Daring Cities 2020
Pathways to Zero ~Climate Change and Redesigning Cities~
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Do you know Saitama City?
Where is Saitama City?
SDGs Future City

【1 July 2019】
E-KIZUNA Project

Agreement signed with nine companies including vehicle manufacturers

- 2009 Fuji Heavy Industries (now Subaru)
- 2009 Nissan Motor Company
- 2010 Mitsubishi Motors
- 2011 Aeon Retail
- 2011 Honda Motor Company
- 2011 Toyota Motor Corporation
- 2016 Mitsui Fudosan Realty
- 2017 Yamaha Motor
- 2018 Tokyo Electric Power Company
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.
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.
Green Energy Station with Resilience

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?

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)

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

Gasoline Light Oil Natural Gas Electricity Hydrogen

Photo: http://hysut.or.jp/
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.
Heat 20 Grade
Saitama City’s standard for high airtightness and high insulation

Conventional Type

New method

Common Space
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.

DGR: Digital Grid Router
DGC: Digital Grid Controller

“Smart” town block with DGR built in 2019
Microgrid town block

The 3\textsuperscript{rd} 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.
Saitama City signed agreement with a private company to spread shared mobility.

Shared bicycle and shared scooter

↑ Cycling port using public land
Towards 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

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

Building a broad Intercity Network

E-KIZUNA Global Summit

In 2022