

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 social implementation, practical research, and feasibility studies in environmental fields through the Environmental Future Business Creation Fund



Support Programs

Environmental Future Business Creation Fund

	Social Implementation	Practical Research	Feasibility Studies
Target Fields	Initiatives for rapid commercialization of results of research aiming to create environmental businesses	Research and development of waste treatment and recycling technologies, environmental conservation technology, environmentally friendly product development technology, and new energy and energy conservation technologies	Investigation and research into technical content, marketability and economics as a stage before conducting demonstration research Investigations and research related to securing materials and distributing goods vital to environmental business development
When implemented with small and medium-sized businesses in the city as the focus	Within 2/3 of target expenses		
Other than the above	Within 1/2 of target expenses		
Limit amount (per year)	5 million yen	5 mi ll ion yen	2 mi ll ion yen
Subsidy period (for 1 theme)	2 years maximum	3 years maximum	One year as a general rule

Circular Economy Promotion Division Environment Bureau, City of Kitakyushu

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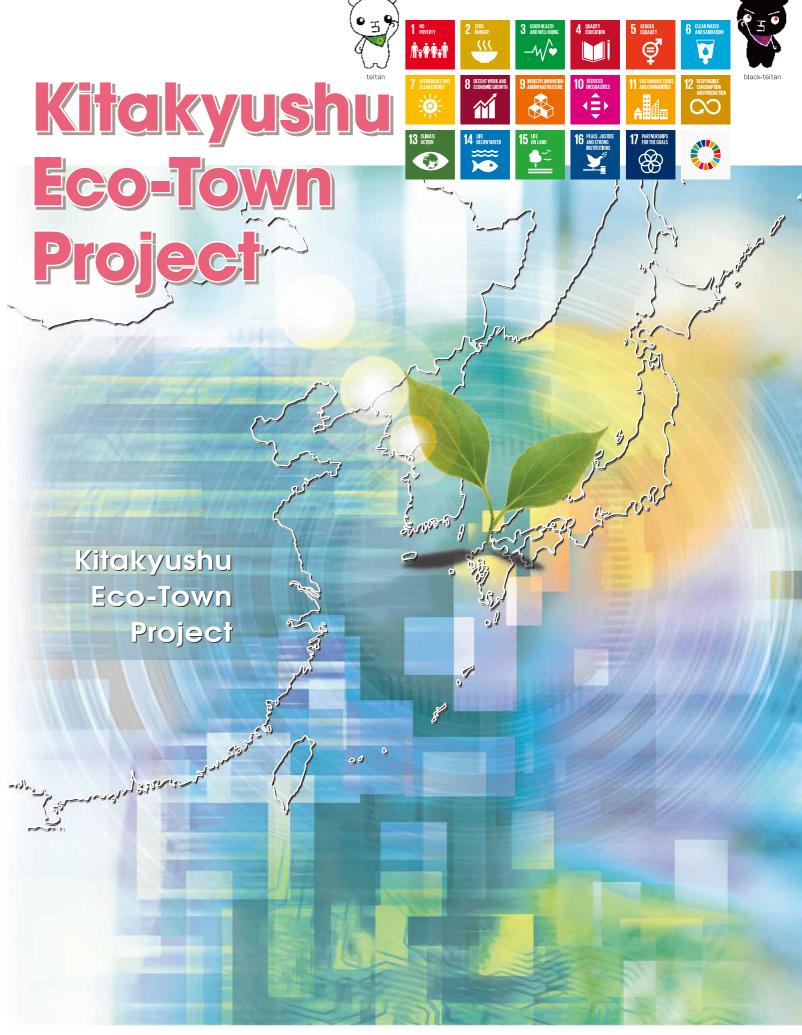
Homepage https://www.city.kitakyushu.lg.jp/ https://www.kitaq-ecotown.com

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Kitakyushu Eco-Town Project

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 it's starry sky. After much struggle Kitakyushu had finally reclaimed its beautiful seas and skies.







"Sky with Seven Colors of Smoke" (1960s)



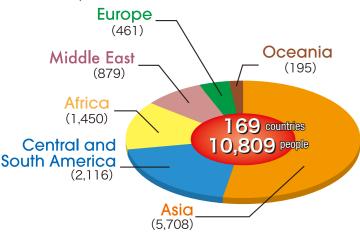
Return to blue skies (present)

International Technical Cooperation Utilizing Experience in Overcoming Pollution Problems

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 2024)

Polluted Dokai Bay (1960s)



· International recognition

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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"		
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)		
2016	"Sister City Partnership" established with Phnom Penh (Cambodia)		
	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)		
2018	Selected for the first time in Asia by the OECD as a "Global Model City for Promoting the SDGs"		
2019	UNEP Regional Office for Asia and the Pacific expressed interest in the Plastic Waste Collaborative Framework Concept in Southeast Asia		

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.



