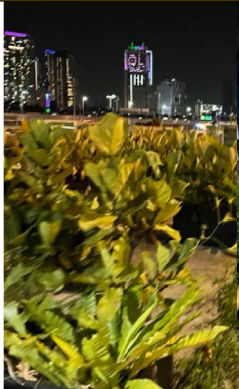
DATE : 8th August 2022

TIME : 10:30-12:00 (MYT) , 11:30-13:00 (JST)

VENUE : Anjung Singgahsana,
Kuala Lumpur City Hall



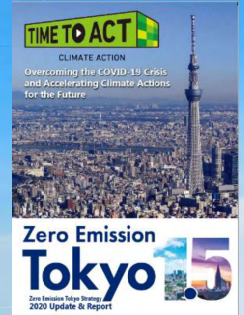
Our journey towards zero carbon city shall continue.



Thank You

Tokyo Initiatives for achieving carbon neutral

-Fast forward to
"Carbon Half" by 2030



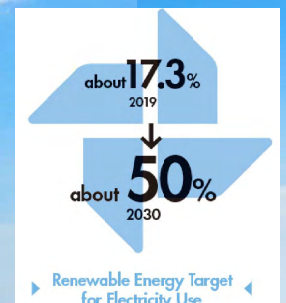
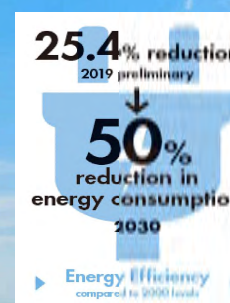
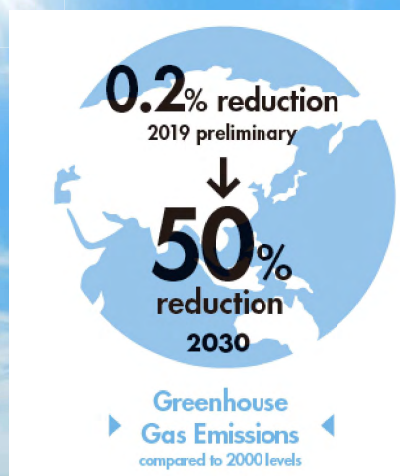
Bureau of Environment
Tokyo Metropolitan Government

