

Yokohama City Action Plan for Global Warming Countermeasures

Established in 2011

Revised in 2014

To consider changes in the situation caused by **the Great East Japan Earthquake**.
(Responding to changes in energy situations. Determining the way of adaptation.)

Revised in 2018
(plan)

To consider the effectuation of **Paris Agreements**, trends in various countries, etc.

Yokohama City Climate Change Adaptation Policy

- Determine 5 basic strategies.
- **Citizens, companies and government cooperate** to promote various actions and measures.



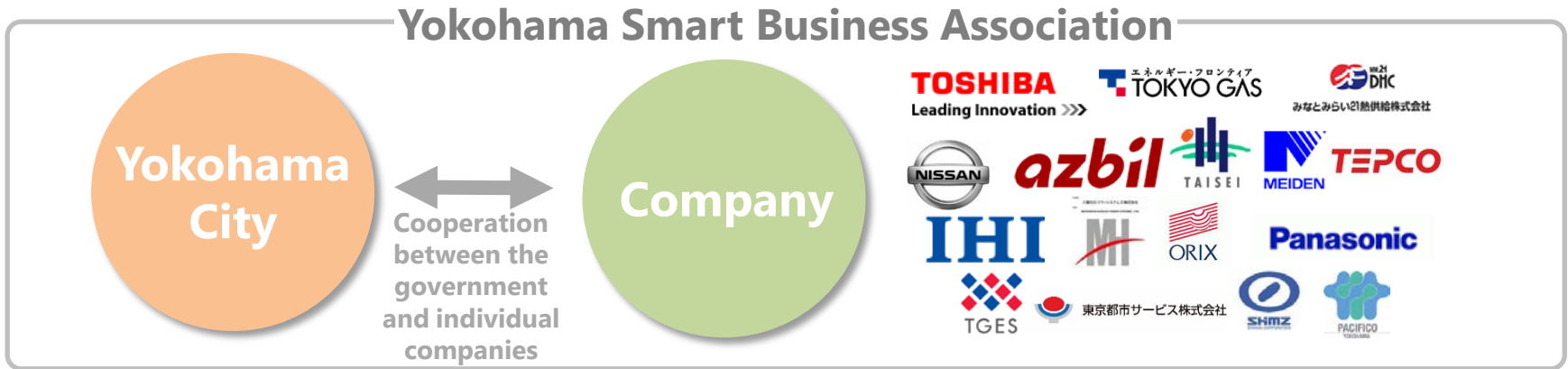
Promote measures to protect the lives and properties of citizens

Improve resilience of the city

Include a variety of viewpoints for compliance with measures

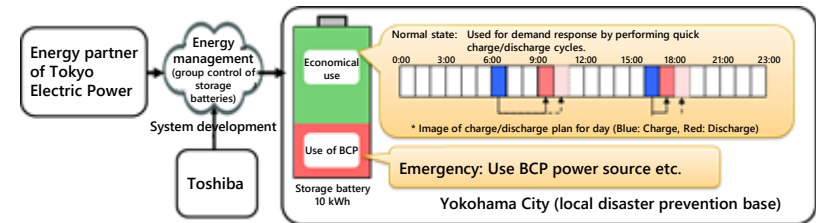
Optimal cycle of environment and economy realized by promoting the adaptation measures

Promote inter-city cooperation in Japan and with foreign countries



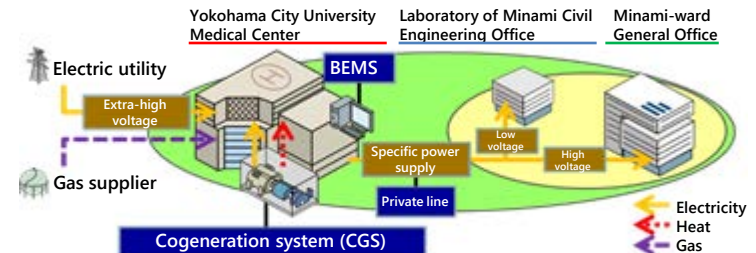
Business for constructing virtual power plants

- Elementary and junior high schools (18 in total) specified as local disaster prevention bases in Yokohama City
- Normally used by Tokyo Electric Power EP for demand adjustment.
- Used by Yokohama City as power for disaster prevention in emergencies.
- Planned to be developed at other public facilities.



Cooperative business between Yokohama City University Medical Center and energy for Minami-ward General Office

- Established a high-efficiency CGS at Yokohama City University Medical Center.
 - Send electricity generated by CGS to Minami-ward General Office.
 - Effectively use heat generated from the power generation process.
- Improve the performance of disaster prevention systems, environmental properties and the economy.



Promote introduction of fuel cell vehicles

- 7 MIRAI were introduced as official cars and used for creating awareness and popularizing use
- Provide purchase support (for 22 vehicles in total).



Official car MIRAI

Promote construction of hydrogen stations.

- 6 stations were completed in Yokohama City (4 fixed stations, 2 mobile stations)
- Also introduced to a large business facility.



