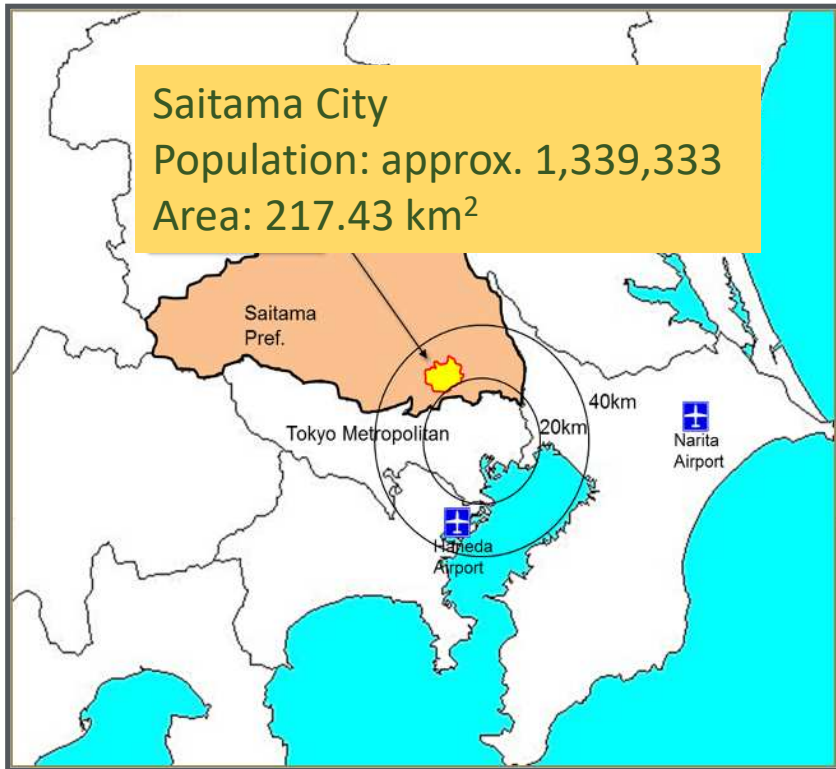


Initiatives for achieving carbon neutral Smart Home Community connected by a micro-grid

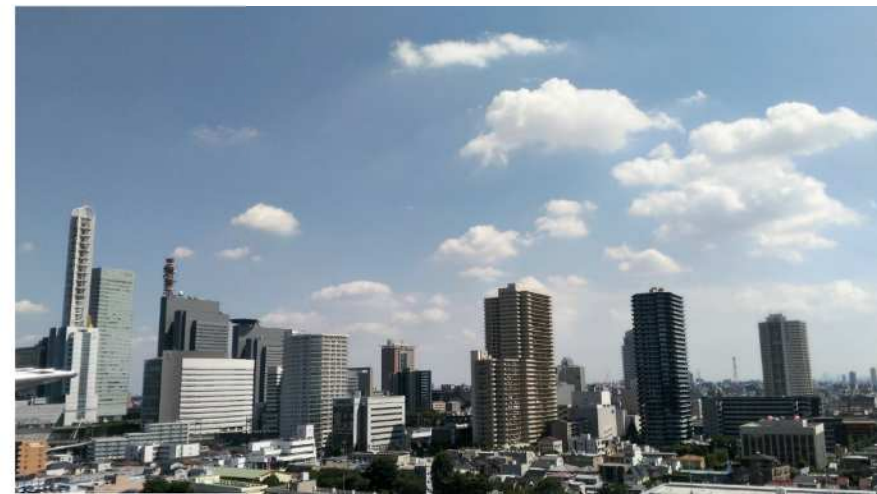
26th January 2023 (Thu)

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

Introduction to Saitama City



30 minutes from Tokyo!



Progress of the Smart Home Community

Land Re-Zoning Project Approx.

- 32,000m² of city-owned land

Policy of Town Planning (2015~)

- 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

Becoming Popular Area

- In Japan, where the population is declining, The Smart Home Community is highly valued, realizing high demand for real estate.



SOLD OUT
immediately

Undergrounding of Power Lines/Common Spaces



Fallen utility poles after Typhoon Jebi
Sennan City, Osaka Prefecture

(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.

