

Daring Cities2020

Pathways to Zero ~Climate Change and Redesigning Cities~

November 22, 2020

Koji HAMAZAKI

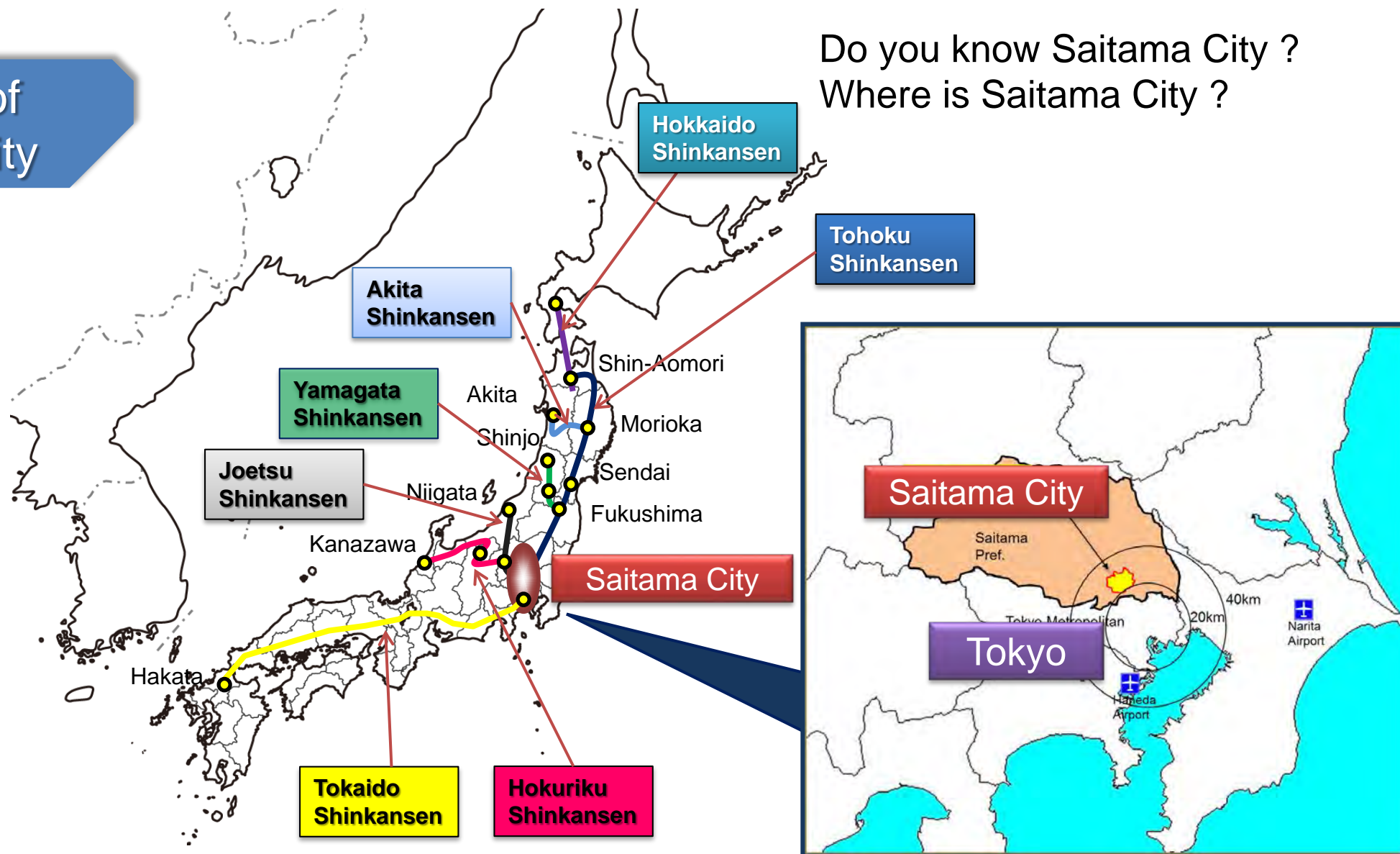
Executive Director, Department of Futuristic City Promotion,
City Strategy Headquarters, City of Saitama, Japan



Overview of Saitama City

Location of Saitama City

Do you know Saitama City ?
Where is Saitama City ?





