



Promote International Contribution through Environmental Technology

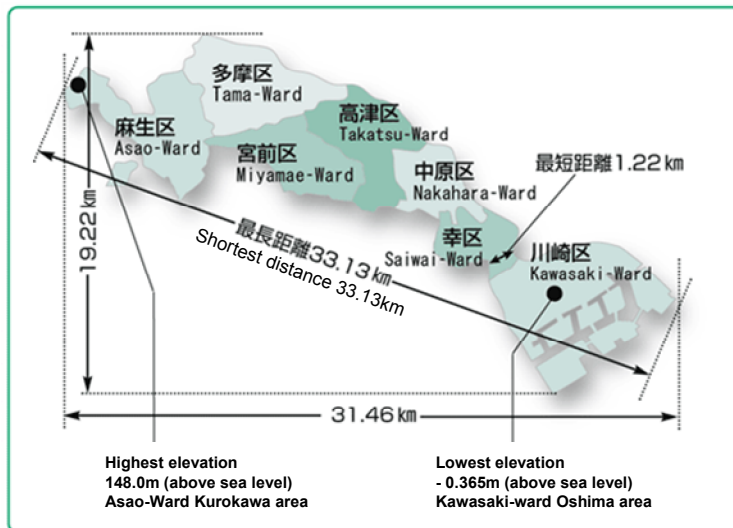
Kawasaki City

June , 2013

Profile of Kawasaki City

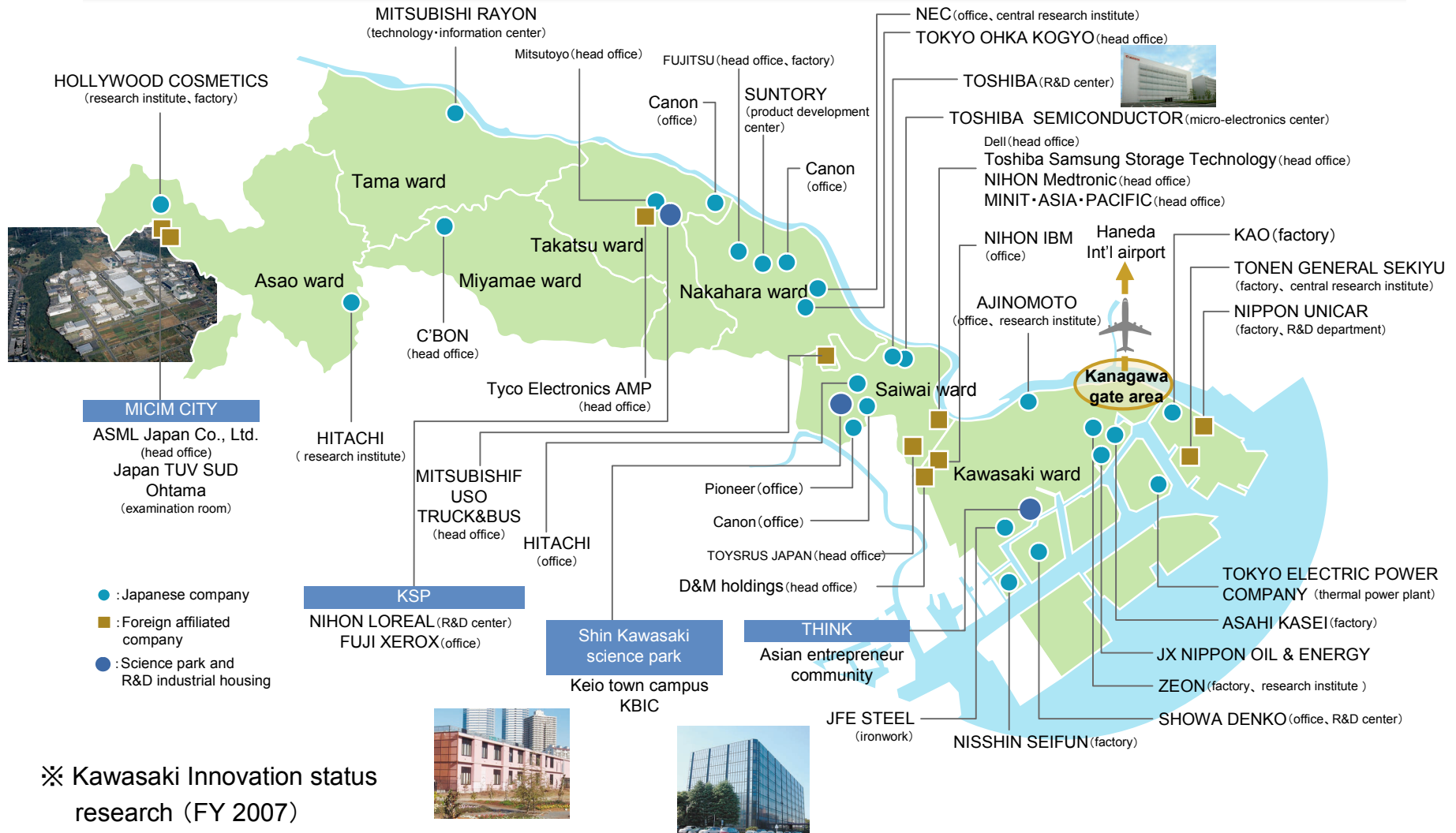


Kawasaki City, called “Industrial City Kawasaki” was developed as a city of manufacturing; recently, the city is transforming drastically into a city of high-tech technology and industry, a base for industrial technology and research & development, which leads Japan.



Population	1,444,474 people (may,1,2013)
Area	144.35 Km ²
Gross production of the city	5214.0 billion yen
Major Industries	Manufacturing Service Transportation · Service
Major manufacturing industries	General machinery Metal products Electric
Developing industries	New manufacturing technology Info / telecommunication Environment Welfare Lifestyle / culture

Integration of Research and Development



※ Kawasaki Innovation status research (FY 2007)

Learned from pollutions



Sky of Kawasaki (1968)



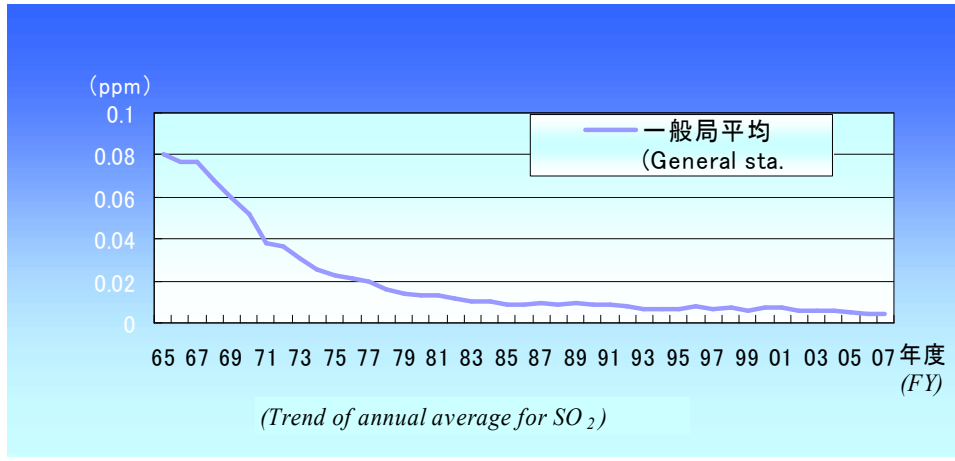
Smokes from factories of the coastal area were hanging over the city.

A large improvement was achieved through countermeasures by a joint effort of businesses, citizens, and local authorities.

Sky of Kawasaki (2010)



The atmospheric conditions were considerably improved by the countermeasures. In winter when the atmosphere is stable, Mt. Fuji can be seen in distance.



Technology and Know-how Gained through Antipollution Measures



Initiatives of businesses

- Aggressive investment in antipollution measures
- Development of technology and know-how for preventing pollution
- Training of technicians and engineers in pollution prevention

Initiatives of residents

- Promotion of corporate and government antipollution measures through various activities including registering of complaints and filing petitions
- Cultivation of a heightened awareness of the environment among residents



Flue gas treatment

- Establishment of a pollution victim relief system
- Signing of air pollution prevention agreements with 39 factories
- Establishment of anti-pollution local government ordinances
- Introduction of a monitoring system

Initiatives of government



Realization of a dramatic improvement in the atmospheric environment

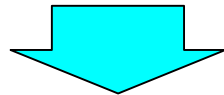
Accumulation of superior environmental technology and know-how in the course of implementing various antipollution measures