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

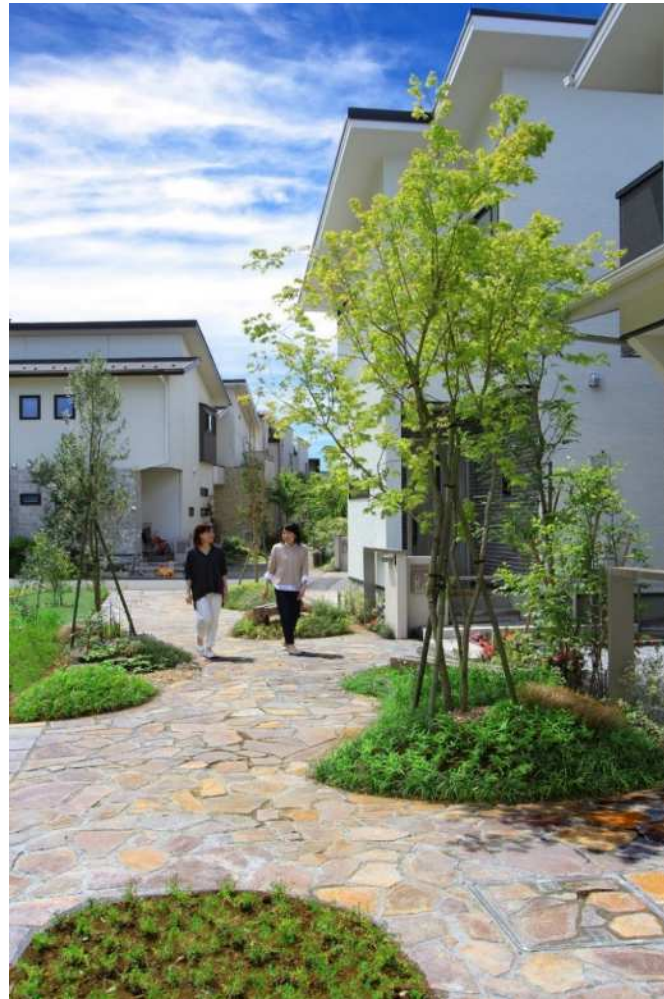


Photo courtesy of POLUS GROUP

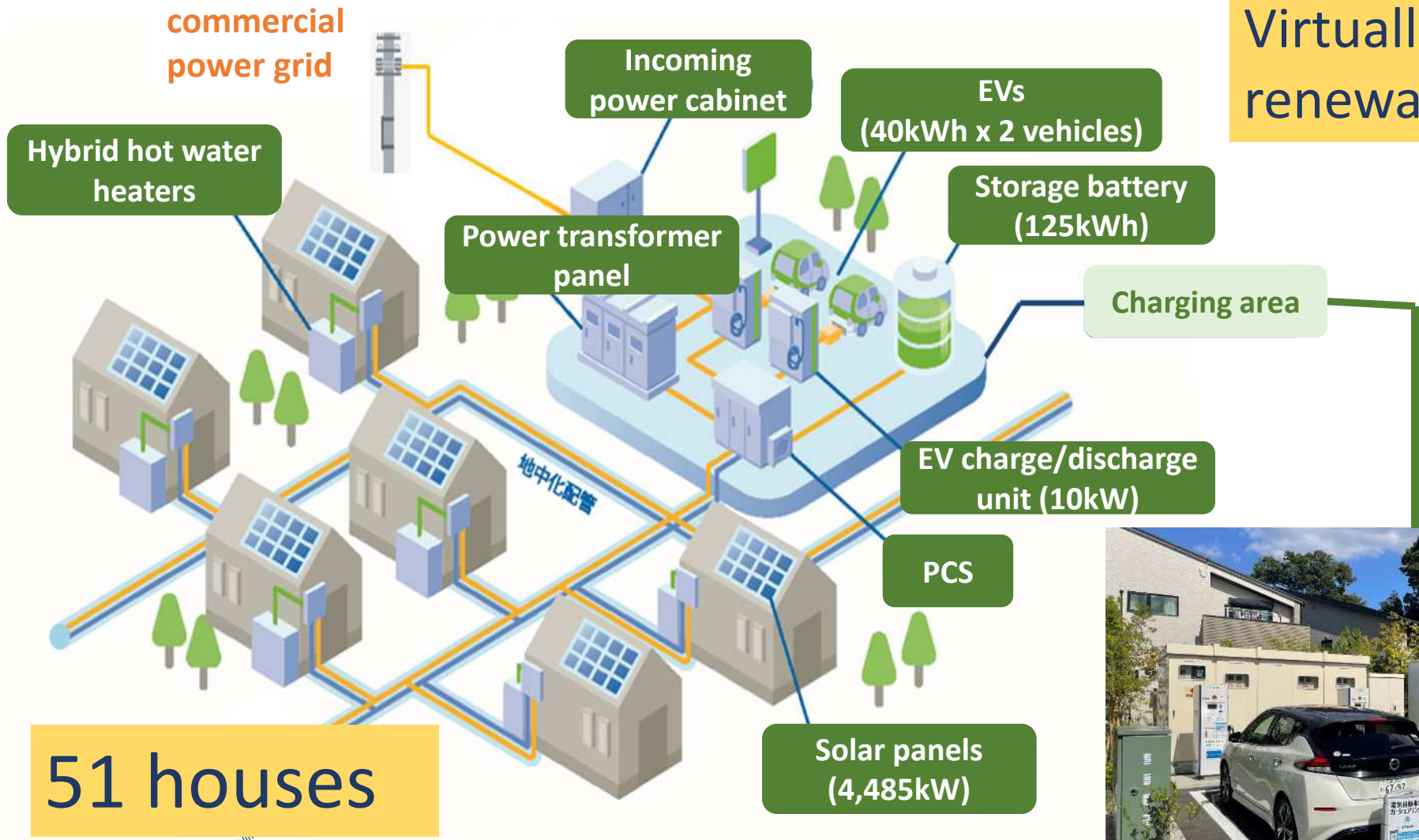
● Layout that facilitates neighbourly relationships between residents
● Formation of management associations, mini-events for residents