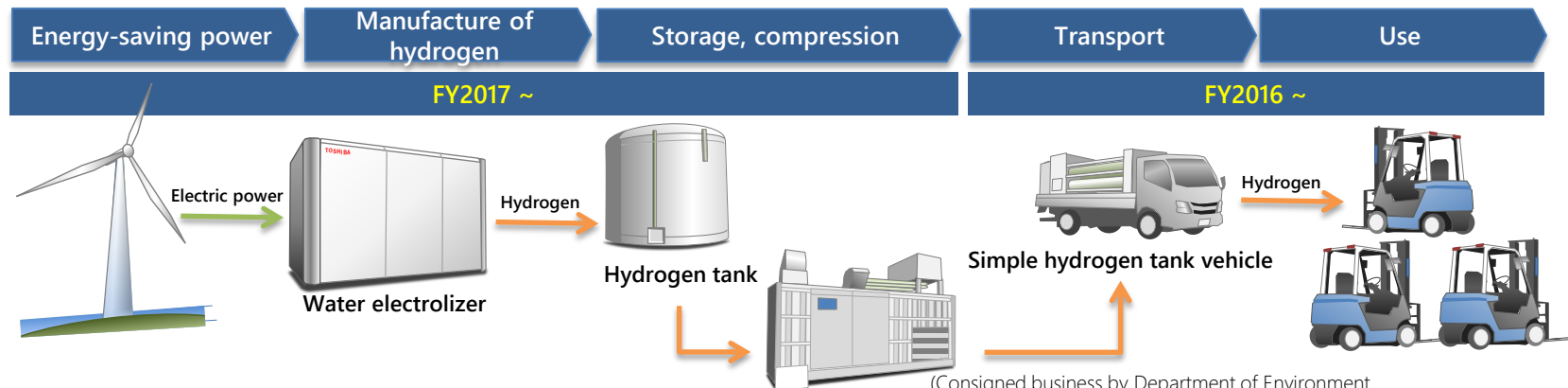
Yokohama Tsunashima hydrogen station



Yokohama Osambashi hydrogen station

Low-carbon hydrogen usage demonstration project using HAMA-WING in Keihin littoral region (FY2015 ~ FY2018)

- Demonstration of construction of the hydrogen supply chain including "storage," "transport" and "usage," in addition to "manufacture of CO₂-free hydrogen" utilizing Yokohama City wind power station (HAMA-WING)



(Consigned business by Department of Environment "FY2015 Local Cooperative Low-carbon Technology Demonstration")

Business operators that use energy exceeding a specified quantity are obliged to submit a greenhouse effect gas (CO₂) reduction plan and its implementation status, which Yokohama City then evaluates, approves and publishes.

Target business operators

- Total energy consumption in crude oil equivalents at offices in Yokohama City is 1,500 kL or more.
- 100 or more vehicles of the business operator are used mainly in Yokohama City.
- The business operator **autonomously** sets the target reduction rate.
- Yokohama City **determines the important measures*** and checks implementation status.

* What is an "important measure"?

A designation of **countermeasures that have high reduction effects** (27 items) from basic countermeasures (400 items) such as equipment repair **requiring no large-scale initial investment** and improvements in operation methods.

→ **70%** or more target companies completed many of 27 important measures.



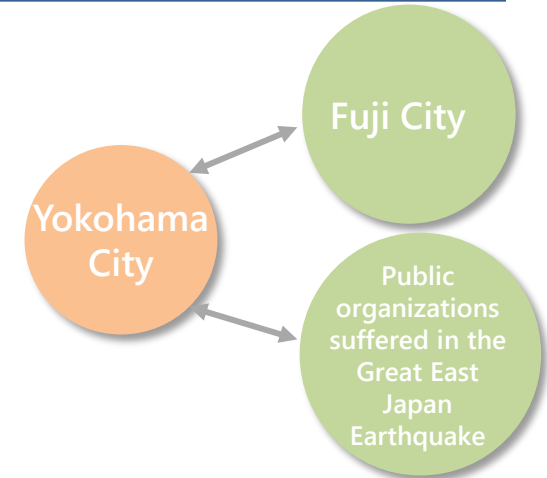
Planning Program commendation ceremony for business operators achieving excellence

- 1st planning period (FY2010 ~ 2012) | Reduced by approx. **6%** compared to the reference year (FY2009)
- 2nd planning period (FY2013 ~ 2015) | Reduced by approx. **9%** compared to the reference year (FY2012)

* Excluding energy transformation department

Cooperation with cities in Japan

- Provide Fuji City with know-how of energy management accumulated through the Yokohama Smart City Project. Projected to provide ongoing support for commercialization.
- Support for local public organizations that suffered from the Great East Japan Earthquake (Ishinomaki City, Aizu Wakamatsu City, Yamamoto Town)



Cooperation with cities in foreign

- Participate in the establishment of the city climate change master plan in Bangkok through cooperation with JICA.
- Export low-carbon technologies utilizing JCM (Joint Crediting Mechanism).
(A plan by the Yokohama Port Corporation to help make ports of the Port Authority of Thailand smart was selected in 2017.)



Investigation at a port in Bangkok

Cooperation with international networks

- Also cooperate with C40, ICLEI, etc.
(Awarded in "Clean Energy" Category of C40 Cities Award 2016)



C40 cities award 2016 ceremony