



Area Map of the Kitakyushu Eco-Town Project

- ### Features of Kitakyushu Eco-Town
- (1) The project is supervised by an industry-academia-government coalition.
 - (2) The existing industrial zone and the academic/research park are in close proximity.
 - (3) A wide range of industrial waste treatment methods are possible.
 - (4) Safe/secure treatment is possible by cooperating with the enterprises in the Eco-Town area, and making use of the complex core facilities, the local recycling industry in the Kitakyushu area and the managed disposal sites in the area.
 - (5) Information regarding the facility's operation is made available to the public.
 - (6) Consolidation of city office counters for speeding up procedures.
 - (7) Support for securing industrial waste sources and promoting recycled products.
 - (8) Support for practical research on environmental subjects, social system studies and FS research funded by the Environmental Future Technology Development.



Support Programs

Environmental industry financing				
Fund Name	Interest rate (%) (Fixed-rate)	Repayment period	Financing limit (minimum investment amount)	Guarantees
Leading Project Support Fund	0.90	Within 5 years	1 billion yen (50 million yen)	Guarantee optional
	1.25	Within 10 years		
	1.65	Within 15 years		
Energy-saving Facility and Development Fund	1.20	Within 5 years	100 million yen (1.5 million yen)	Guarantee required from Guarantee Association (Guarantee rate: 0.45 to 1.51%) Excludes businesses not covered by Guarantee Association
	1.40	Within 10 years		
Green Product Development Fund	1.20	Within 5 years	10 million yen (1 million yen)	Guarantee required from Guarantee Association (Guarantee rate: 0.45 to 1.51%) Excludes businesses not covered by Guarantee Association
	1.40	Within 10 years		

Funds for Research and Development	
Name	Environmental Future Technologies Development Fund
Eligible Parties	(1) Practical researchers: Researchers carrying out practical research within the Kitakyushu Eco-Town Practical Research Area (in principle) (2) Social system researchers: Companies with an office (or research institute) within the city, or those carrying out research and development primarily within the city in cooperation with a local company (3) FS researchers: Companies with an office (or research institute) within the city, or those carrying out research within the city in cooperation with a local company
Eligible Projects	Practical Research Waste processing technologies, recycling technologies, environmental conservation technologies, green product development technologies, new energy sources and energy-saving technologies, etc.
	Social System Research Research and development into socioeconomic systems for realizing societies with environmentally-friendly economies and reduced carbon footprints, such as the procurement of raw materials vital to developing environmental industries and the distribution of goods
	FS Research Surveying and research of technologies, marketability, and economics as groundwork for performing practical research
Subsidy Rates	(1) For research performed primarily by small- and medium-size companies in the city, or research performed by educational research institutions located in the city in cooperation with small- and medium-size companies in the city (excludes practical research): up to 2/3 of applicable expenses (2) For those other than the above: up to 1/3 of applicable expenses
Maximum Amounts	(1) Practical research (Commercialization Challenge Grant): 15 million yen per year (for 1 year) (2) Practical research: 10 million per year (for up to 3 years) (3) Social system/FS research: 2 million yen per year (for 1 year)