【1 July 2019】



E-KIZUNA Project

Agreement signed with nine companies including vehicle manufacturers



2009 Fuji Heavy Industries (now Subaru)



2010 Mitsubishi Motors



2016 Mitsui Fudosan Realty



2009 Nissan Motor Company



2011 Aeon Retail



2017 Yamaha Motor



2011 Honda Motor Company



2011 Toyota Motor corporation



2018 Tokyo Electric Power Company

■ Eco-Mobility City The strategy to promote EVs : “E-KIZUNA Project”

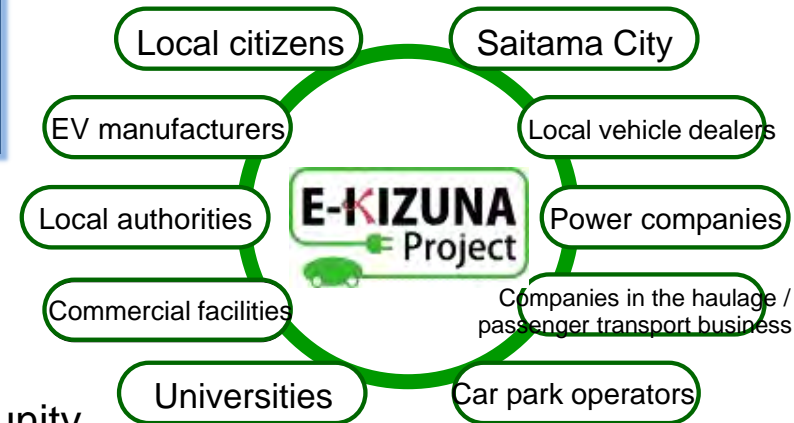
Objectives

Saitama city and **other stakeholders** work together to promote electric vehicles (EVs) in the city in order to build a low carbon society where consumers can feel safe and use EVs comfortably.

Key principles

- (1) **Reliability** – building a reliable charger network
- (2) **Satisfaction** - creating market and adding incentives
- (3) **Familiarity** - educational/promotional activities for community

Building cooperation between Multi-stakeholders



What is E-KIZUNA?

The “E” in E-KIZUNA means “electricity” and “KIZUNA” means “bond”. Saitama City promotes the E-KIZUNA Project to promote the spread of electric vehicles in order to achieve a sustainable low-carbon society.



Introduction of patrol cars in 10 different colors representing the 10 wards



Taking the lead in introducing fuel cell vehicles (FCVs)



Subsidies for the introduction of EVs and FCVs

■ Environmental Future City

Lessons learnt
post-disaster in 2011
(Great East Japan Earthquake)



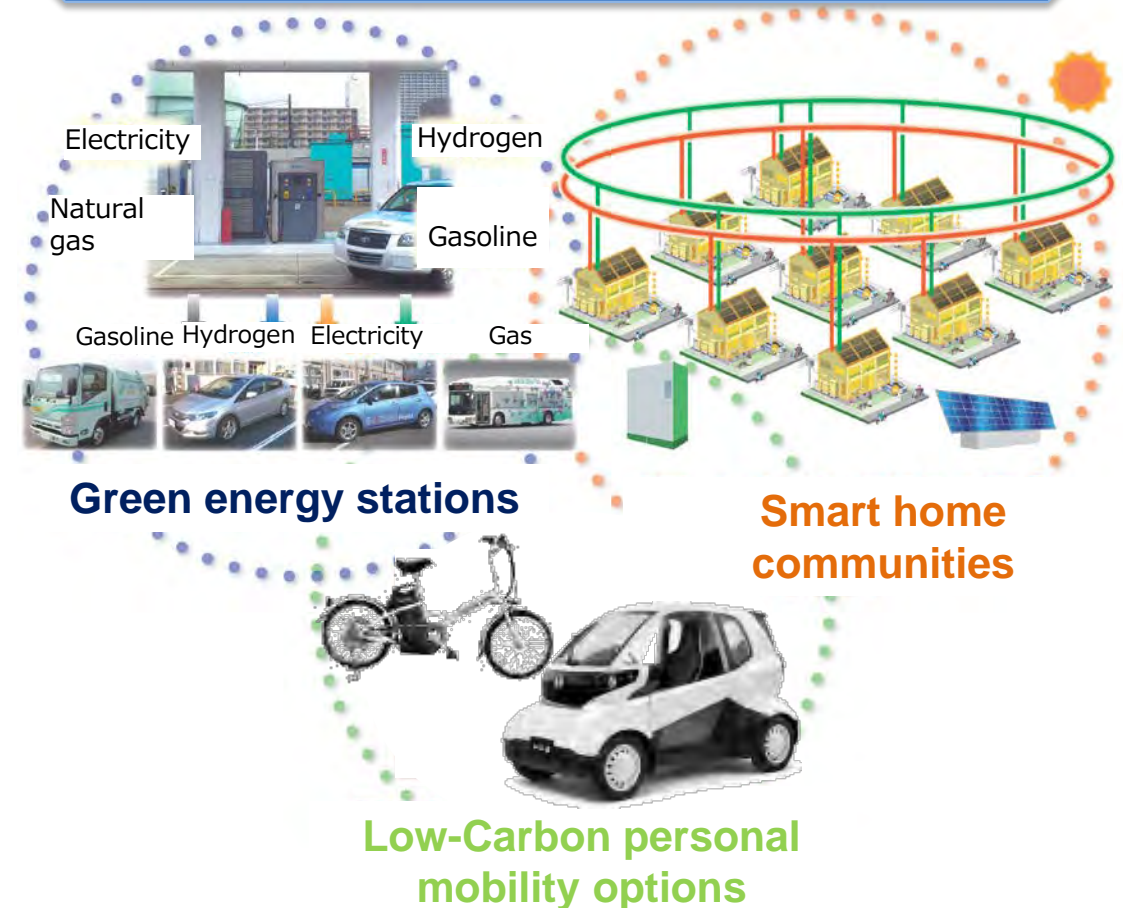
Initiatives to improve
Infrastructure Resiliency

