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Tsunashima SST Council
Panasonic Corporation
Nomura Real Estate Development Co., Ltd.
City of Yokohama

Panasonic and Nomura Real Estate Unveil Concept Plan for New Smart Town in Yokohama

Osaka/Tokyo/Yokohama, Japan – The Tsunashima Sustainable Smart Town (SST) Council and its lead organizers, Panasonic Corporation and Nomura Real Estate Development Co., Ltd., today revealed a concept plan that guides the development of a new smart town they plan to build in Tsunashima in the City of Yokohama, southwest of Tokyo.

Ten organizations participate in the development of Tsunashima Sustainable Smart Town, which includes a town energy center, a hydrogen refueling station and a dormitory for international students.

The Tsunashima SST Council, a consortium of ten organizations that promotes the development of the Tsunashima SST, created a Town Development Concept. The concept plan sets forth the town's environmental targets, safety and security goals, and rules for the landscapes and operations, seeking to create a town where the participants from different industries collaborate in harmony to achieve the goals. Yokohama City will support the Tsunashima SST project as the city pushes forward its efforts as a "FutureCity," a model city selected by the Japanese government to address common challenges including the environment.

The Tsunashima SST, at the site of a former Panasonic factory, consists of residential and non-residential facilities. Under the concept of "Innovating the Future Together," private enterprises and the local government involved aim for an urban smart city, fostering innovations by exploiting synergies among progressive knowledge, technology and services. They also envision a town that brings together people who want a better future and makes their interactions part of a global network. The Town Development Concept has set targets for this urban smart city, including numerical goals, such as a 40% reduction of CO₂ emissions (based on the levels in the fiscal year ended on March 31, 2006) and usage rates of 30% or higher for new energies¹. Notably, it also stipulates the rules to manage the town's landscapes and design, and those to help realize sustainable and comfortable lifestyles, as well as smart services, to ensure the town operates with unity and harmony as a whole.

The new forward-looking town will have a town energy center, a hydrogen refueling station and an international student dormitory. Tokyo Gas Group will install a gas cogeneration system in the town energy center, from which electricity and thermal energy produced by the system will be provided to other facilities. JX Nippon Oil & Energy Corporation will be involved in operating a refueling station of hydrogen, which is considered as the next-generation energy source, and promote hydrogen supply to fuel-cell vehicles as well as other initiatives toward a future hydrogen-based society. Keio University will open an international student dormitory designed to realize active international exchanges and collaboration with the local community through mechanisms encouraging student-led activities and practical efforts by researchers.



Overall image of Tsunashima SST

Supported by Yokohama City, the Tsunashima SST Council will contribute to the wide-area town development spanning from Tsunashima and bordering Hiyoshi, seeking to achieve sustainable lifestyles, towns, and societies.

Panasonic will strive to create more value from space and location by combining in-house and outside knowledge and technology through the company's CRE solutions business, which, by utilizing idle land, aims to increase financial and business values and make contributions to the community.

Nomura Real Estate will develop a sustainable and attractive urban town by promoting its Hiyoshi Complex Development Plan that involves a 56,000 square meter site at 2-chome, Minowa Town, Kohoku Ward and linking this with the Tsunashima SST in the same ward.

Yokohama City supports this smart town project as a FutureCity, and will actively promote the development of a town that takes advantage of the potential of the Tsunashima and Hiyoshi areas.

Tsunashima SST Council

With the City of Yokohama as an observer, the council, established in December 2015, consists of enterprises and organizations that promote the development of the Tsunashima SST, with the aim to open the town in 2018. PanaHome Corporation will be involved in the development of the town management center and the international student dormitory.

Obayashi Corporation will serve as a technical advisor.

Lead organizers	Panasonic Corporation, Nomura Real Estate Development Co., Ltd.
Organizers	MID Urban Development Co., Ltd., * UNY Co., Ltd., Apple
Council members	JX Nippon Oil & Energy Corporation, PanaHome Corporation
Advisors	Keio University, Obayashi Corporation, Tokyo Gas Co., Ltd.

* MID Urban Development Co., Ltd. which will be renamed Kanden Realty & Development Co., Ltd., effective April 1, 2016. It will develop collective housing as a partner of Nomura Real Estate.

Overview of the Town Development Plan

Concept	Innovating the Future Together.	
Overall targets	Environmental targets	<ul style="list-style-type: none"> • CO₂ emissions: 40% reduction (vs. FY2005 ended March 31, 2006) • Community water usage: 30% reduction (vs. FY2005) • Use of new energies¹: 30% or greater
	Safety targets	<ul style="list-style-type: none"> • CCP²: 3 days
	Security targets	<ul style="list-style-type: none"> • Town monitoring³: 100% • Emergency services response time⁴: 15 minutes
Three codes	<ul style="list-style-type: none"> • Design code: Rules on designs and elements forming the landscape of the town • Sustainability code: Rules giving consideration to the next generation and the global environment • Smart code: Rules related to a convenient, comfortable, safe and secure lifestyle 	
Smart services	Six smart services are planned: Energy, security, mobility, wellness, community and facility. These will help realize a sustainable smart life with people at the center, pursuing future lifestyles and comfort from the perspective of residents, working people, visitors and other people involved with the town.	

Notes:

1. Includes new technology such as natural gas cogeneration and fuel cells contributing to energy diversification with advanced utilization of new energy (for example, solar power generation) and innovative energy.
2. Community Continuity Plan: Securing lifelines in case of emergencies.
3. Secure town safety with 100% video coverage for the main entrances and exits.
4. Shorten the time required to reach a location after the initial notification by use of systems and devices. There might be delay due to traffic conditions.