Tokyo

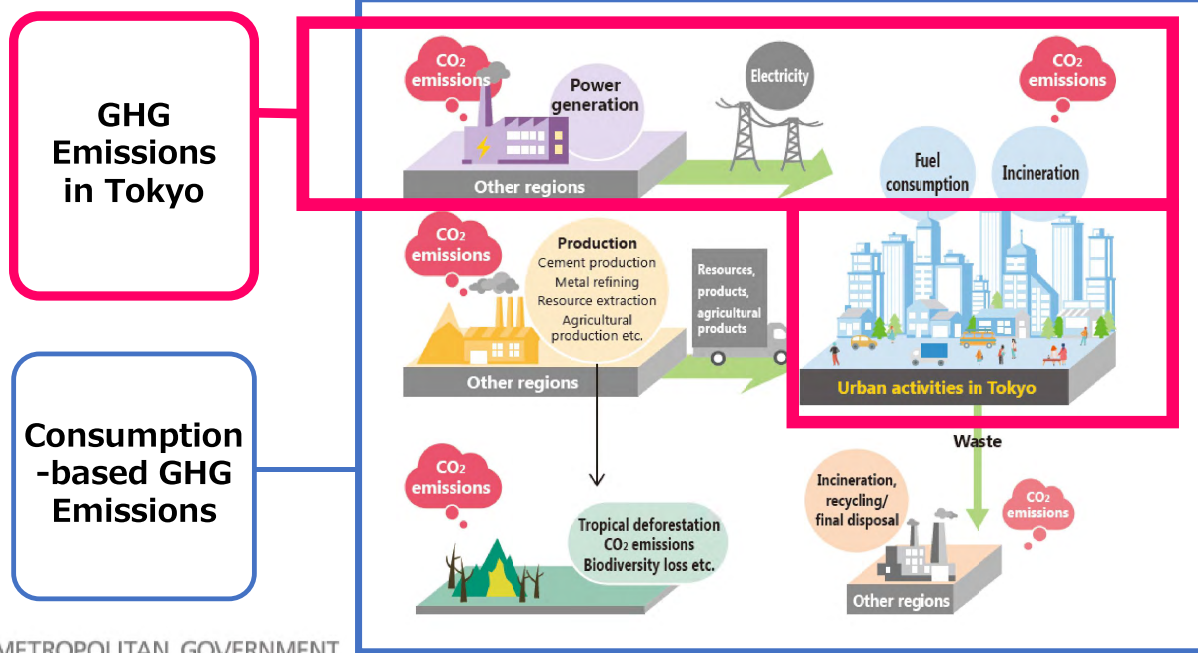


**Yuriko Koike,
Governor of Tokyo**

2030 GOALS



CO2 Resulting from Urban Activities

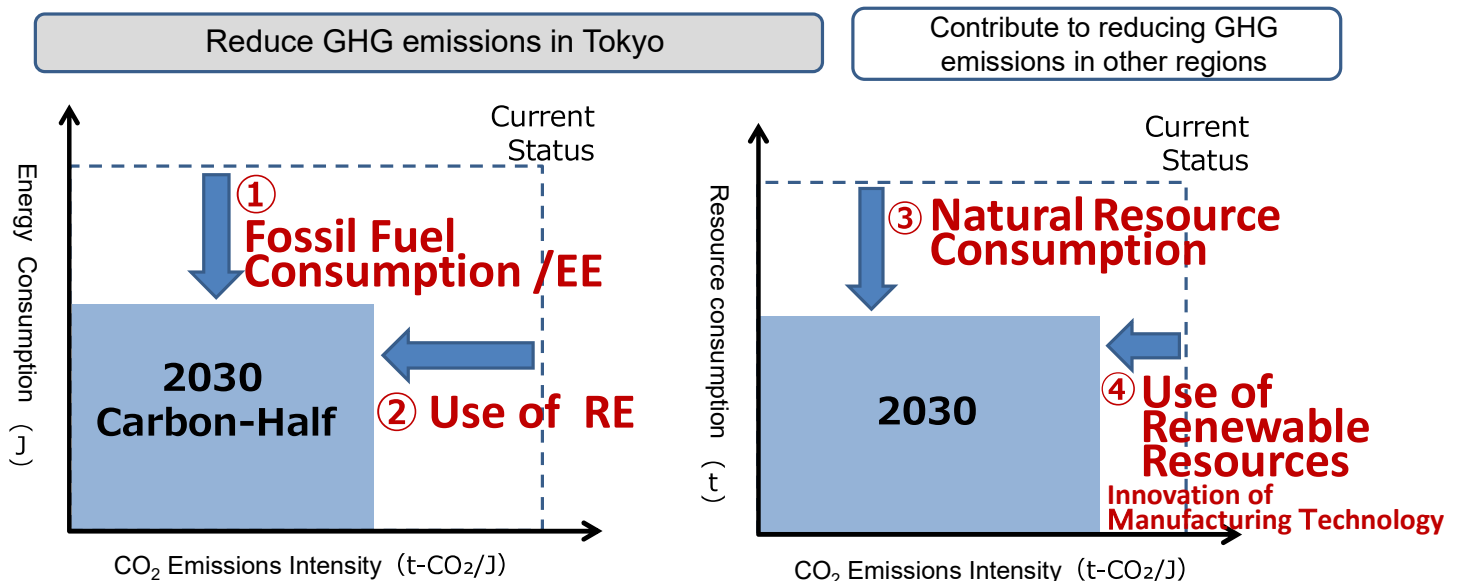


TOKYO METROPOLITAN GOVERNMENT

3

Basic Concept of "2030 Carbon-Half"

- ✓ Now until 2030 : Crucial period for establishing the building blocks needed to achieve significant reductions from 2030 to 2050