Photo courtesy of Loop Inc.

PPA(Power Purchase Agreement)by Loop Inc.

Virtually 100% renewable energy



Adapted from Loop Inc.

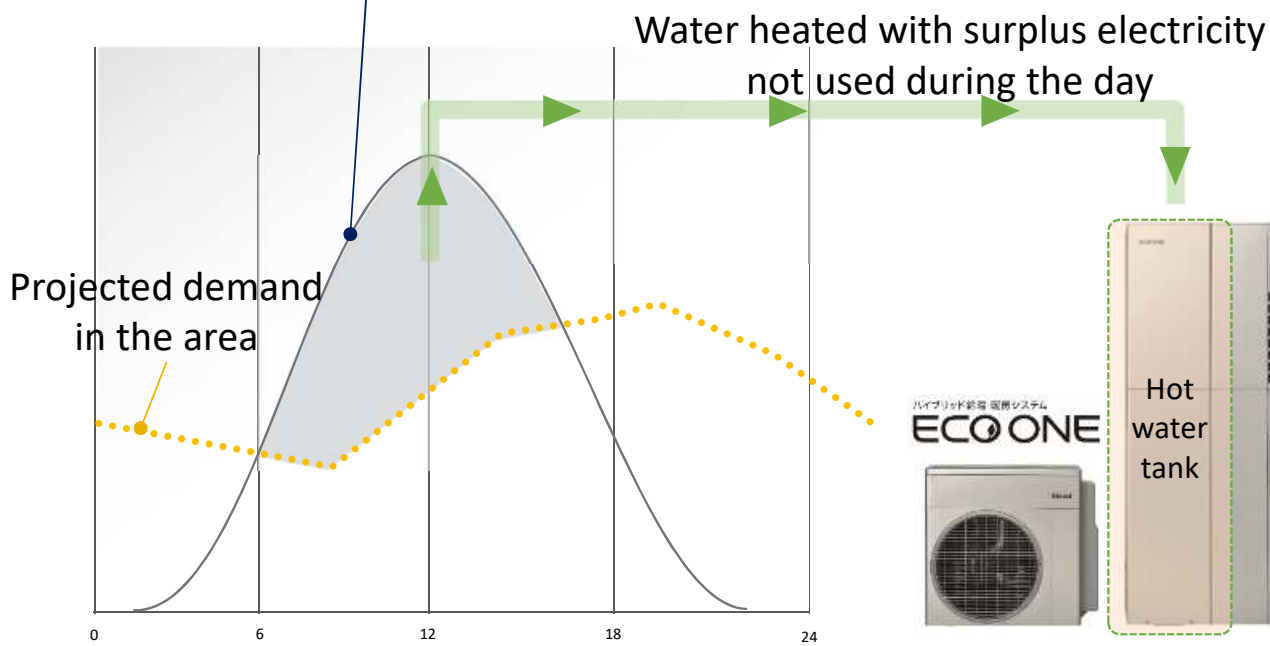
Peak Shift

Hybrid hot water control

Regular hours

Power outage

Solar power generation (forecasted)