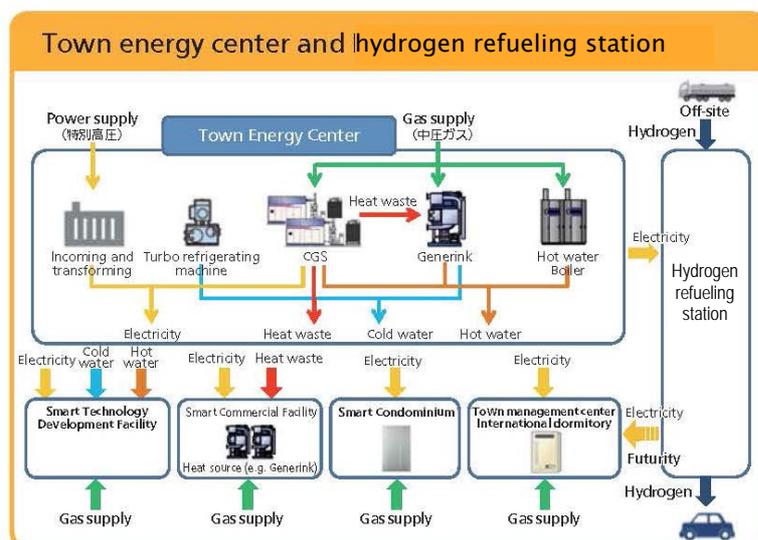
Tsunashima SST Overview

Name	Tsunashima Sustainable Smart Town
Location	4 Tsunashima-higashi, Kohoku Ward, Yokohama City, Kanagawa Prefecture
Ground area	Approx. 37,900 m ²
Overview	Smart town management facility: Ground area approx. 3,500 m ² Smart collective housing: Ground area approx. 3,600 m ² Smart commercial facility: Ground area approx. 18,300 m ² Smart technology development facility: Ground area approx. 12,500 m ²
Schedule	Town opening in 2018

■ Overview of the facilities and initiatives

1. Town energy center (smart town management facility)

With a view to realizing a smart energy network, this urban energy center is located in the center of the city to provide the entire town with low carbon energy, with disaster-resistant energy systems. The center utilizes a high-efficiency gas cogeneration system using clean city gas as its fuel. This cogeneration system efficiently utilizes heat produced during power generation for cooling, heating, and hot water supply. Gas supply utilizes highly earthquake-resistant medium-pressure gas pipelines to help ensure lifelines to stay open even during disasters. The center intends to be a rational model for area-wide interchange of energy between compact complex town blocks.



(Town Energy Center)

2. Hydrogen refueling station (smart town management facility)

The hydrogen service station provides not only hydrogen but also information about hydrogen as a communications hub to the community to lead a future hydrogen-based society. The station supplies hydrogen safely to fuel cell vehicles by adopting a hydrogen safety control system that integrates earthquake-resistant design and various technologies including many types of sensors. The adjoining showroom plainly introduces the features of hydrogen and

initiatives to make food use of it. Toward the future, the Tsunashima SST is also considering supplying hydrogen to the fuel cell systems for commercial use to generate electricity.

3. Town management center (smart town management facility)

This center provides information on community events inside the town, town energy, and evacuation if an emergency occurs, acting as a management hub supporting and developing life in this urban smart town. Plans currently under consideration for the center include integrated control of security cameras overseeing the town's safety and security, guided tours for business customers and provision of office functions.

4. International student dormitory (smart town management facility)

This international student dormitory, which combines traditional Japanese culture and advanced technologies, is designed to maximize values for students by living and learning together. The dormitory will help foster well-rounded internationally-oriented people for the future society through events in the town and communication with the town residents. To help communication among the students, there will be multi-signage systems that let the students control for exchanging information and interactions inside the dormitory; light controllers that can be adapted to various situations according to the purpose the space is used for; and space players that can enhance spaces through visuals. With security systems and wide-area air purifiers that can remove viruses and deodorize odor quickly, the dormitory will provide a safe, secure and clean living environment to the students.



(Hydrogen refueling station)



(Town management center / international student dormitory)

5. Smart commercial facility (UNY Co., Ltd.)

This is an environment-friendly next-generation shopping center. This commercial facility aspires to become a new flagship model of a food and health center for the smart town and the surrounding area as well as serving as a center for activities to cultivate the community. Advanced environmentally-friendly measures will be put in this facility, including solar power generation and air conditioning systems that run on waste heat from the town energy center. There will also be Town Lockers where people can pick up products ordered from online supermarkets. Introduction of some of the latest systems is on the table. They include a multi-signage system that offers diverse information not only about the store but also information on the weather, disaster prevention and traffic, or evacuation guidance in times of emergency; multifunction monitoring cameras that can provide customer security and also

can be used for marketing; and multilingual translation systems for the increasing number of tourists. The objective is to realize smart lives for customers while maintaining a sustainable society and the store, by, for example, providing fresh and safe vegetables grown with advanced environmental control technology.

6. Smart condominium (Nomura Real Estate Co., Ltd. and MID Urban Development Co., Ltd.)

This condominium will be a sustainable, next-generation housing suitable for an urban type smart town. A system that combines energy creation and storing features (solar panels and storage batteries) will be installed in the common area, allowing for efficient use of renewable energy. When linked with the elevators, this system enables them to work in case of power outage. Each dwelling unit in the housing will have EneFarm home-use fuel-cells and a Smart HEMS, providing a lifestyle in which every resident will be able to live comfortably while leading an ecological life that contributes to achieving a low-carbon society.



(Smart commercial facility)



(Smart condominium)

■ Regional cooperation

To keep a consistency with Yokohama City’s Tsunashima and Hiyoshi area development, Tsunashima SST works in tandem with the developers of Nomura Real Estate’s Hiyoshi Complex Development Plan (tentative name) and the surrounding areas to build a town that represents Yokohama, a FutureCity.



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