

Y-PORT: Yokohama Partnership of Resources and Technologies ~ Creating Low Carbon Urban Structure and international collaboration ~

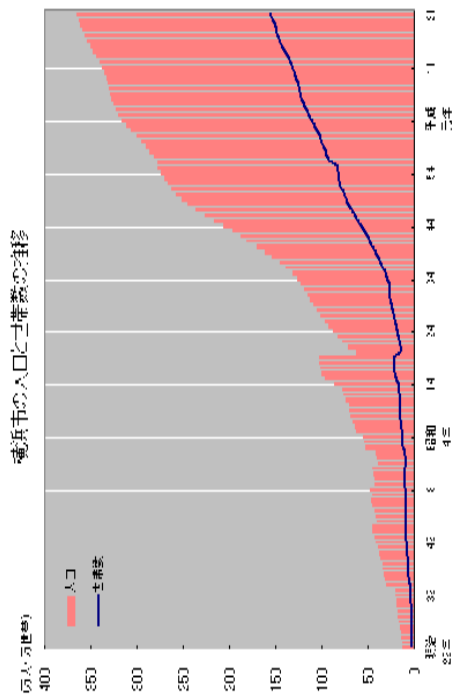


Entrepreneurial Citizens and Unique Development Approaches

- Overcoming many challenges over time
 - Port Opening
 - Major Earthquake
 - War related damage and pro-longed occupation
- Innovative, entrepreneurial, open-minded attitudes (Hamakko spirits), and challenging spirits
- Unique development approaches (Yokohama model)

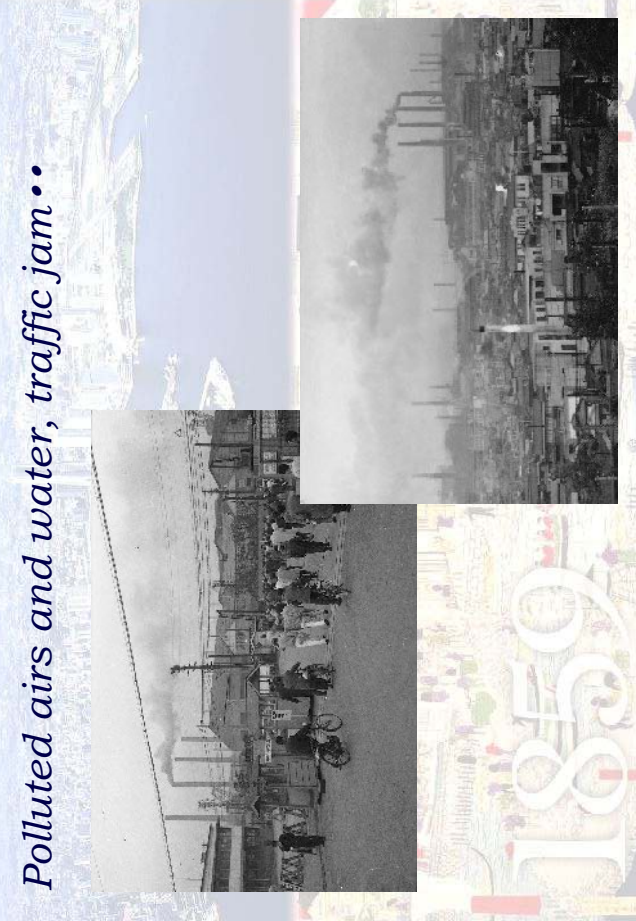


Population Trend City of Yokohama: Yet to expand and growing



Urban Challenges: Rapid Urbanization and Pollution

Polluted air and water, traffic jam...



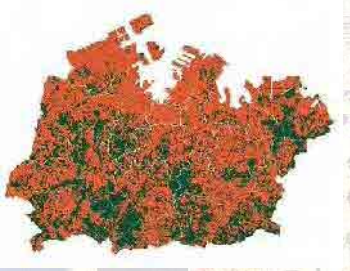
Urban Challenges: Rapid Urbanization

Lost forests...