TOI O METROPOLITAN GOVERNMENT

4

What the Russian-Ukrainian Crisis Reveals

◎Tokyo: Area of high resource and energy consumption



Energy saving
(High heat insulation,
High efficiency equipment)

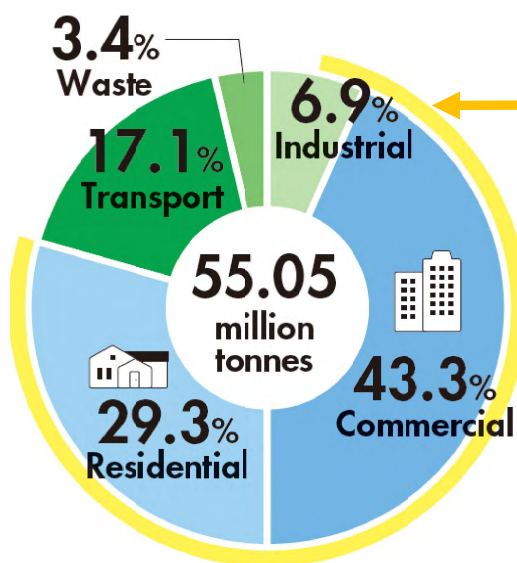
**Renewable energy
utilization**



◎**Advancing both
decarbonization and energy security**