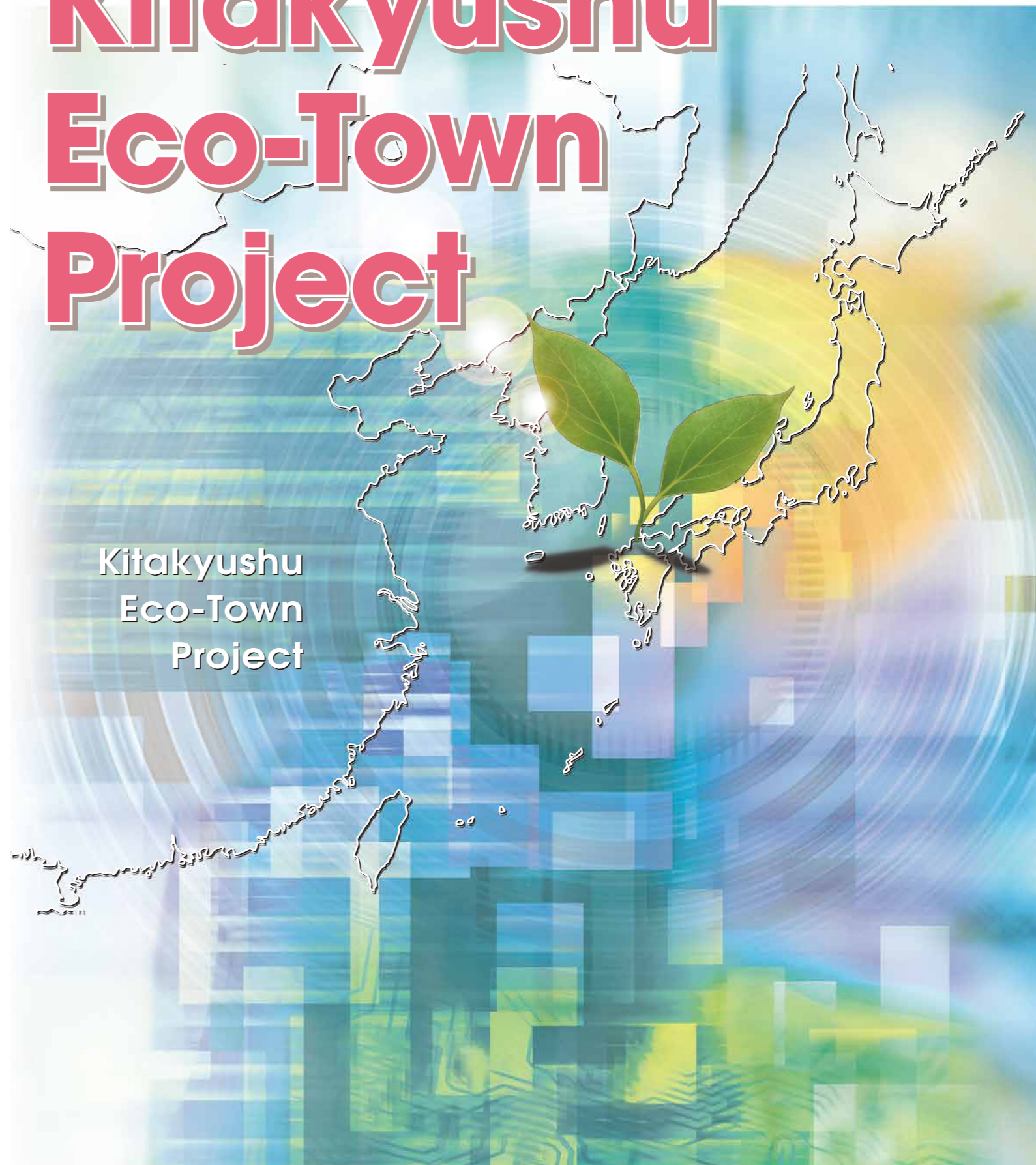
Environmental Industry Promotion Section, International Environmental Economic Affairs Department, Environment Bureau, City of Kitakyushu
 Homepage <http://www.city.kitakyushu.lg.jp/> <http://www.kitaq-ecotown.com>

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Kitakyushu Eco-Town Project

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– Toward becoming the “World Capital of Sustainable Development” –

Positive Approach on Environmental Problems

The Beginning of Modern Industry and Overcoming Pollution Problems in Japan

Modern industry in Japan began in the City of Kitakyushu when the Government-owned Yahata Steel Works, boasting the nation’s first modern blast furnace, was established in 1901. The Kitakyushu Industrial Zone supported national high growth as one of the country’s four major industrial zones. On the other hand, this high growth was accompanied by serious industrial pollution.