1960

1980

2000



Green and Water in Yokohama

Diverse and attractive waterfront and natural scenes close to citizens

Example of Consolidated Mixed-Use Urban Center



- Conversion from Industrial Area to Urban Core
- International Culture Center
- Information Urban Center
- Eco-Friendly Development



Urban Planning

Minatomirai 21 Area :
Showcase of Yokohama's Knowledge on Urban Development

Greener City Center

Integration of History, Culture and Art

MU21 Pedestrian Bridge LED Lighting

Electric Tunnels

Wind Power Generation

Laundry Tower

Utilisation of Renewable Energy towards Low Carbon Emission

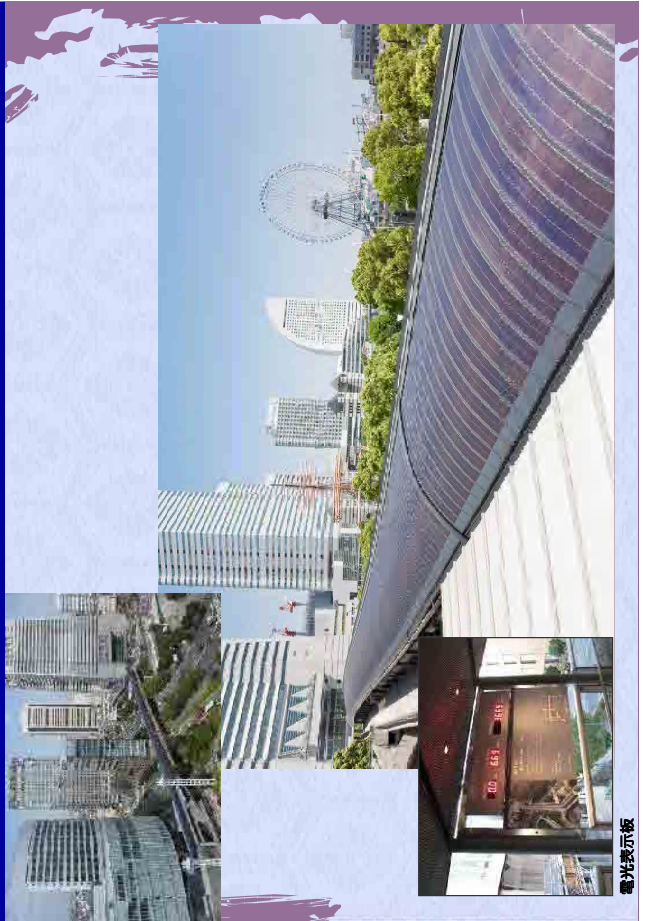
Water and Green Network



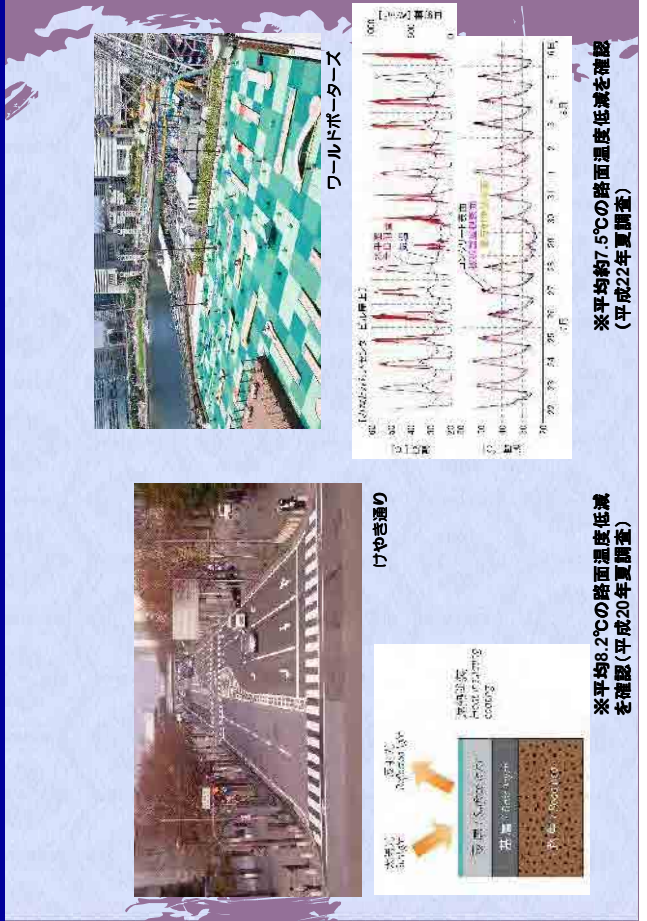
Utility Tunnels, District Heating and Cooling



