

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

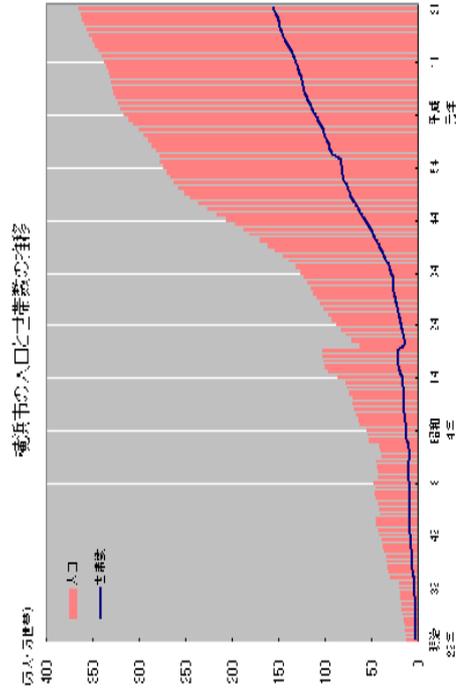


## Entrepreneurial Citizens and Unique Development Approaches

- 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)

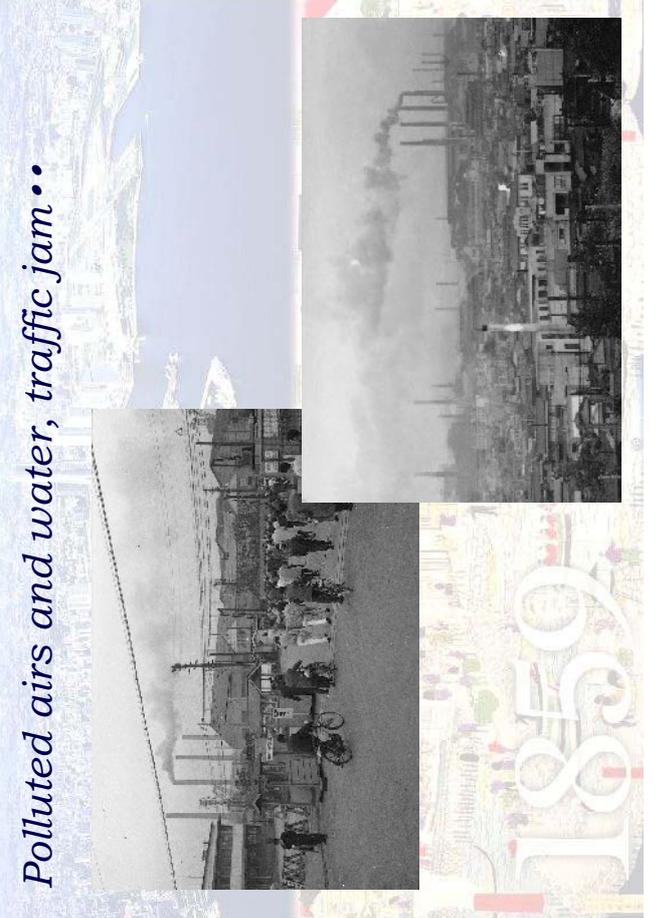


## Population Trend City of Yokohama: Yet to expand and growing



## Urban Challenges: Rapid Urbanization and Pollution

*Polluted air and water, traffic jam...*



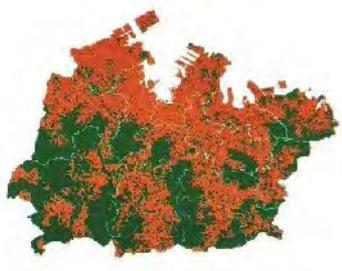
## Urban Challenges: Rapid Urbanization

Lost forests...