The citizens, local government, and businesses have all joined forces to combat this damage to our environment. In the past, not even bacteria could live in the Dokai Bay area, known then as the “Sea of Death.” Now, over 100 species of fish have returned to the bay. While once the sky rained down the highest level of polluted precipitation in Japan, earning it the moniker of “The Seven-Colored Smoke,” the skies have improved to the point where the city has been officially recognized for its starry sky. After much struggle Kitakyushu had finally reclaimed its beautiful seas and skies.



Polluted Dokai Bay (1960s)



Revived Dokai Bay (present)



“Sky with Seven Colors of Smoke” (1960s)



Return to blue skies (present)

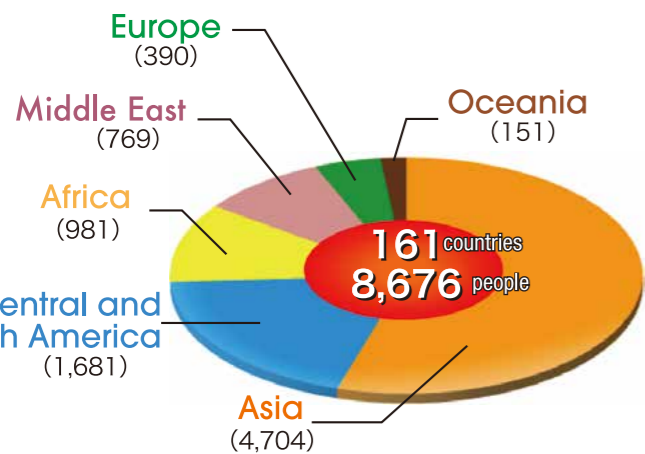
Resulting International Environmental Cooperation

Kitakyushu has developed many environmental policies and technologies while working to overcome its pollution problems. To apply these technologies to help other countries improve their environments, the city has, since the 1980s, dispatched experts to and accepted trainees from the below countries. Through close partnerships among citizens, government and businesses, Kitakyushu has promoted eco-friendly activities, which have gained international recognition as a model for environmental improvement.

• Acceptance of researchers from various areas (As of March 2017)

• International recognition

1990	Received the Global 500 Award from the United Nations Environment Programme (UNEP); a first for local government in Japan
1992	Received UNCED Local Government Honours at the United Nations Conference on Environment and Development held in Rio de Janeiro, becoming Japan’s first and only recipient of the accolade
2000	ESCAP Ministerial Conference on Environment and Development in Asia and the Pacific held in Kitakyushu
2002	At the Johannesburg Summit Kitakyushu Initiatives were included in the Sustainable Development Plan of Implementation, as a model practice to promote inter-local government support
2006	Dr. Wangari Muta Maathai (Nobel Prize Winner) “Kitakyushu, an Environmental Model City” TIME, a leading U.S. magazine, introduced Kitakyushu as a model city for environmental improvement
2011	For the first time in Asia, Kitakyushu City was selected as a green development city of the “Green City Program” which the Organization for Economic Co-operation and Development (OECD) promotes
2012	“Green Sister City Partnership” established with Surabaya (Indonesia)
2014	“Sister City Partnership” established with Haiphong (Vietnam)
	“Sister City Partnership” established with Phnom Penh (Cambodia)
2016	The “G7 Kitakyushu Energy Ministerial Meeting” was held in Kitakyushu City. The “Kitakyushu Initiative on Energy Security for Global Growth” was adopted in a joint statement.
2017	“Green Sister City Partnership” established with Davao (Philippines)



Development of the Kitakyushu Eco-Town Project

The City of Kitakyushu has been promoting the “Kitakyushu Eco-Town Project” in the Hibikinada area of Wakamatsu since July 1997 as a unique regional policy, integrating an “Environmental Conservation Policy” and an “Industry Promotion Policy”, with the aim to construct a resource-recycling-based society. This project utilizes industrial infrastructure and technological capabilities accumulated throughout the long history of this well-known manufacturing city, in addition to human resources, technologies and know-how acquired while overcoming the industrial pollution that once cast a shadow over the city.