Solar Power and Moving Walk Way



Heat Insulating Surfaces, High Reflectance Coatings



Green Rooftops, Walls and Public Spaces



富士ゼロックスR&Dスクエア

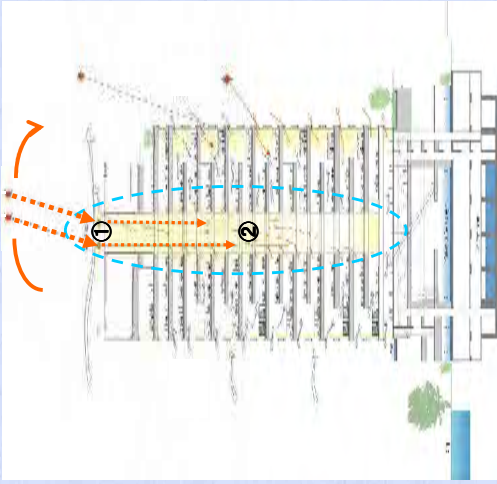


ワールドポーターズ

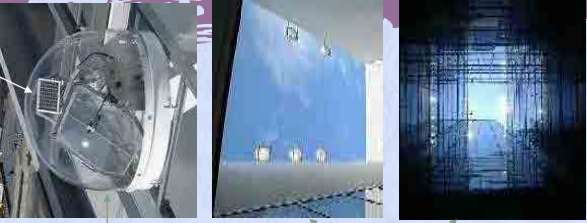
みなとみらいセンタービル

Lighting System Using Natural Sunlight

- ? Automatic Sunlight Tracking Sensor...①
- ? Sunlight led into the building through Atrium...②
- ? Utilizing Solar Power...③



Nissan Global Headquarter

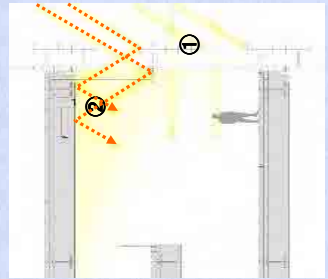


Highly Reflective Louvers



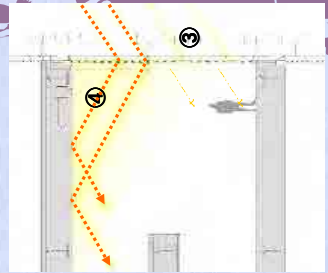
Summer

- ? Sun at high angle, louvers provide shade...①
- ? Louvers reflect light gently...②



Winter

- ? Sun at low angle, direct sunlight passes...③
- ? Louvers reflect more light into the building...④



• 二酸化炭素削減量
115,400kg-CO2

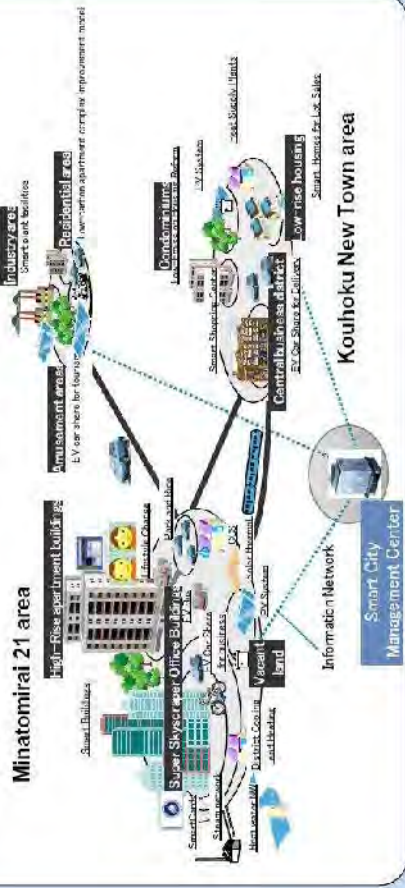


Climate Change

Low-Carbon City ("Smart City" Project)

- Energy management systems will be implemented by pursuing citizens' participation.
- The plan is to introduce the systems in the above existing urban districts.
- The plan aims to achieve the following targets by 2014:
 - To reduce CO2 emissions by 64,000tons
 - To introduce 27 MW of PV systems, Home Energy Management System (HEMS) to 4,000 households and 2,000 units of EVs