Signal to start independent operation

Instruction for gas firing



※Instructions sent to the water heater via the communications controller

Peak Shift

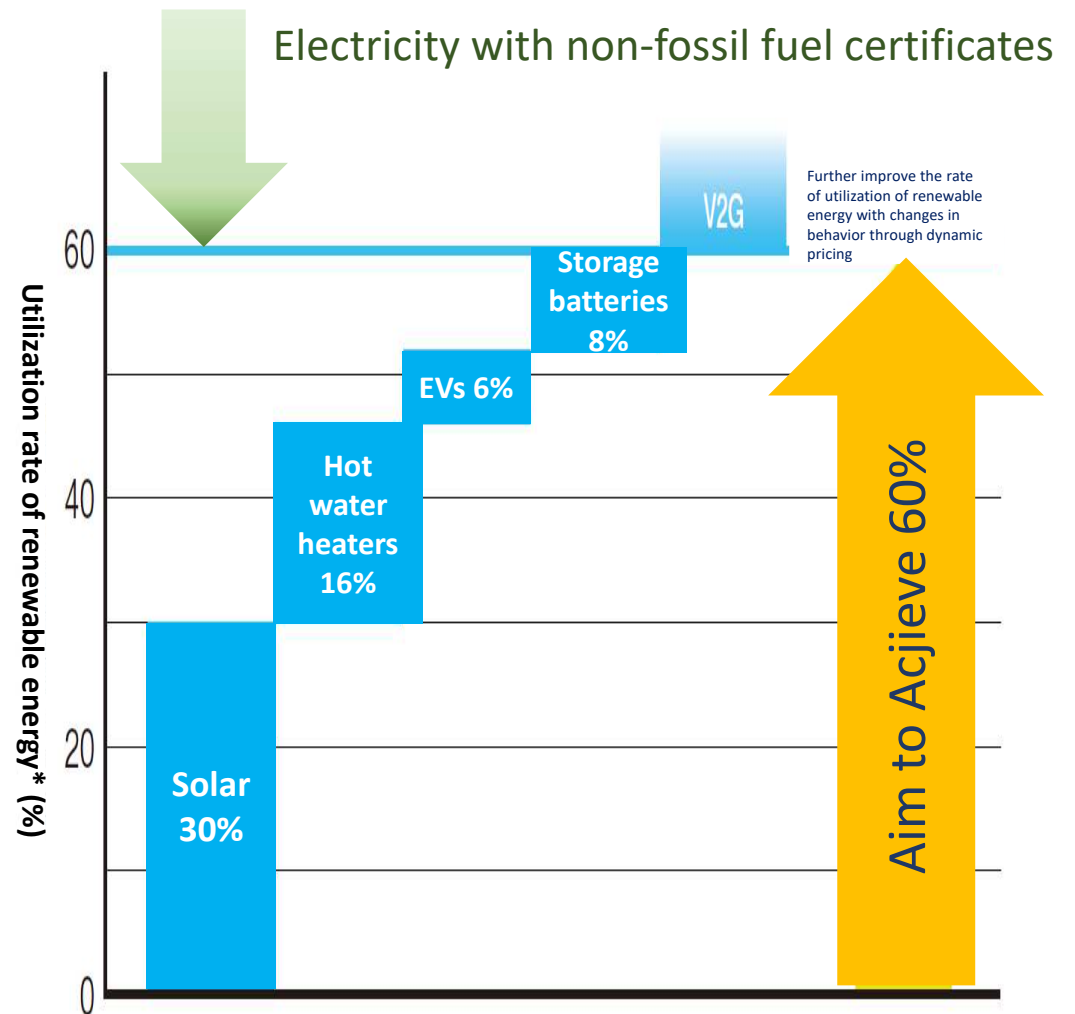
Dynamic Pricing

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!