The Eco-town Project has also been developing a comprehensive range of initiatives, from education and basic research in the environmental field to technology and demonstration research and commercialization efforts through cooperation with the Kitakyushu Science and Research Park.

• History of Kitakyushu Eco-Town



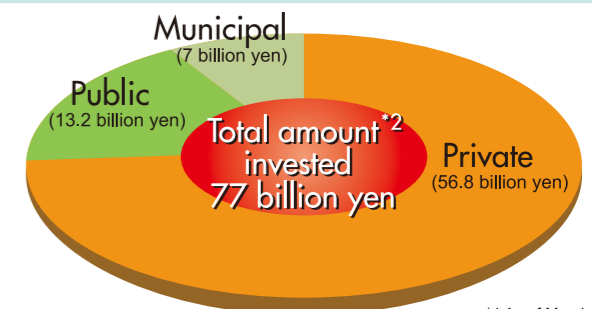
• Comprehensive Development (3 Key Points of the Kitakyushu Method)



Achievements of the Eco-Town

Recycling laws were implemented alongside original initiatives as one of the largest projects of its kind in Japan

- No. of business projects: 27^{*1}
- No. of practical research projects: 60^{*2} (Includes completed projects)
- No. of workers hired: Approx. 1000^{*2}



*1 As of March 2018
*2 As of March 2017

Support for Environmental Businesses and Environmental Business Operations

Kitakyushu Environmental Industries Promotion Conference

One of the five pillars of Kitakyushu City’s Green Frontier Plan is “The Environment Opens the Economy”. To realize this, cooperation between industry-academia and government has formed an environmental industry network, ‘Kitakyushu Environmental Industries Promotion Conference’. This conference promotes many environmental industries.

Kitakyushu Eco-Premium Award

From among the products/technologies created and the industrial businesses located in Kitakyushu, those with reduced environmental impact or other added values are selected to be considered for the Kitakyushu Eco Prize. This project encourages eco-friendly activities throughout in the industrial sector of Kitakyushu.

ECO Action 21 Certification and Registration Support Project

In order to encourage eco-friendly business activities, Kitakyushu is helping small and medium businesses to obtain ECO 21 certification and registration.



Comprehensive Environmental Industrial Complex

The city of Kitakyushu seeks to create a resource recycling network by joining cooperative zero-emissions environmental industries together in a structured organization to further promote the development of environmental industries.



Plastic PET Bottle Recycling

Based on the "Law for Recycling of Containers and Packaging," plastic (PET: polyethylene terephthalate) bottles are sorted by municipalities and recycled into pellets/flakes, which can be used as raw materials for polyester fibers, egg cartons, etc.

Operated by Nishi-Nippon PET Recycle Co., Ltd.



Office Equipment Recycling

Discarded office equipment (copiers, fax machines, printers, computers, etc.) are disassembled for recycling into raw materials and parts for new equipment.

Operated by Recycle Tech Co., Ltd.



Automobile Recycling

In line with the "Used Automobile Recycling Initiative" by the Ministry of Economy, Trade, and Industry, this project promotes improving recycling efficiency through the proper treatment of oil and freon gas. High-quality iron scrap, recyclable materials, and parts are salvaged for reuse.

Operated by West Japan Auto Recycling Co.



Home Appliance Recycling

Based on the "Law for Recycling of Special Kinds of Home Appliances," discarded electric household appliances, such as air conditioners, televisions, refrigerators and washing machines are carefully disassembled and sorted into categories, then broken-down into iron, aluminum, copper, plastic, etc.

Operated by Nishinippon Consumer Electronics Recycle Co., Ltd.



Fluorescent Tube Recycling

Used fluorescent light tubes are collected from businesses, offices and households then sorted for recycling, to recover mercury, glass, metals and fluorescent substances. This project also involves the manufacture of recycled fluorescent tubes (OEM).

Operated by Japan Recycling Light Technology & System



Medical Instruments Recycling

Used medical instruments are pulverized, stored after being treated at a high frequency, and converted into raw material for collection containers. They are also recycled into solid fuel and concrete materials.