Yokohama Green Valley area

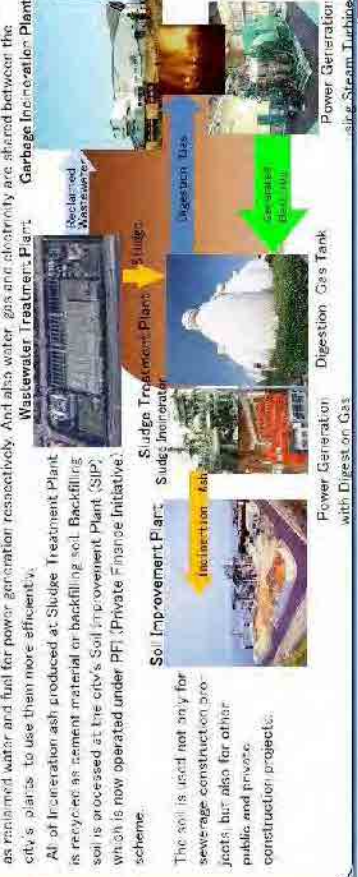


Waste Management

Recycling Solid Waste and Waste Water

- Yokohama "G30" policy: Involving Citizens to Reduce Waste by 30%**
 - Citizens, businesses and the city government work together in promoting 3Rs (Reduce, Reuse and Recycle) of solid waste
- Notable Effects of G30**
 - 1) Decrease of 3 of 7 the city's garbage incineration plants
 - 2) Extension of the lifetime of the city's solid waste landfill sites
 - 3) Reduction in CO2 Emissions by 840,000tons/year (about 4%) compared to FY2001

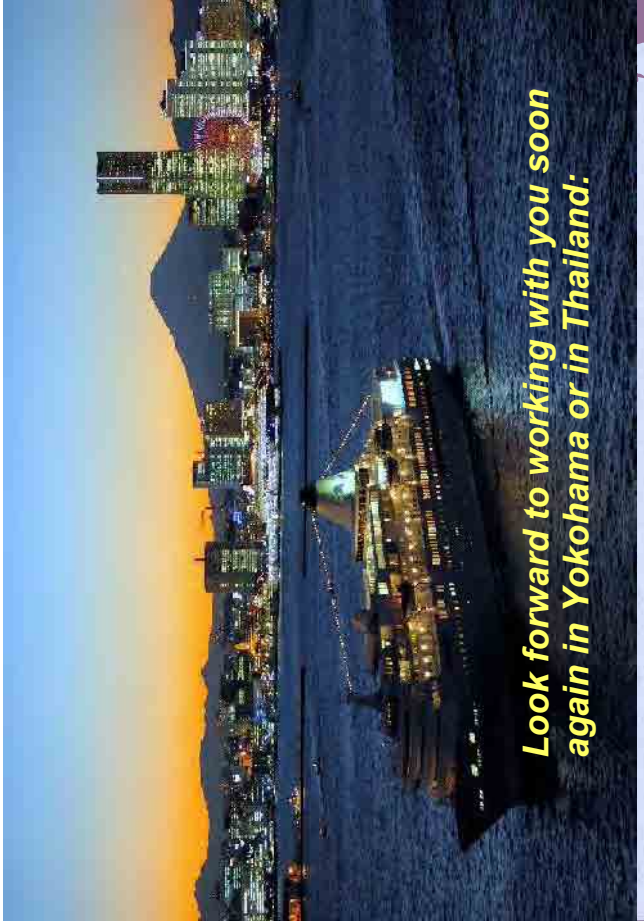
More Efficient Use of Energy and Resources (Treated Wastewater and Incineration Ash)



The soil is used not only for sewerage construction projects but also for other public and private construction projects.