The Special Zone
"Next-generation Vehicles and Smart Energy"
designated by the national government in Dec. 2011.
The project is for 8 years starting from 2012 to 2020.

"Smart City Saitama model"

Providing new life support services with advanced technology
such as AI and IoT by analyzing and fusing various collected
data on a common platform Saitama Version.

**Special Zone for Next-Generation Vehicles
and Smart Energy**



Green Energy Station with Resilience

Green Energy Station with Resilience

Disaster Response Facility

- Solar Power Generation
- Power Generations
- Storage Batteries
- Co-generation System



Enables to supply energy even in the event of blackout.

Gasoline Light Oil Natural Gas Electricity Hydrogen



Consolidating stations to supply various energy such as hydrogen and electricity in the event of disasters

Promoting low-carbonization
in the transportation sector

Securing flows of humans and distribution
of goods in the event of disasters

Photo: <http://hysut.or.jp/>



Ensuring energy security offline in the event of disasters by transporting energy from the green energy station to the shelters utilizing EV and FCV, and supplying it at VtoX there.



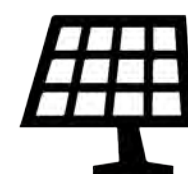
What is V to X ?



resident

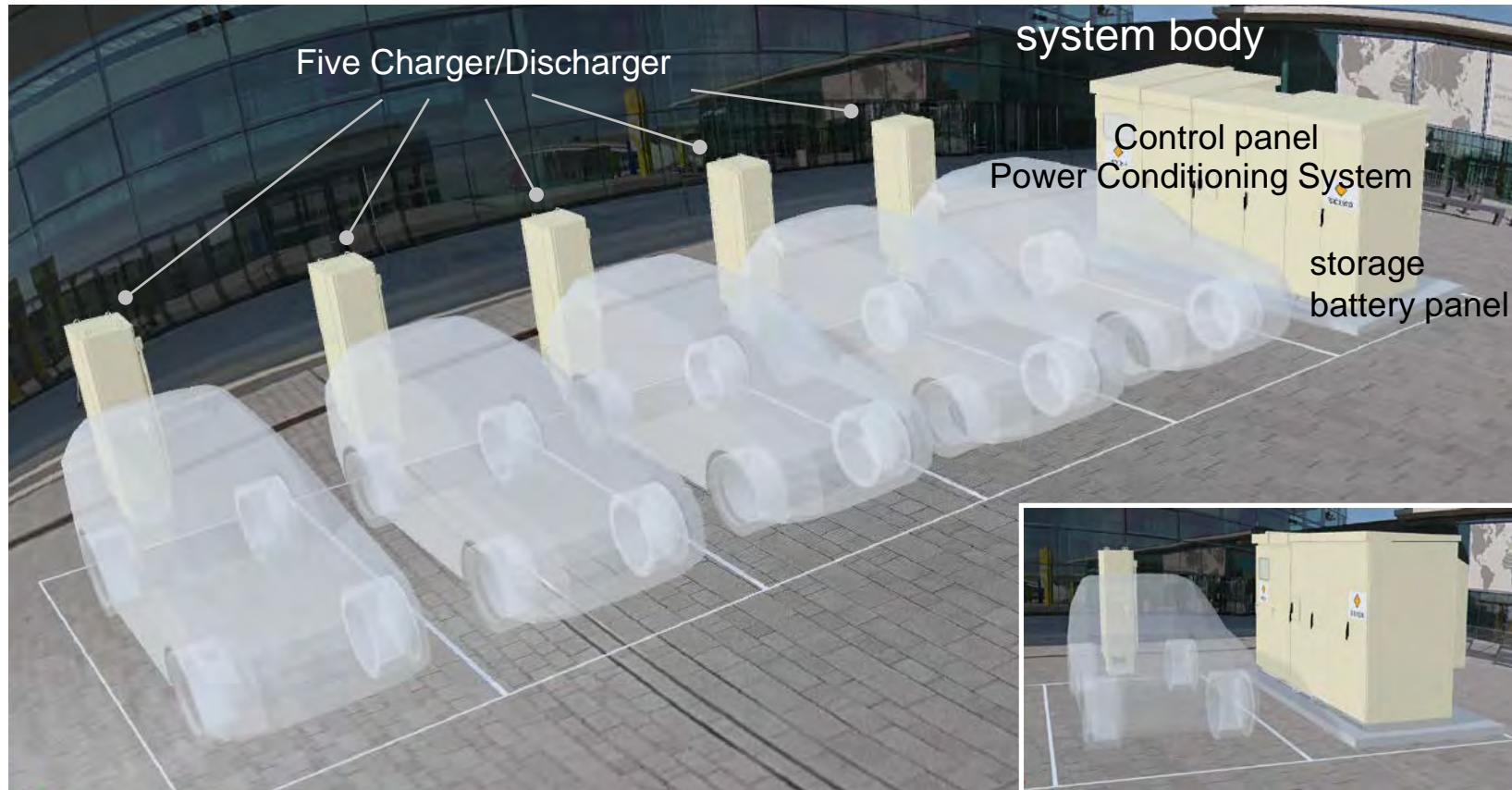


Public facilities, etc.



The generic name of the power supply systems with which electricity is externally fed to houses and building from EV and FCV (Houses : VtoH, Buildings : VtoB)

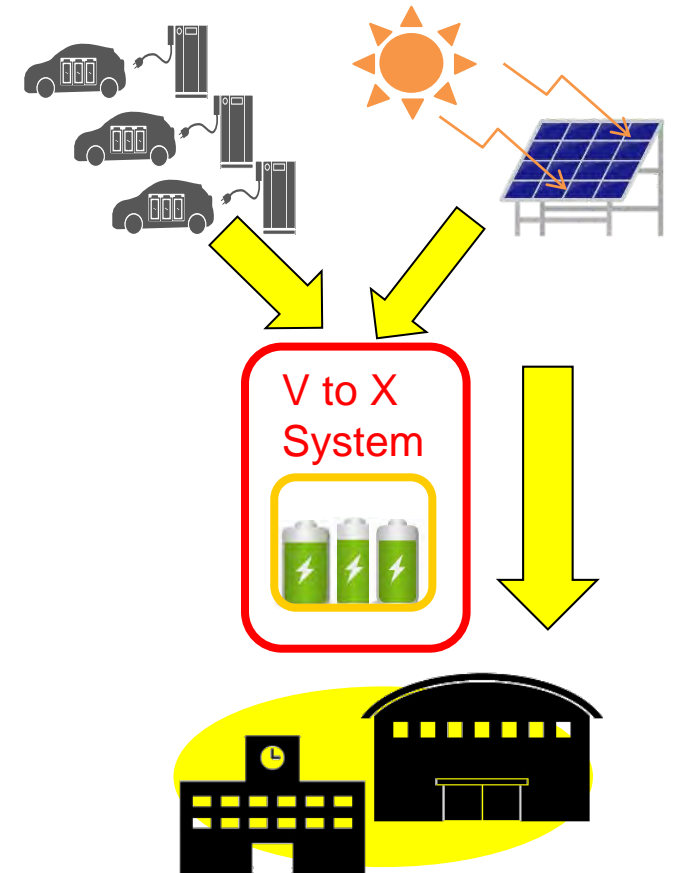
■ Advanced Green Energy Station (Vehicle to X)



Graphic : DAIHEN Corporation

Image of V to X system

The solar panel, storage battery, and the V to X system enable to maintain the power supply in the shelter using electric vehicles during blackouts caused by disasters.