Operated by Aso Mining Co., Ltd. Kitakyushu Office (Econobate Hibiki)



Mixed Construction Waste Recycling

Mixed wastes discarded from construction sites are sorted by hand or machine into materials such as rubble, wood and metals for recycling. Waste plasterboard and used plastics are also recycled.

Operated by NRS Co., Ltd.



Comprehensive Nonferrous Metal Recycling

A proprietary sorting system separates and retrieves various metals from parts such as radiators, circuit boards, and insulated copper wires found in disposed home appliances and automobiles.

Operated by Nippon Magnetic Dressing Co., Ltd.



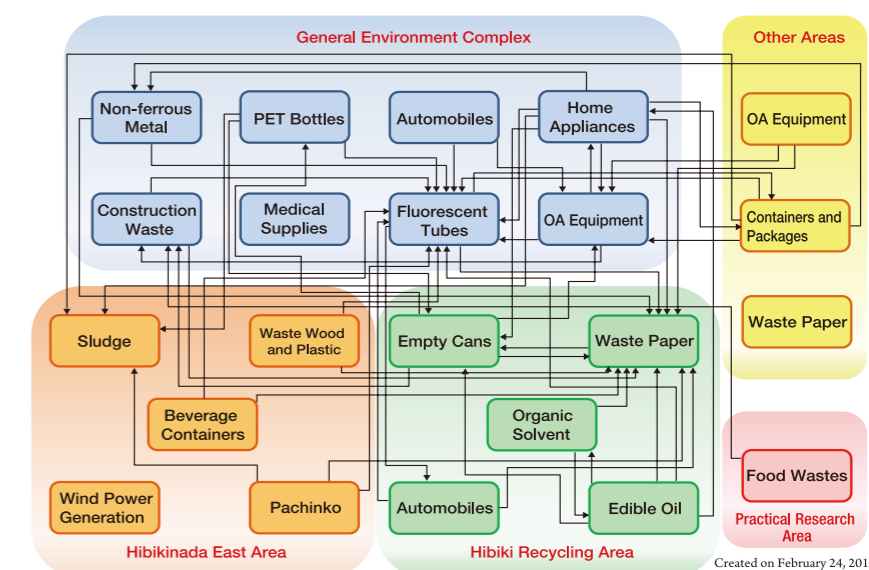
Home Electronics Recycling

Used cellular phones, home electronics, and circuit boards are processed to aggregate and collect base metals such as iron and aluminum as well as precious metals (such as gold and silver) and rare metals (palladium).

Operated by Nippon Magnetic Dressing Co., Ltd.

Collaboration at Kitakyushu Eco Town

Aiming for near-zero greenhouse gas emission, we collaborate with our suppliers to trade waste that can be recycled for raw materials



Hibikinada Eastern Area

Hibikinada Biotope

Kitakyushu Recycling Port (General Recycling Port)
 In May 2002, Kitakyushu Port was designated by the Ministry of Land, Infrastructure and Transport as a recycling port capable of handling recycling resources in a safe and efficient manner. The recycling port development was launched in fiscal 2005 and the port went into operation in June 2007. Together with other recycling ports nationwide, Kitakyushu Port forms a marine transport network for resource recycling, contributing to the formation of a recycling-based society.

Comprehensive Environmental Industrial Complex Hibiki Recycling Area



Practical Research Area



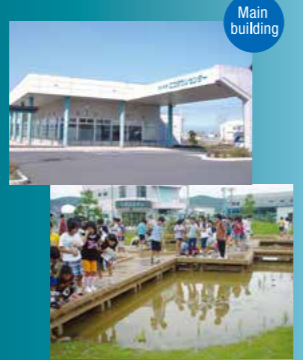
Kitakyushu Eco-Town Center

The Eco-Town Center was established in June 2001 as an environmental learning center to impart knowledge about the projects at Eco-Town and to become a comprehensive support location for the various enterprises at Eco-Town.

Eco-Town projects and also environment-related enterprises in Kitakyushu are introduced using panels and other exhibits at the Kitakyushu Eco-Town Center.