New Initiatives for International Contribution:

- Yokohama Partnership for Resource Transfer (Y-PORT)
- Disseminating accumulated know-how on Urban development and Environmental management
- Provision of streamlined and systematic technical assistance and training opportunities
- public private partnership principle, collaboration with universities, CITYNET, strategic partner cities
- Water, waste water management, solid waste management, Overall city Management



Look forward to working with you soon again in Yokohama or in Thailand.

www.city.yokohama.jp

Agenda

- 1 Yokohama Smart City Project (YSCP)
- 2 Yokohama Mobility Project ZERO (YMPZ)

1



Climate Change Policy Headquarters
City of Yokohama

2011.3.11 14:46 Great East Japan Earthquake

M9.0 Tsunami maximum height 37.9m
Number of Missing and Dead: 24,988 (as of May 5)



出典: 日本経済新聞ウェブサイト

2

2010年4月
April, 2010

2011年3月12日
March 12, 2011



宮城県名取市
Natori City, Miyagi Prefecture

3



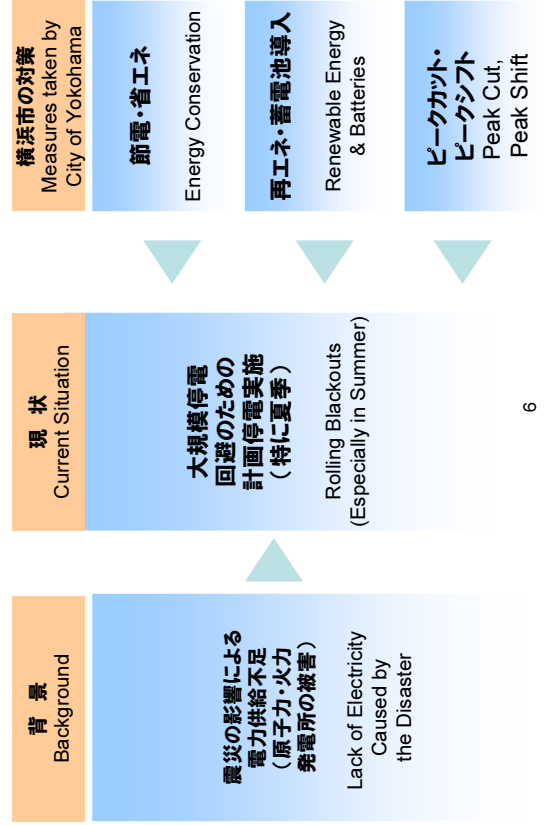
出典: 日本経済新聞ウェブサイト



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出典: 日本経済新聞ウェブサイト

横浜をはじめとする首都圏への影響 Effect on the National Capital Area, including Yokohama

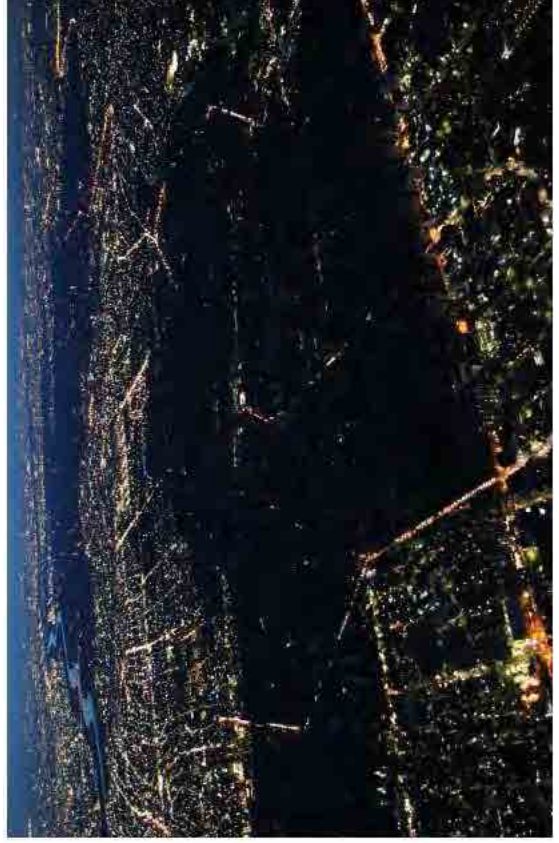


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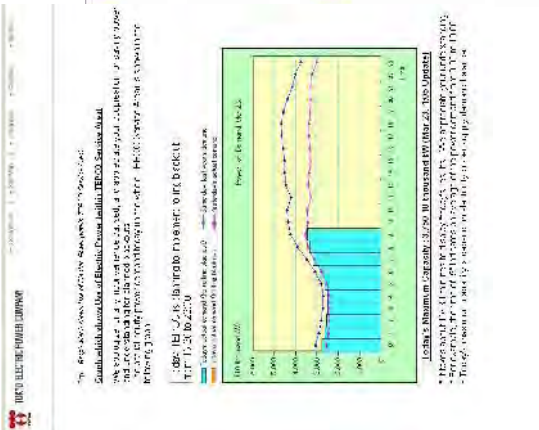
出典: ウォールストリート
ジャーナル日本版ウェブサイト



