

Yokohama City Strategy on the Use of Renewable Energy [Outline]

May 2020
The City of Yokohama

Yokohama City Strategy on the Use of Renewable Energy

• Background

- ✓ The Yokohama City Action Plan for Global Warming Countermeasures was revised in October 2018. We set the goal **“Zero Carbon Yokohama” - carbon neutrality by 2050.**
- ✓ As a pioneer in declaring carbon neutrality, specific measures are now needed to work toward fulfilling this goal
- ✓ We are now moving towards an era where **“carbon neutrality” will be important factor in determining which city** residents, companies and financial institutions flock to. The next 10 years are vitally important in which we need to establish the foundation toward achieving our goal for 2050

• Objectives

- ✓ Share and discuss a course of action for achieving a carbon-neutral society with various bodies
- ✓ Implement the measures outlined in this strategy and review issues associated with such in an aim to ensure **our mid-term targets for 2030 are achieved, and to further review future reduction targets**

• Details

- ✓ Establish a **concrete picture** of what “Zero Carbon Yokohama” looks like
- ✓ **Sort tasks that require further review** in order to achieve carbon neutrality, while **outlining initial measures** toward achieving our mid-term targets

Estimates of Energy Consumption, etc. by 2050

(1) Maximize energy savings

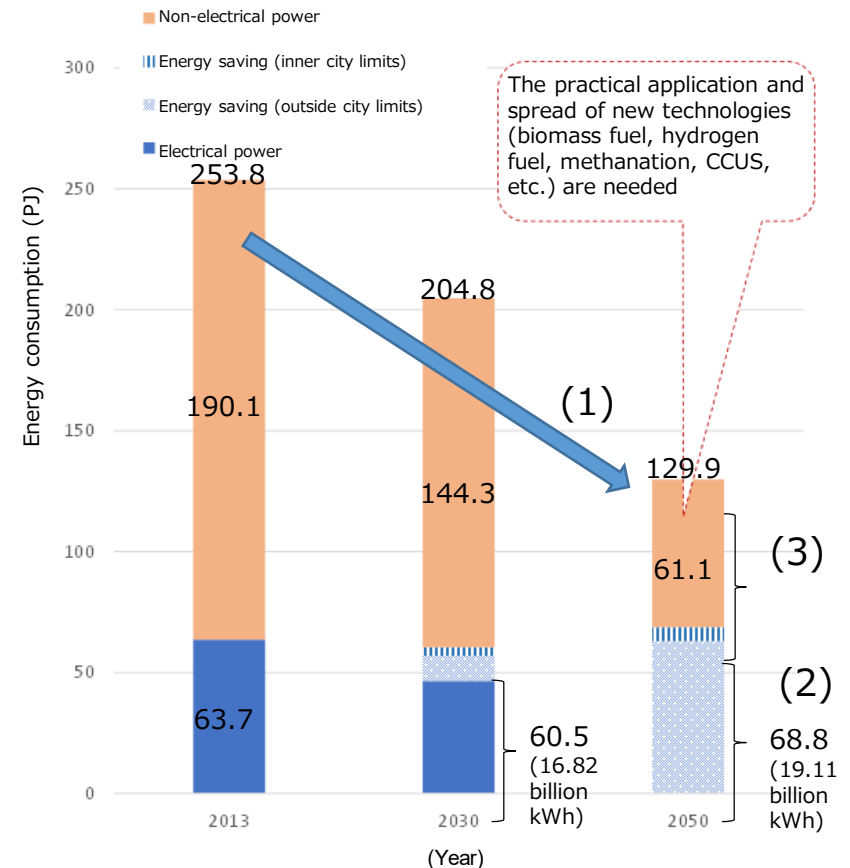
Energy consumption is expected to drop approx. 50% (compared to FY2013) in anticipation of maximum level of energy savings and electrification

(2) Transitioning electrical power to renewable energy

If all electricity consumption for 2050 (19.11 billion kWh) is converted to renewable energies, the Yokohama City electrical power supply potential would be about 8%

(3) Decarbonization other than electrical power

The practical application and spread of new technologies (biomass fuel, hydrogen, methanation, CCUS, etc.) are needed



* As there are various potential paths toward achieving carbon neutrality, these estimates and prerequisites shall not immediately be applied as policy targets