In addition, a tour of various recycling plants is offered.

(Non-Kitakyushu residents are required to pay a reference material fee to participate in the plant tour.)



Next Generation Energy Park (Reopened after renewal in March 2013)

In the Next Generation Energy Park, visitors can observe various energy-related initiatives including energy supply bases that support our lifestyles, natural energy and biomass energy, which are expected to become the next-generation energy sources, and also inter-company cooperation and innovative technology research. Visitors can learn about energy at the display section at the Kitakyushu Eco-Town Center Annex. Observation tours of each facility in Next Generation Energy Park are also available.

(Advance reservation is required.)



Tour application/Contact Information **TEL.093-752-2881**
 Business hours : 9:00 - 17:00 Closed on Sundays, holidays and the New Year's holidays
 Admission: Free

Kitakyushu Science and Research Park

The Kitakyushu Science and Research Park brings several national, local and private universities, graduate schools and research institutes together with the two main themes of the "Environment" and "information" in order to develop human resources with the skills to carry us into the future.

Environmental Research Initiatives

- Research Development into Solar Powered Systems Recycling Processes
 - Research and Development on Reuse and Recycling of Lithium-ion Batteries
 - Development of Alternative Two-step Sintering Method for the Large Scale Enlargement of SiC Ceramics
 - Promotion of Utilization of Bamboo Plastic Composites
- Support of businesses with low carbon initiatives.



Practical Research

Practical Research Area

Through cooperation between business, government and the academia, Kitakyushu is creating a center for environmental industries by gathering organizations to do research on and development of cutting-edge environmental technologies.



Fukuoka University Institute for Recycling & Environmental Control System

This institute conducts research on waste management, recycling, and pollution control technology with the cooperation of the government, industry and the academia, and is dedicated to creating a resource-recycling economy.



Engineering R&D Institute #2, Nippon Steel & Sumikin Engineering Co., Ltd.

The center conducts research on a wide range of environmental themes, including a recycling system utilizing generic treatment technology and dynamic processes for substances that are difficult to treat, through cooperation with national universities, research institutes and enterprises.



Eco-Town Practical Research Facility, Kyushu Institute of Technology

Practical research for producing biomass plastic from food waste and chemical recycling of used biomass plastic is conducted here.



Industrial Waste Research Facility, Kitakyushu Eco-Town Center

This leaseable research facility that can accommodate various types of research related to the final disposal of industrial waste and can be used as an environmental learning center Japan's first environmental learning facility focusing on the disposal process.



Practical research related to analysis of contaminated soil



Practical research related to biomass fuel manufacturing methods



Practical research on carbonization technology of organic waste



Practical research on metal briquetting technology



Practical research on boilers fueled solely with bamboo chips

Outline of leasable land

Location: 10 Koyomachi, Wakamatsu Ward, Kitakyushu City (Kitakyushu Eco-Town Project "Practical Research Area")
*30 minutes by car from JR Kokura Station

Lease rate: approx. 40 yen per month per m²
For example, the lease for 1,000 m² for 1 year would be approximately 500,000 yen.

Lease zones: 400 m² to 4,000 m²
Applications accepted on an ongoing basis (contact information listed on back page)

Hibiki Recycling Area

The City of Kitakyushu supports small and medium-sized enterprises venturing into the environmental industry by preparing business sites for long-term leasing.

Automobile Recycling Zone

Seven automobile scrapping companies in Kitakyushu City work together to achieve more efficient recycling of used automobiles; the first such attempt in Japan. This type of comprehensive recycling is authorized by Article 31 of the Environmental Law for the advancement of Small and Medium Enterprises.

Operated by Kitakyushu ELV Cooperative Association



Frontier Zone

Local small and medium-sized venture businesses take advantage of their creative and pioneering technologies and ideas to develop various recycling projects.



Cooking Oil Recycling

Refined cooking oil discarded from food production plants is used to produce construction paint materials, animal feed, alternatives for light oil, etc.