CO2 Emissions in Tokyo

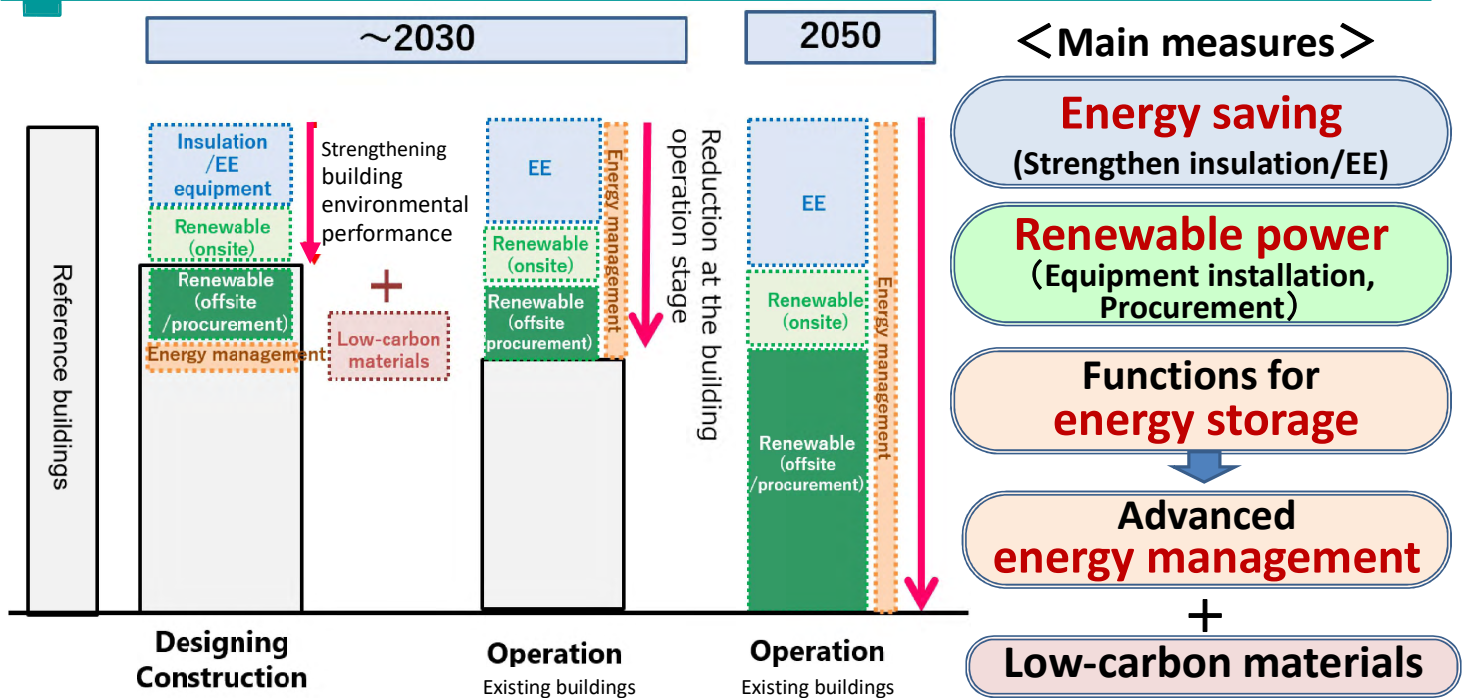


Sectoral breakdown of energy-related
CO₂ emissions in Tokyo (FY 2019)

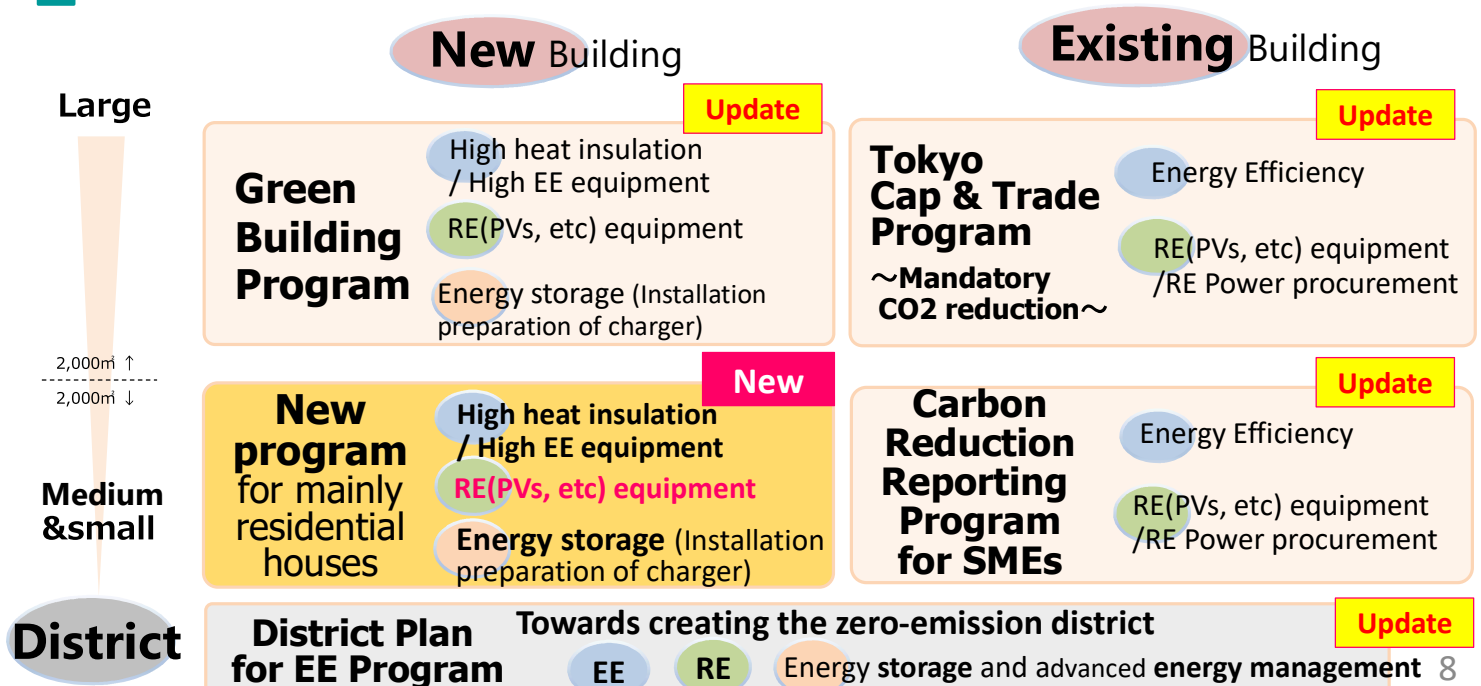
Buildings account
for approx. **70%**

- ✓ Buildings shape the city
- ✓ **Expanding zero emission buildings** is a common goal of cities around the world