* Differences in the energy consumption amount for 2030 found in the Yokohama City Action Plan for Global Warming Countermeasures are due to a different estimation method being applied

Energy Saving Measures for 2030

- Energy consumption reductions in the Yokohama City area is progressing smoothly against the target. The further promotion of energy saving is needed as we cast our eye toward long-term goals
- Push forward measures in the various sectors (residential, business, industries etc.), by such as the implementation of highly efficient cogeneration systems that work as an independent distributed power source, while also aiding disaster prevention efforts

Vision for 2050

- ✓ **Approx. 50% reduction** in energy consumption

Target parameters set for 2030

- ✓ **18% reduction** in energy consumption (compared to FY2013)
- ✓ **100%** ratio of new housing that is designed with energy saving conscious
- ✓ **40%** spread of clean energy vehicles

Primary measures at present

- ✓ Promote the integration of energy saving measures in housing: including ZEH, eco-renovation and consultants on energy efficient housing
- ✓ Promote widespread use of high efficiency equipment, low energy housing appliances and all-electric facility solutions by providing information with residents and business operators, etc.
- ✓ Introduce EV/FCV and other such eco-friendly vehicles, and promote the installation of charging equipment, hydrogen fueling stations and other necessary infrastructure



Cogeneration system

Measures for the Strategic Expansion of Renewable Energy

- Pursue the local production and consumption of energy to the extent possible from the perspective of addressing “disaster prevention and climate change”. Seek to expand the use of solar power generation and other renewable energies in Yokohama City while also leveraging private sector’s schemes
- The proactive adoption of renewable energies by Yokohama, a major energy consumer, will help speed up energy supply. Pursue the maximum adoption of renewable energy, regardless of the energy mix

Vision for 2050

- ✓ **Achieve a 100% shift to renewable energy** for energy consumption within the city

Target parameters set for 2030

- ✓ Work to expand the degree to which renewable energy is consumed within the city by not being fixated on energy mix ratios assumed in estimates, but rather pursuing higher rates of use, such as the **44%–50%** rate being proposed by the private sector
- ✓ Target of the amount of renewable energy introduced in the city: **590,000 kW**

Primary measures at present

- ✓ Expand the implementation of solar power generation using third-party ownership models and joint-purchase models
- ✓ Develop supply and demand schemes for renewable energy inside and outside the city leveraging partnership agreements on renewable energy
- ✓ Build a platform for disseminating information for pushing demand toward renewable energy
- ✓ Effective use of VPP as a distributed power source
- ✓ Promote the spread of fuel-cell vehicles (FCVs) and other hydrogen use

Initiatives Taken by the Yokohama City Hall

- The Yokohama City Hall is one of the city's largest emitters of greenhouse gas, accounting for around 5% of greenhouse gas emissions. From the perspective of leading by example, we will work to further reduce greenhouse gas emissions associated with our office and business activities

Vision for 2050

- ✓ **Achieve a 100% shift to renewable energy** for energy used by the entire City Hall

Target parameters set for 2030

- ✓ **30% reduction** of greenhouse gas emissions for the entire City Hall (compared to FY2013)
- ✓ **100% spread** of LEDs and other highly efficient lighting sources (stock)
- ✓ **100%** introduction of next-generation vehicles as official vehicles

Primary measures at present

- ✓ **Achieve a 100% use of renewable energy in the new City Hall building in FY2020**, and expand to other public facilities in FY2021 and beyond
- ✓ Promote the implementation of renewable energy facilities when new construction, extending and reconstructing public facilities
- ✓ Further lowcarbonization in power supply based on the Yokohama City Green Energy Procurement System



Challenges for the Future

- A shift in the social structure itself is needed to achieve a Zero Carbon Yokohama
- In addition to the promotion of energy conservation, and the implementation and expansion of renewable energy focused on in this strategy, the following issues also require review
- We need to work to accelerate the achievement of mid-term targets, and consider reviews into future reduction targets, while continuing to improve of our knowledge of climate change countermeasures and taking international trends into account

- (1) Use of renewable energies other than electricity
- (2) Policies for achieving substantial energy savings
- (3) Expand electricity storage functions
- (4) Promote carbon neutrality in inner city businesses
- (5) Crystallize offsetting measures
- (6) Collaboration with urban development
- (7) Enhance collaboration between municipalities
- (8) Expand decarbonization businesses
- (9) Dialogue/collaboration with each sector