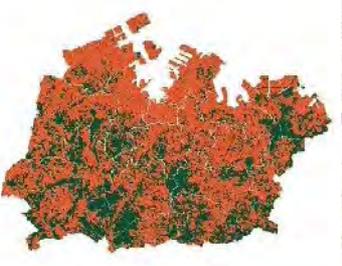
1960



1980



2000



## Green and Water in Yokohama

Water reserves



Historical houses



Villages



Streams



Rice paddies



Hills in urban areas



Parks



Street trees



Port



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



## Minatomirai 21 Area :

### Showcase of Yokohama's Knowledge on Urban Development

#### Greener City Center

Shinko Park



Grand Mail Plaza



Nissan-maru Memorial Park



#### Integration of History, Culture and Art

Red Brick Park



Zoo-mirai Park



MV21 Pedestrian Bridge LED Lighting



Utility T-junctions



Wind Towers



Landmark Towers



Utilisation of Renewable Energy towards Low Carbon Emission

# Water and Green Network

YOKOHAMA Water and Green Network

YOKOHAMA

# Utility Tunnels, District Heating and Cooling

Office Building  
Energy Hub  
Hotel  
Commercial Bldg

YOKOHAMA Water and Green Network

# Solar Power and Moving Walk Way

電光掲示板

# Heat Insulating Surfaces, High Reflectance Coatings

けやき通り

Before  
After

Heat Insulating coating

Before  
After

YOKOHAMA Water and Green Network

ドールポート

※平均7.5℃の路面温度低減を確認 (平成22年夏調査)

※平均8.2℃の路面温度低減を確認 (平成20年夏調査)

## Green Rooftops, Walls and Public Spaces



屋上緑化

屋上緑化

壁面緑化

ワールドポーターズ

パシフィコ横浜

公園空地緑化

日産自動車株式会社グローバル本社

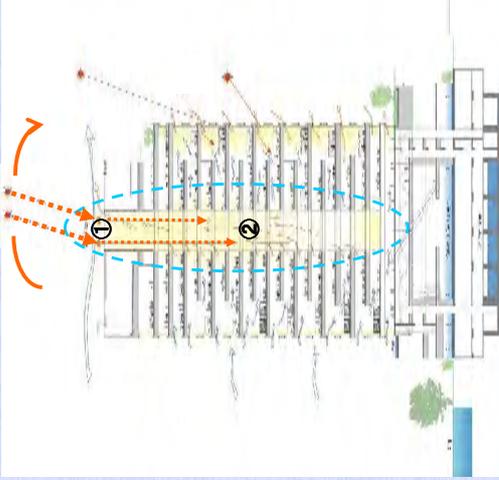
公園空地緑化 (デッキ上)