計画停電の様子 (3月18日、東京都足立区) - Rolling Blackout held at Tokyo, March 18

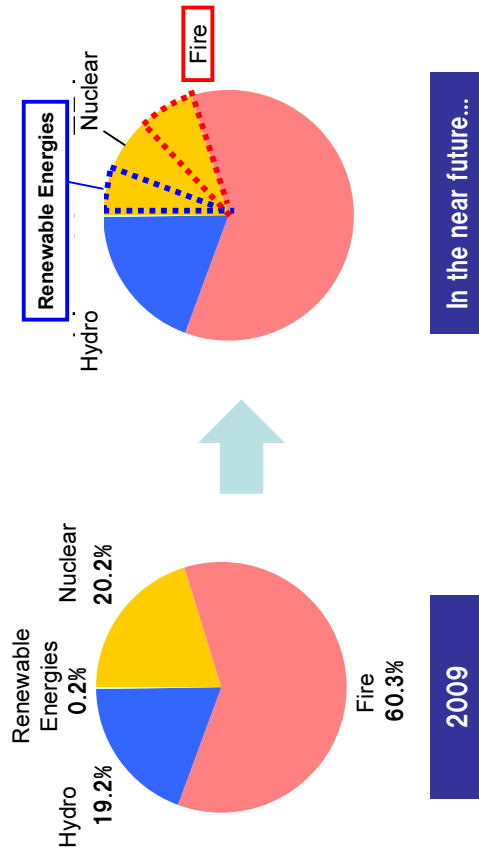
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出典: 日本経済新聞ウェブサイト



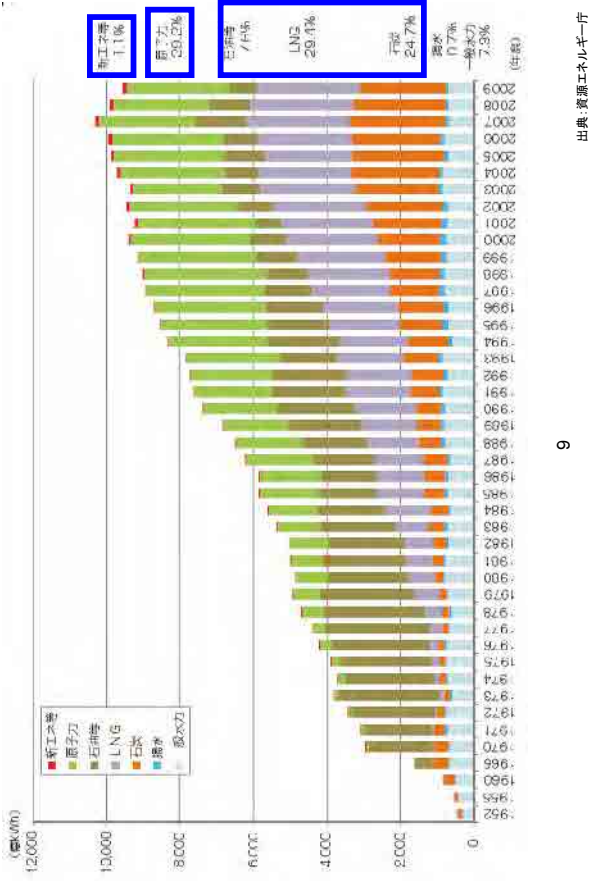
TEPCO provides real-time electricity usage 'Electricity-forecast' is provided on the internet

日本のエネルギー供給(電源別) Energy resource of Japan



Nuclear will be decreased –
Fire will be increased – CO2 will be increased
as well
→ Renewable Energy is required to be increased