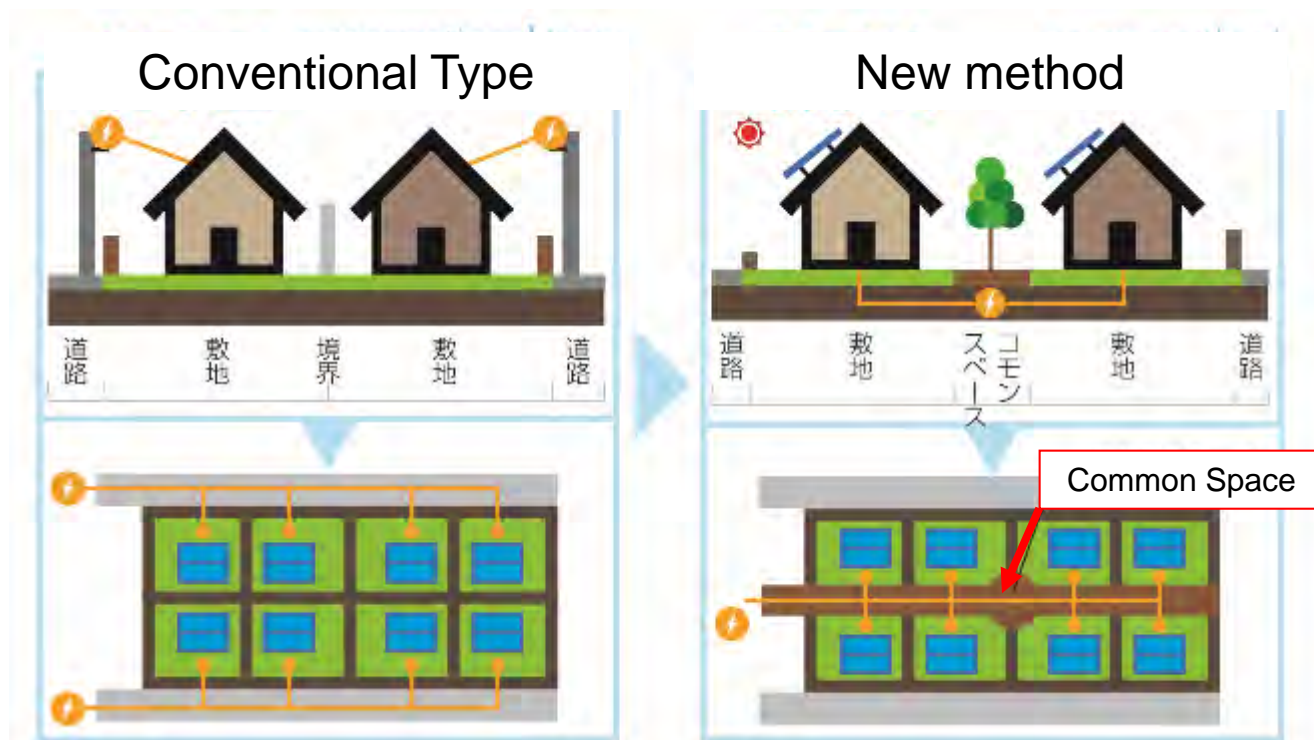
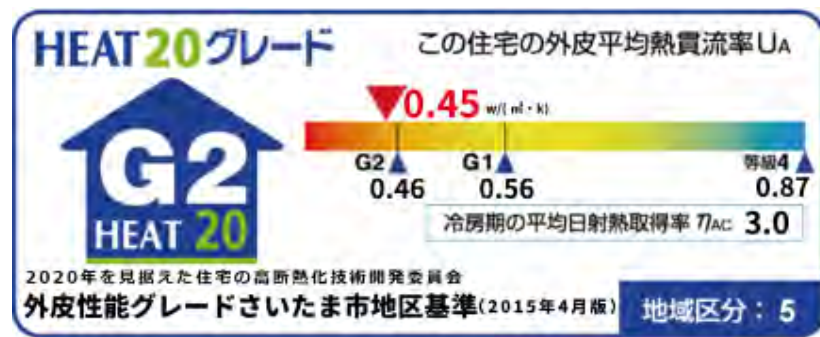