富士ゼロックスR&Dスクエア

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

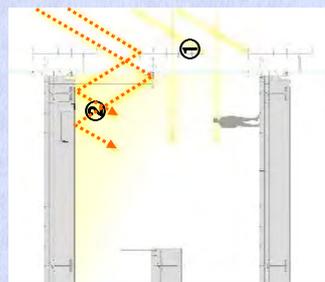


## Highly Reflective Louvers



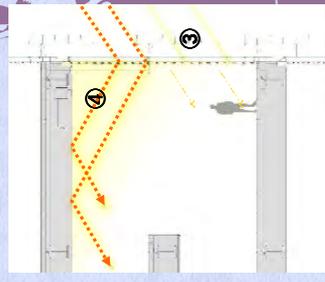
**Summer**

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

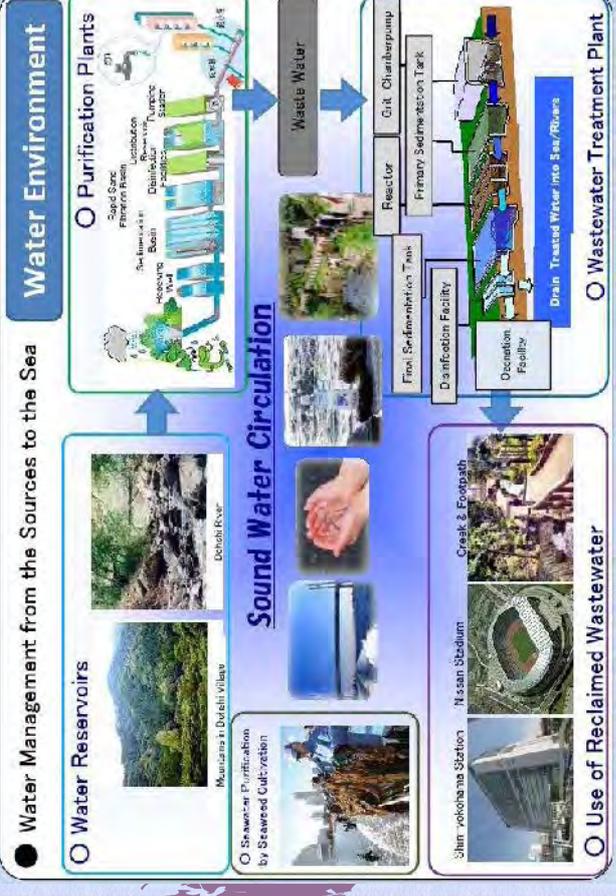


**Winter**

- ? 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





# 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)**

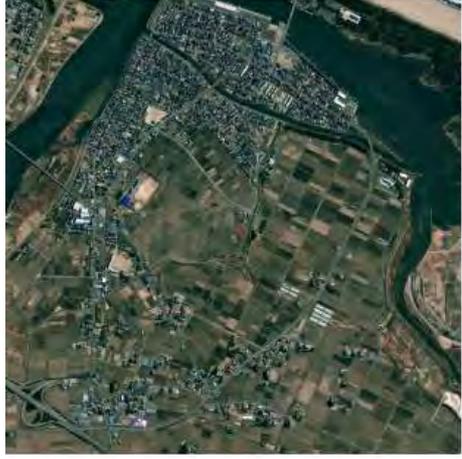


出典: 日本経済新聞ウェブサイト

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



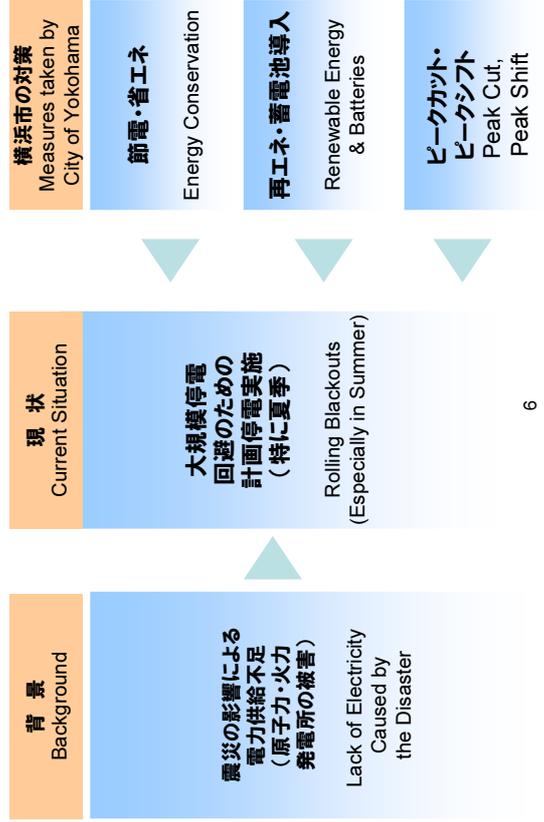
出典: 日本経済新聞ウェブサイト



4

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



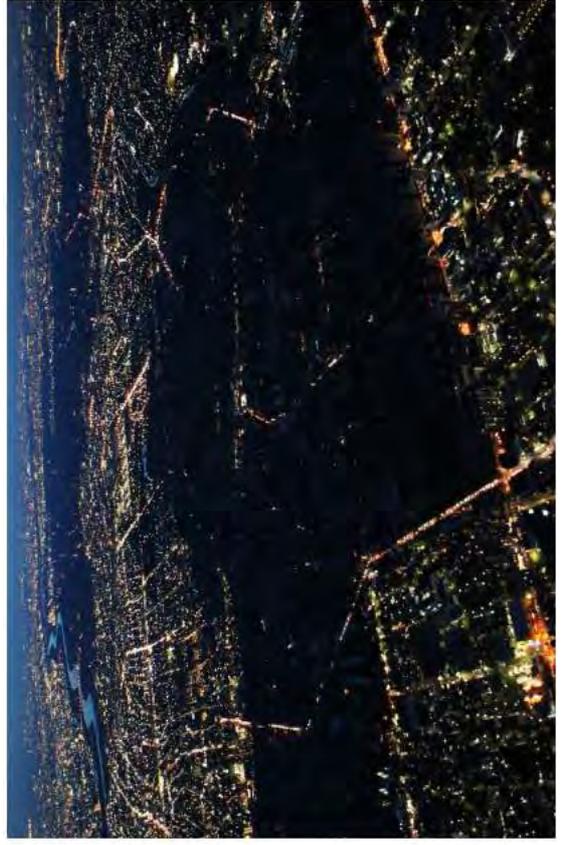
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出典: 日本経済新聞ウェブサイト