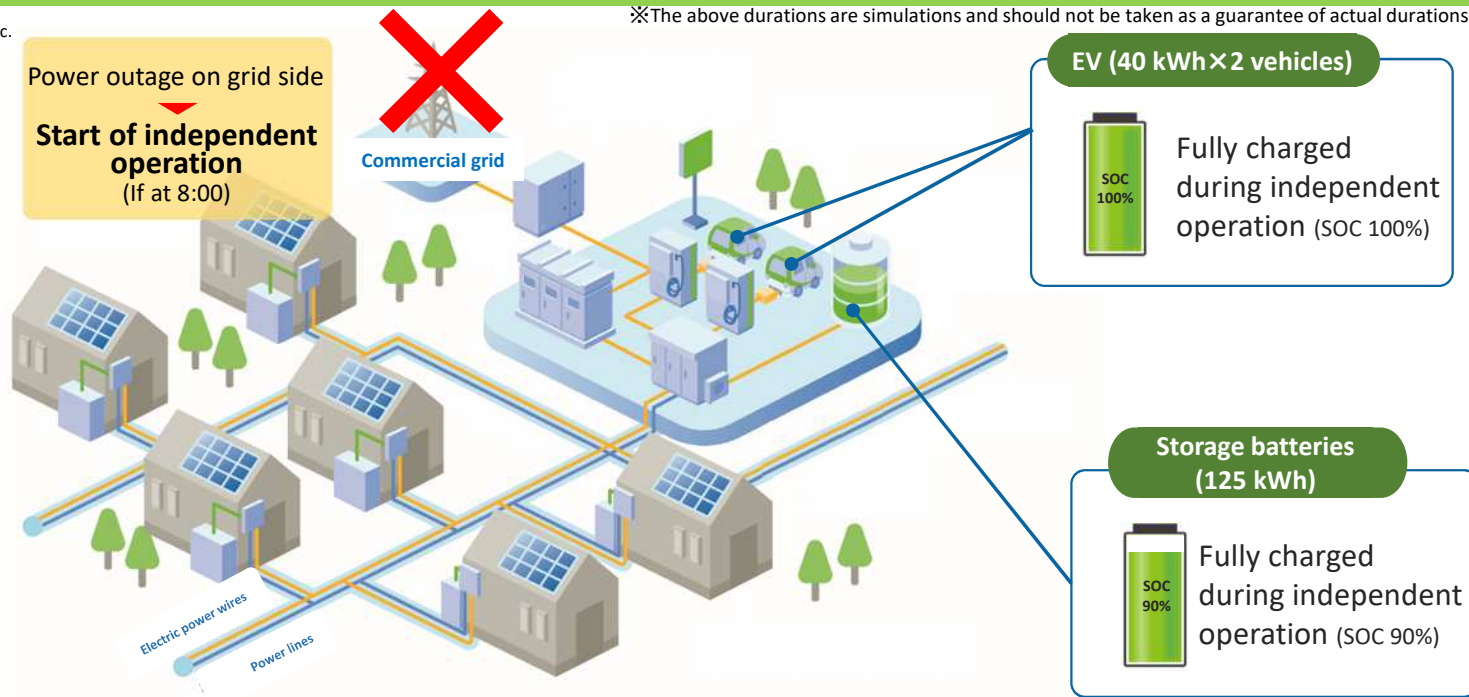


Safeguard Resilience

Adapted from Loop Inc.

※The above durations are simulations and should not be taken as a guarantee of actual durations.

Even if the remaining storage battery level is 0%, electricity generated by solar power can be supplied to the area when the weather is clear on the following days.



① Sunny x heavy load



14 hours, 51 minutes
uninterrupted operation

② Sunny x light load



48+ hours
uninterrupted operation

③ Solar radiation level 0 x heavy load



6 hours, 30 minutes
uninterrupted operation

④ Solar radiation level 0 x light load



15 hours, 15 minutes
uninterrupted operation

Thank you for your attention!



さいたま市

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