Smart Home Community

Smart Home Community Leadership Model Block



Heat 20 Grade
Saitama City's standard
for high airtightness and
high insulation



■ Digital Grid Platform

Digital Grid Platform

Point 1

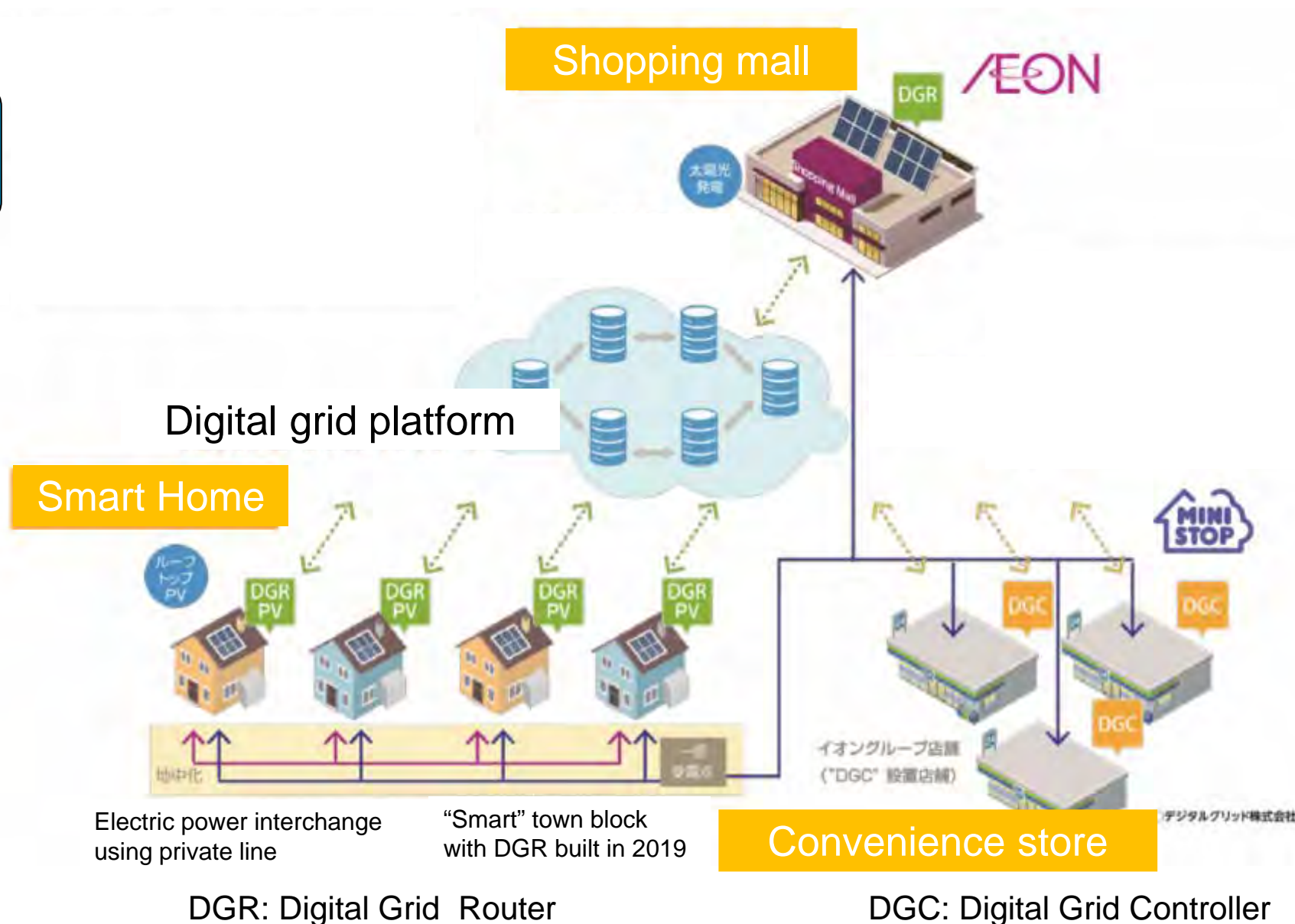
A virtual trading market will be formed for exchanging PV-generated electricity

Point 2

In accordance with the situation of photovoltaic power generation and the state of charge of the storage battery, DGR will automatically conduct virtual trading of electricity.