Realization of a Mutually Beneficial Cycle between the Environment and Industry



【Kawasaki's Fundamental Plan to create the Town harmonizing with Environment (Kawasaki Eco-Town Plan)】

- Companies go for eco-friendly
- Companies collaborate together for eco-friendly on site
- Research for sustainable development of coastal area on environment



- Contribution for international communication and sending performance



Appointed zone

- The plan was approved by MITI (at present, METI) in 1997
- Appointed area : Whole Kawasaki Coastal zone (2,800ha)
- Purpose 1: Facilitate companies operating there to develop resources recycling production and install new equipments for resources recycling
- Purpose 2 : Construct Kawasaki Zero Emissions Industrial Park oriented to waste reuse and recycling



Realization of a Mutually Beneficial Cycle between the Environment and Industry

Advanced recycling facilities concentrated



The central image is an aerial photograph of the Kawasaki Zero Emissions Industrial Park. A black circle is drawn around a central area, with a white box below it stating "Within approx. 1.5 km in radius". Five red dots are placed on the map, with green arrows pointing from each dot to a corresponding facility description box. The boxes are yellow with black text. The facility descriptions are: "Facility of producing material for ammonia from used plastics (Showa Denko KK)", "Recycling cement production facility (DC CO.,LTD.)", "Facilities of reusing material for blast furnace from waste plastics/concrete setting frame production from waste plastics/used electric appliances recycling (JFE Group)", "PET to PET recycling facility (PETREFINETECHNOLOGY. CO.,LTD)", and "Difficult-to-recycle wastepaper recycling facility (SAN-EI REGULATOR CO.,LTD.)".

Facility of producing material for ammonia from used plastics (Showa Denko KK)

Recycling cement production facility (DC CO.,LTD.)

Facilities of reusing material for blast furnace from waste plastics/concrete setting frame production from waste plastics/used electric appliances recycling (JFE Group)

PET to PET recycling facility (PETREFINETECHNOLOGY. CO.,LTD)

Difficult-to-recycle wastepaper recycling facility (SAN-EI REGULATOR CO.,LTD.)

Kawasaki Zero Emissions Industrial Park

Within approx. 1.5 km in radius

ECOANN
環境資源循環技術株式会社

A clear PET bottle with a white label, shown in a close-up shot.

A stack of white, rectangular sheets of paper, likely recycled wastepaper.

Leading Environmental Technology / Facilities Concentrated in the Kawasaki Waterfront Area



Energy-saving project in collaboration with companies in coastal area



Large-scale residual heat utilization

Large-scale energy-saving project (steam net) that utilizes steam produced in Tokyo Electric Power Company (TEPCO) Kawasaki Thermal Power Station is scheduled to provide the steam to factories in the surrounding areas.

Quantity of steam supplied
approx. 300,000 ton annually

From February 1, 2010

Effect of annual CO2 reduction

approx. 25,000 ton

※ Equal to the annual CO2 emission of approx. 4,600 average families

Support high-tech industries

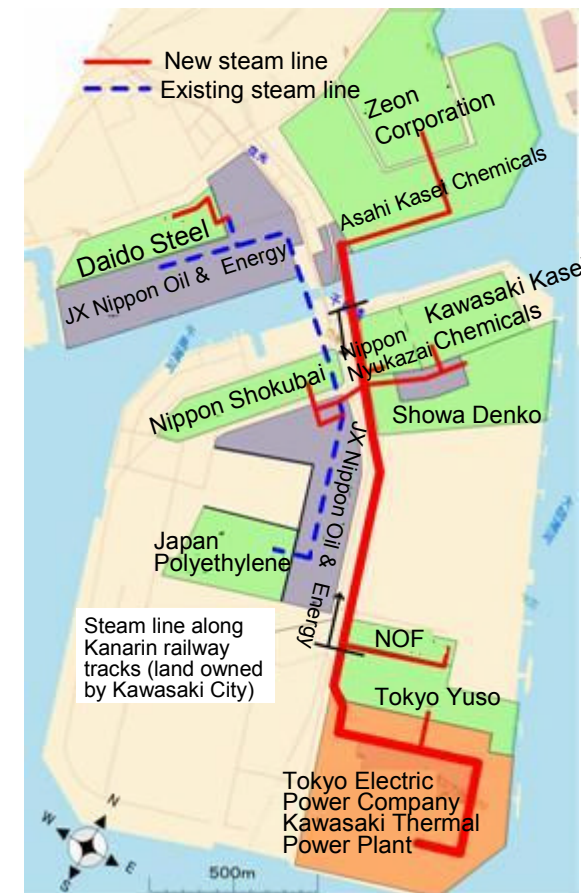
Support ELIY Power Co., Ltd., which first received the certification from the high-tech industry creation support system (innovate Kawasaki). The company develops and mass-produces large lithium-ion storage batteries prospected to be installed into photovoltaic, wind, or other power generation systems.