Policy Direction of Building Measures



Strengthening Each Programs for Buildings by the Tokyo Metropolitan Environmental Security Ordinance



Objective of Amending the Tokyo Ordinance for Buildings

- ✓ Early updating of social infrastructure in Tokyo towards decarbonized city, in the wake of two crises

Reduce energy consumption

Generate power,
Store and **use** power

Building
(incl. house)

District
(ex, creating the zero-emission district)

Benefits of the Tokyo itself

9

Toward a Zero Emission

Tokyo

Advancing both Decarbonization and Energy Security

TIME TO ACT
CLIMATE ACTION

ICLEI Local Governments for Sustainability
C40 CITIES
JCI 気候変動イニシアティブ Japan Climate Initiative
SUSTAINABLE DEVELOPMENT GOALS 17 GOALS TO TRANSFORM OUR WORLD

TokyoTokyo 104 years from 1868

TOKYO METROPOLITAN GOVERNMENT

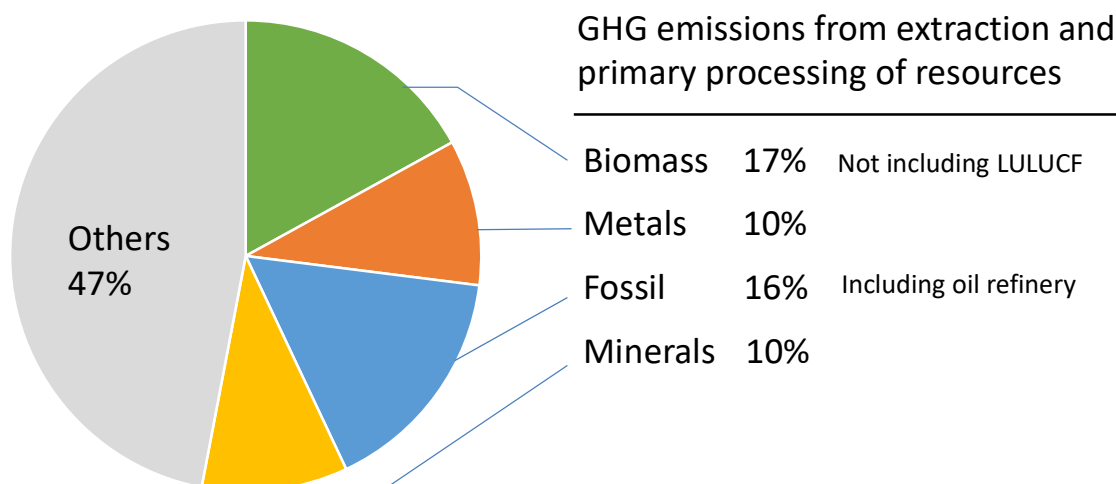
Tokyo's Plastic Strategy

Yasuo FURUSAWA

Chief Specialist for circular economy
Bureau of the Environment, TMG

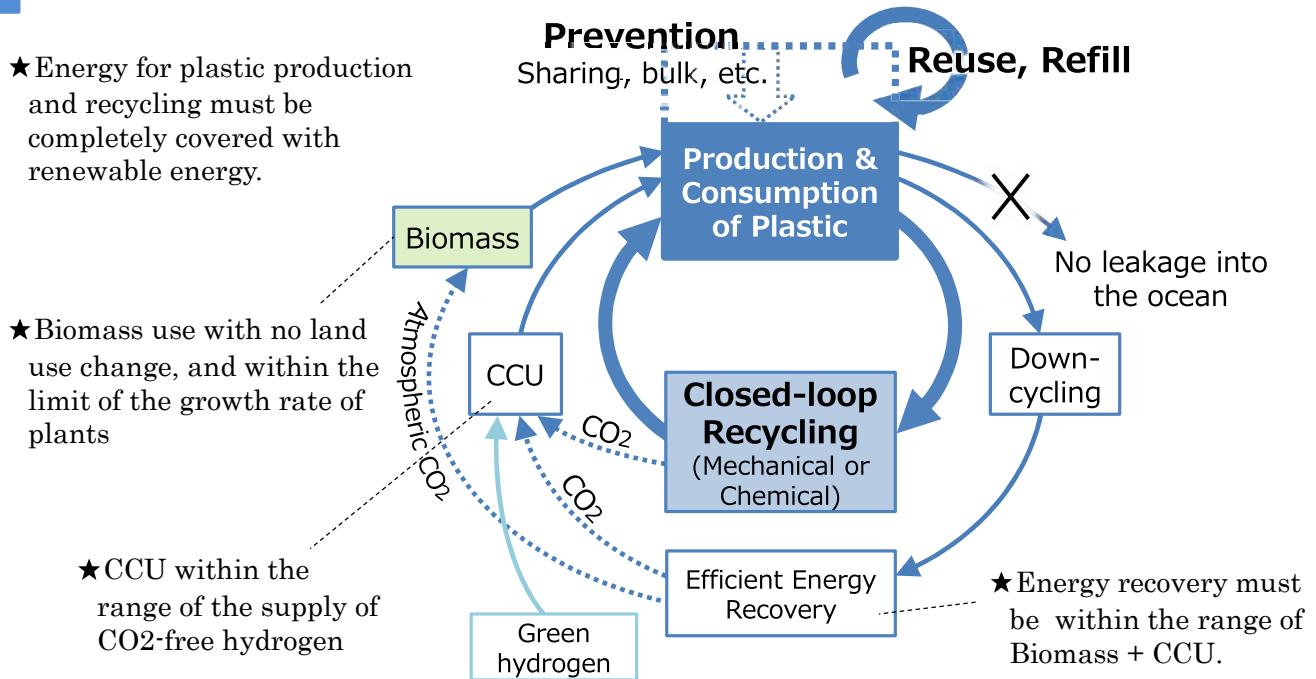
Half of the GHG emissions comes from Resources

Ratio to the global GHG emissions



IRP (2019). *Global Resources Outlook 2019: Natural Resources for the Future We Want*

CCC: Carbon-closed Cycle



3

Innovations we need