Point 3

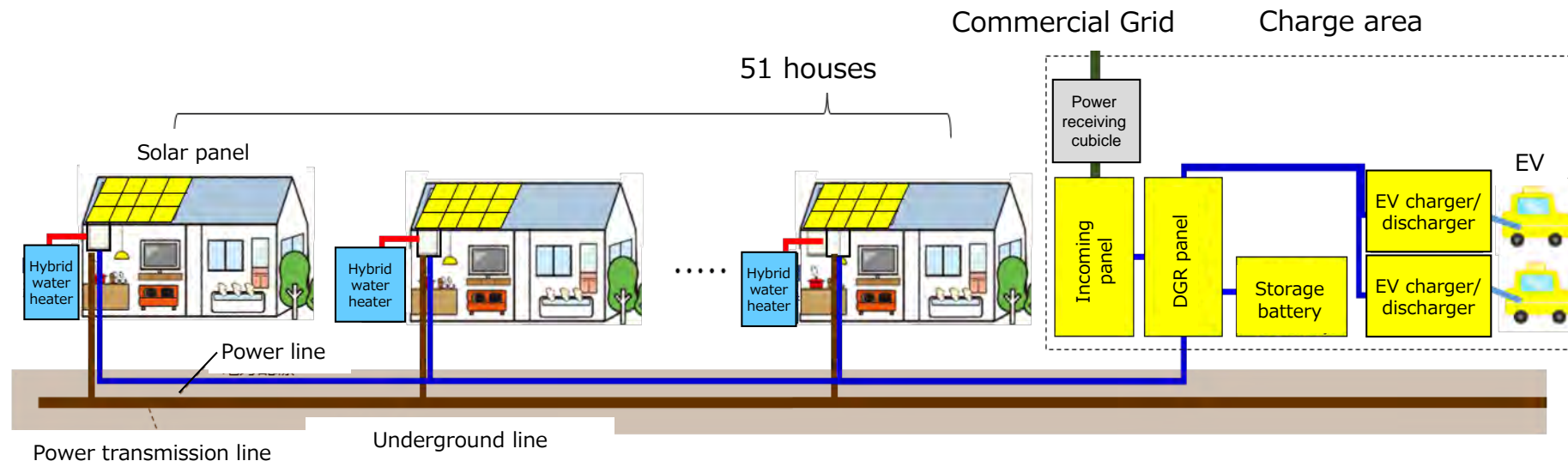
The asynchronous AC-DC-AC interconnection prevents power outage in the dwelling units even when there is power failure on the system side.



■ Microgrid town block

The 3rd block of the smart home community with 51 units will open in 2021.

- Each house has solar panels. Connecting the wiring of each house and building the microgrid in town block, flexibility electrical trading can be used by all house.
- There is the charge system receiving power from the grid to cover lack of solar power generation.
- The charge system has two electric vehicles, charger/discharger and stationary storage battery.
- EVs are used not only to share electricity but also as shared vehicle for residents. When EVs are at the parking, they are used for renewable energy management in the town block.
- If blackout happens near the smart home community, electricity can be supplied to a shelter from the EV batteries which is charged with power generation in the town block .



■ The spread of low-carbon personal mobility



Saitama City signed agreement with a private company to spread shared mobility.

Shared bicycle and shared scooter→



↑ Cycling port using public land



Towards to the first E-KIZUNA Global Summit

E-KIZUNA Summit

Sending message from Saitama City to the Eastern Japan, and to the whole country!
The **E-KIZUNA Summit** has been held for 9 times since 2010, to build a broad inter-city network and to promote the adoption of **EVs**.



【 Participants 】 400 people / 52 groups including 3 Japanese ministries,
4 prefectures, 19 cities, 19 private companies

Building a broad Intercity Network

Cooperation with ICLEI World Secretariat and ICLEI Japan



Promotion Strategy

- Cooperation with multiple stakeholders
- Addressing diverse issues based on global trends
- Promotion by the mayor

Development and Expansion



E-KIZUNA Global Summit

In 2022