Steam supply source (TEPCO Kawasaki Thermal Power Station) – generating efficiency of 59%, the world's highest level



Image of steam piping (Piping will be designed to complement the landscape.)



Overview of Kawasaki Environment Research Institute (KERI)



I Aim

There is a need to enhance comprehensive survey/research into the extensive fields of the environmental sector, to accurately handle diverse and complex environmental issues. In response, KERI has been established to become a comprehensive environmental research hub through reorganization and merging the Research Institute for Environmental Protection, Pollution Monitoring Center, Global Environment Knowledge Center; while collaborating with external research institutes such as the United Nations Environment Programme (UNEP), National Institute for Environmental Studies, several universities as well as, locally based companies with excellent environmental technologies.

II Five Functions of KERI

<Function 1>

Promote international contribution through Kawasaki's Excellent environmental technologies

<Function 2>

Collect and disseminate information regarding Kawasaki's excellent environmental technology

<Function 3>

Research which aims for "Urban and Industrial Co-existence"

<Function 4>

Surveillance/survey/research for further environmental improvement and to establish preventative measures against environmental pollution

<Function 5>

Cooperative environmental education and studies with multiple agents

IV Ample Environmental Consideration in Design through leading edge technologies

■ S-rank evaluation under the Kawasaki Comprehensive Assessment System for Built Environmental Efficiency (CASBEE Kawasaki)

1) Implementation of Renewable Energy

- * Solar photovoltaic generation
- * Solar thermal hot water supply
- * Geothermal air conditioning

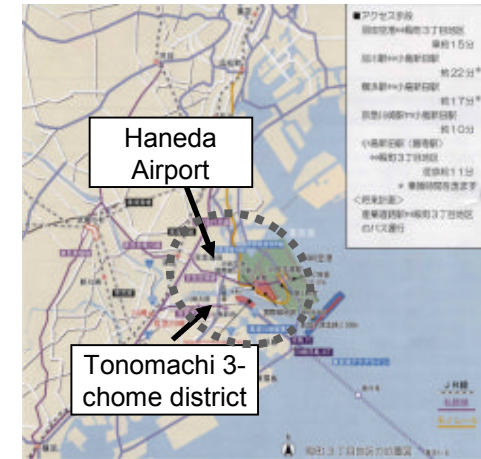
2) Implementation of Energy Efficient Technology

- * Automatic human sensor lighting and air conditioning
- * Increased heat insulation through double walling

III Tonomachi International Strategic Zone (KING SKYFRONT)

<Tonomachi 3-chome district>

- Situated on the opposing shore of Haneda Airport, which was re-expanded and internationalized in October 2010.
- A 40ha area aiming toward the accumulation of universities, R&D institutes and companies that possess leading-edge environmental and life science industry technologies, as well as the accumulation of airport-related industries.



<Life Science & Environment Research Center (LiSE)>

- Erected to be the core facility that promotes the formation of Tonomachi 3-chome district as a research and development hub.
- A joint facility used by the Environment Research Center, the Institute of Public Health and several leading-edge life science and environmental sector companies/R&D institutes.



Transfer of Environmental Technology as Global Contributions and Industrial Exchange



Capitalizing on our past experience with pollution and cutting-edge environmental initiatives to date, we plan to widely disseminate information on superior environmental technology and products within Japan and overseas. We will transfer environmental technology as a global contribution and a form of industrial exchange.



Kawasaki International ECO-Tech Fair



◆Results at previous

- Presenting a wide range of environmental technology to the world, from new energy to recycling, with 146 exhibitors (242 booths)
- About 215 guests overseas from such as China, Korea, Denmark,
- Plenty of presentations given by a variety of experts from the environmental industry
- Next time, will be held on February, 2014



Past — Now—Future of kawasaki



Electric car test drive

From the Industrial Revolution to an Environmental Industrial Revolution