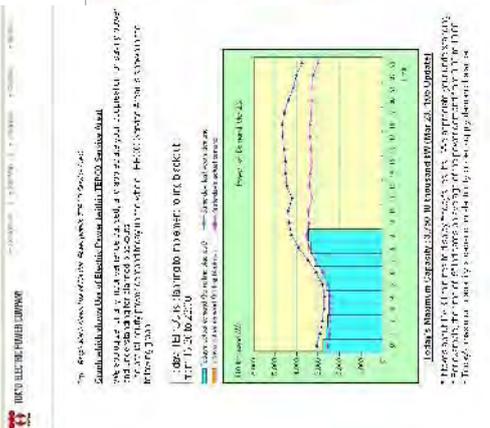
5

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

7

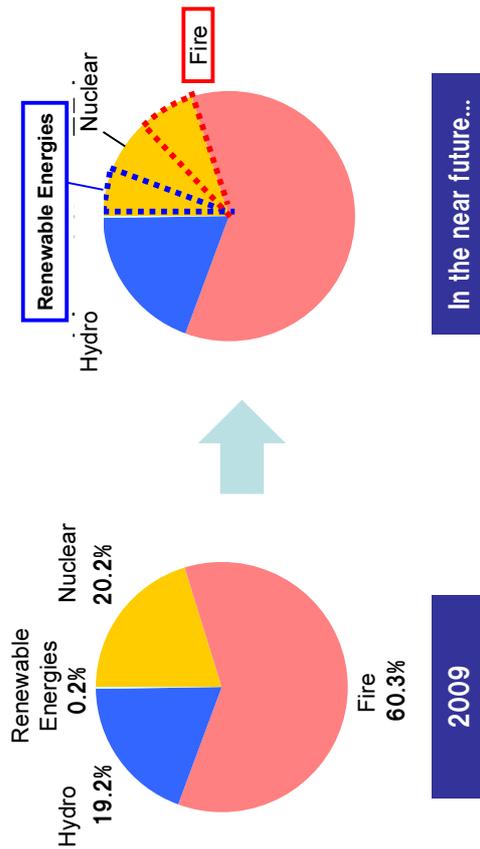


TEPCO provides real-time electricity usage

'Electricity-forecast' is provided on the internet

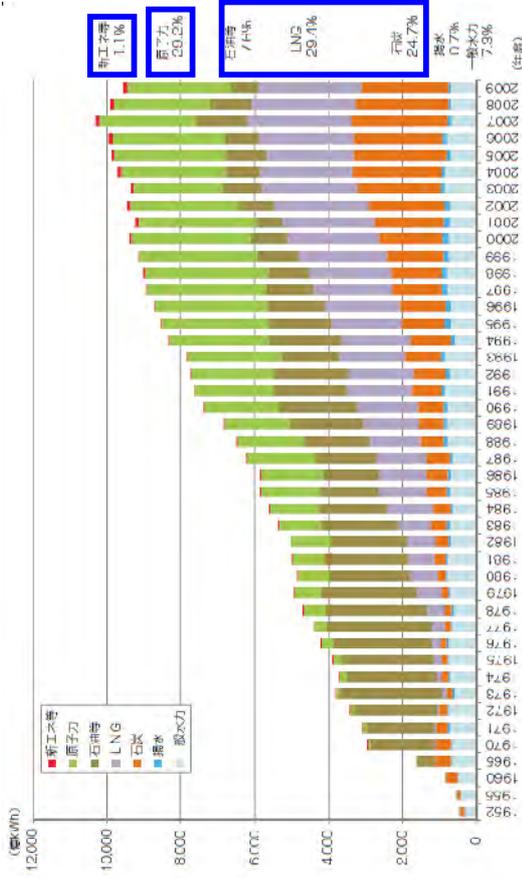
8

### 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

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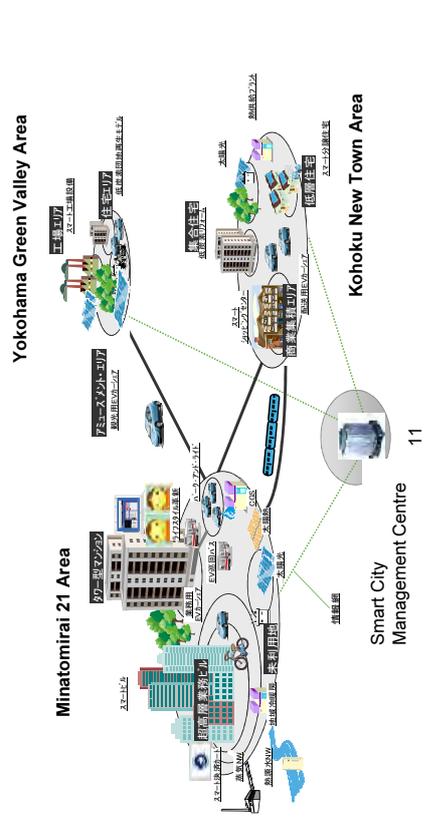