Operated by Kyushu and Yamaguchi Oil & Fat Cooperative Association



Used Organic Solvent Refinement and Recycling Business

Used organic solvent, which is emitted in the production process of liquid crystals, semi-conductors, medical products and others, is refined into highly pure organic solvent with distilled separation technology.

Operated by Kyushu Refine Co., Ltd.



Used Paper Recycling

After shredding, used paper from business offices and households, is recycled into livestock litter.

Operated by Nishi-Nippon Paper Recycle Co., Ltd.



Can Recycling

Empty cans are separated into steel and aluminum. High purity / quality steel, aluminum pallets and aluminum briquettes are produced, making the "Can to Can" recycling concept possible.

Operated by Kitakyushu Akikan Recycle Station

Hibikinada East Area

Kitakyushu aims to continue attracting more environmental industries while at the same time expanding coverage to the rest of the city.



Wind Power Generation

The first commercial wind power generation project in Japan. The power generation capability is the largest class (1500kW x 10 units) in Western Japan, and generated electricity is sold to Kyushu Electric Power Co., Inc.

Operated by NS Wind Power Hibiki Co.



Pachinko Machine Recycling

Pachinko and slot machines discarded from pachinko parlors are sorted in a highly systematic manner to collect reusable parts, metal and wood materials.

Operated by Yuko Repro Co., Ltd.



Wind Power Generation

These units have a capacity of 1,990 kW. Electricity generated is then sold to Kyushu Electric Power Co., Inc.

Operated by Kitakyushu Wind Power Laboratory



Waste Wood / Plastic Recycling

Waste wood and plastic are mixed together to produce highly water/weather-resistant construction materials.

Operated by Eco-Wood Co., Ltd.



Beverage Container and Vending Machine Recycling

Containers of beverages sold by coca-cola, and used vending machines are sorted/collected by material, such as aluminum and iron, and then supplied to steel manufacturers as recycled material.

Operated by Coca-Cola West Equipment Service Co., Ltd.



Sludge and Metal Recycling Project

Produce stable quality of cement and metal materials from various industrial wastes using an original combination of technology.

Operated by Kitakyushu Recycling Resources Factory, Amita Corporation



Hardened Alloy Recycling

A wide variety of hardened alloys are recycled using methods such as zinc distillation and ion dissolution which are selected according to the materials and their condition, including high grade tungsten carbide used to make drill bits, tips, and other hardened tools.

Operated by Kohsei Co., Ltd.



Cellular Phone Recycling

Used cellular phones are collected, sorted, and then melted down to reclaim oil from their plastic parts. Metal refiners then extract metal materials from the remaining waste. The reclaimed oil is then used as heating fuel for the melting process.

Operated by JEPLAN, Inc.

Others Areas



Food Waste Recycling

Food waste including fermented waste from food plants, hospitals, restaurants, and local public bodies as well as other city businesses is collected and fully composted, and then sold to farmers and others for reuse.

Operated by The Merry Corporation
Location: Koyomachi, Wakamatsu Ward (Practical Research Area)



Reuse of Office Electronics

Electronics from leasing companies, enterprises and government offices (mainly PCs that are no longer needed) are refurbished and sold to used-PC sales stores after conducting inspection, data deletion and cleaning.

Main Project Coordinator
Anchor Network Service, Inc.
Address Jinnobaru Yahatanishi-ku



Waste Paper Recycling into Foam Inhibitors used for Steel Production

Refined waste paper is recycled into toilet paper. Sludge generated during the toilet paper production process is used to produce a foaming inhibitor used by steel works.

Main Project Coordinator
Kyushu Seishi Corp.
Address Maeda-Kukioka Yahatahigashi-ku



Urban Mining Recycling

Metals are separated and retrieved from the circuit boards of components in personal computers and servers, and then superheated steam and ferrous chloride solutions are used to extract various precious metals, rare metals, and base metals for reuse.

Operated by Astec-irie Co., Ltd.
Location: Tobihatacho, Tobata Ward