日本のエネルギー供給(電源別) Energy resource of Japan

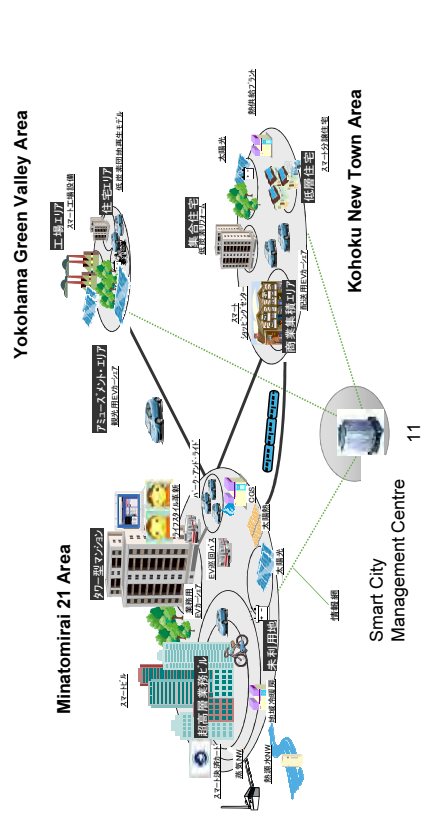


Yokohama's mission: a sustainable smart city

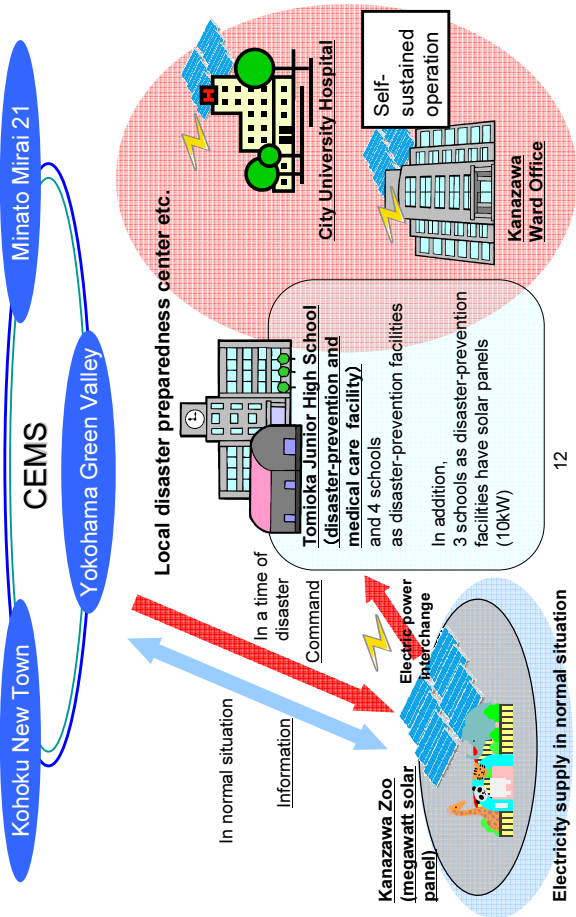
Renewable energy = low carbon, dispersed power system

Normal – Clean renewable energies contribute to the system power
Emergency – Dispersed power system enables self-sustained operation of the region

We introduce large amount of renewable energy and construct community energy management system with optimal use of renewable and system power



Energy supply in a time of disaster utilizing CEMS (image)



Yokohama Smart City Project (YSCP)

Diverse three areas in Yokohama



• **Urban: Minatomirai 21 Area**

- Highly developed urban center
- High-rise office buildings, international convention center



• **Residential: Kohoku New Town**

- 1960s development zone designed to address Yokohama's housing demand
- Suburban commuter zone with low-rises and shopping centers



• **Industrial: Yokohama Green Valley**

- Industrial redevelopment area on reclaimed land
- Home to Yokohama's local small to medium sized factories, amusement parks and housing complexes

YSCP Vision and Objectives

As one of the largest cities in Japan, Yokohama aims to build the "Next Generation Energy Infrastructure and Social System" that maximizes CO2 reduction in the forefront of innovation. The know-how will be leveraged to deploy abroad as a city-scale infrastructure package.

Background

Increasing need for energy security

Economic development (green innovation)

Cities as center of CO2 emissions

Environmental Model City

∴

YSCP Vision and Objectives

Ambitious CO2 reduction target (64,000t-CO2 by 2014)
Export overseas as a city scale infrastructure package

Assemble Advanced Knowledge, Build in Yokohama, Expand Abroad



• Retrofit solution development

• APEC2010 as touchstone for expansion to Asia-Pacific region