出典: 資源エネルギー庁

### Yokohama's mission: a sustainable smart city

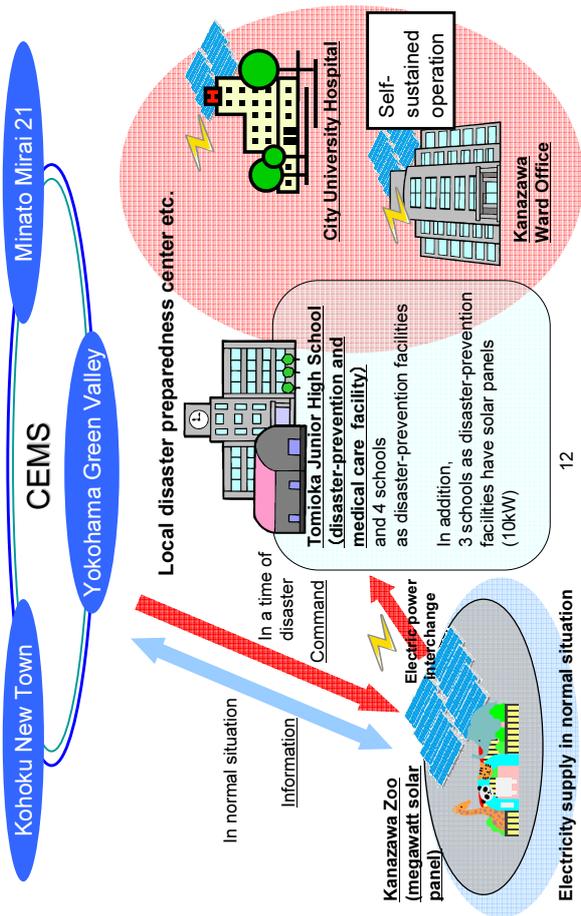
Renewable energy = low carbon, dispersed power system

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)



## 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

## 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