Innovation in business models:

- Rethinking the way we make, sell and buy, and use things
- Significant reduction of single-use plastics
- Shift to a reuse-based system

Innovation in recycling system:

- Easy-to-recycle product design
- Take-back scheme by retailers and manufacturers
- Recycling technologies including advanced sorting system, solvent-based extraction, depolymerization and other chemical recycling

4

Projects for Circular Innovations



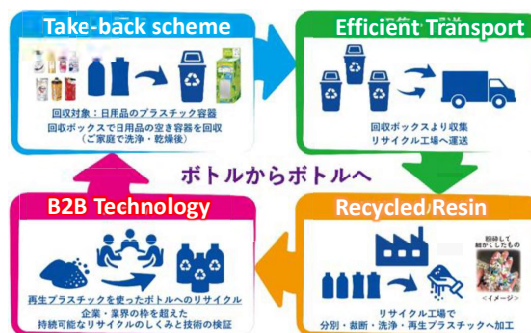
Loop

A global platform for reuse



Re&Go

Reusable cups for take-outs from cafés & CVSs including Starbucks and Lawson



Take-back and B2B recycling

- Take-back scheme of used plastic containers
- R&D for bottle-to-bottle recycling technology
- Collaboration between major brands (Kao, Unilever, P&G, Lion)

5

Circular Innovation Forum

Circular Innovation Forum 2021

Circular Innovation Forum 2021

Organized by Bureau of Environment,
Tokyo Metropolitan Government

Supported by
EU Delegation to Japan &
EU-Japan Centre for Industrial Cooperation

サーキュラー・イノベーション・フォーラム2021

主催 東京都環境局
協力 駐日欧州連合代表部、日欧産業協力センター

We will be commencing shortly
Friday, November 26, 2021
4:50PM—8:00PM (JST)



Governor of Tokyo



Vice-mayor of Amsterdam

6