Comprehensive Development (3 Key Points of the Kitakyushu Method)

Kitakyushu Environmental Industry Promotion Strategy

Comprehensive Development of Basic Research, Technological Development, Practical Research and Commercialization

Education and Basic Research

Kitakyushu Science and Research Park

Universities

- · Graduate School of Environmental Engineering Faculty of Environmental Engineering. The University of Kitakyushu · Graduate School of Life Science and Systems Engineering Kyushu Institute of Technology Graduate School of Information, Production and Systems, Waseda University · Graduate School of Engineering **Fukuoka University**
- Research Organizations, etc. ·Information, Production and Systems Research Center, Waseda University Fukuoka Research Center for Recycling Institute of Environmental Science and Technology, The University of Kitakyushu Kyutech Collaboration Center Wakamatsu Campus, Kyushu Institute of Technology Innovation Promotion Organization National Institute of Advanced Industrial

Technology and **Practical Research**

- Aid for practical research
- Incubation of local enterprises

Practical Research Area

- Fukuoka University Institute for Recycling & **Environmental Control Systems**
- Kyushu Institute of Technology Center for Socio-Robotic Synthesis Green Material Research Center
- Fukuoka Prefecture Recycle Center Research Center **Demonstration and Testing Site**
- · Practical research in various fields
- Waste disposal site management technology
- . Technology for proper disposal of hard-to-handle wastes
- · Waste recycling technology
- . Kitakyushu Eco-Town Center

Commercialization

Comprehensive Environment Industrial Complex

. Clustering of recycling plants PET / home appliance / office equipment / automobiles / fluorescent tubes / construction waste / nonferrous metals / home electronics rechargeable battery

Hibiki Recycling Area

- Local small / medium-size enterprises / venture enterprises Cooking oil / organic solvents / used paper / cans
- · Sophistication of automotive dismantlers and used parts dealers

Hibikinada East Area

- Recycling plants Pachinko machines / waste wood, plastic Sludge, metals, etc. / hardened alloys / mobile phones /
- Wind power generation

Other Areas

• Recycling/Reuse Plants office equipment / used paper / waste food / urban mining / used clothing / PV panels

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

Science and Technology

67 *2 (Includes completed No. of practical research projects

Approx. 1060 *2 No. of workers hired



Promotion of a circular economy, support for environmental business and environmental managemen

Kitakvushu Circular Economy Vision Promotion Council

Supports the operation of the Kitakyushu Circular Economy Vision Promotion Council which is a collaborative organization of industry-academia-government organizations that includes companies and universities with offices in the city. The purpose is to promote a circular economy. It also aims to create concrete commercialization projects for resource recycling.

Kitakyushu City Environmental Industry Promotion Council

The Council aims to strengthen networks among related organizations, industry, academia, and government by holding lectures and information sessions related to the environment and energy, gathering companies and organizations together for information exchanges, sharing information about seminars being held by related organizations, and promoting collaboration between businesses and research institutions.

ECO Action 21

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









enterprises in Kitakyushu are introduced using panels and other exhibits at the Kitakyushu

In addition, a tour of various recycling plants is



Next Generation Energy Park

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.



Tour application/Contact Information

TEL. 093-752-2881

(Factory tours and facility tours require

Business hours: 9:00 - 17:00 Closed on Sundays, holidays and the New Year's holidays Admission: Free

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

Practical Research Area



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.

Office Equipment Recycling

Discarded office equipment (copiers,

machines, printers, computers, etc.) are



Plastic PET Bottle Recycling

In accordance with the Containers/Packaging Recycling Act, municipalities recycle plastic bottles that are collected separately to produce recycled PET pellets or flakes. These are used as raw materials for polyester fibers

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



Home Appliance Recycling

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

Operated by Nishinihon Consumer Electronics Recycle Co., Ltd.

Comprehensive Nonferrous



Mercury-using products Recycling

Disassembles products that used mercury (such as fluorescent lamps, dry batteries, or the like) discarded from commercial offices and general households; collects and recycles metals, glass, iron, zinc, and manganese and the like

Operated by Japan Recycling Light Technology & System



Home Electronics Recycling

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

Operated by Nippon Magnetic Dressing Co., Ltd.

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.



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

Operated by West Japan Auto Recycling Co.



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

Operated by NRS Co., Ltd.



Rechargeable Battery Recycling

Rechargeable batteries taken from compact electronic devices and home appliances are processed in a superheated, steam-pyrolysis urnace to recover rare metals (cobalt and nickel) and to recycle them. Prevents oxidation of metals by thermal decomposition under a low-oxygen atmosphere, and recycles with a high recovery rate.

Operated by Nippon Magnetic Dressing Co., Ltd.

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





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
- Research and development utilizing a bamboo-plastic composite material

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**



Kyushu Institute of Technology Center for Socio-Robotic Synthesis Green Material Research Center



Industrial Waste Research Facility, Kitakyushu Eco-Town Center



Practical research related to biomass fuel manufacturing methods

Research Group FUKUTEC Co., Ltd.



Practical research on metal briquetting technology

Research Group KARS Co., Ltd.



Demonstration research on commercialization technology of fly-ash treatment agent

Research Group GE Lab Analysis Co., Ltd.



Green LP gas direct synthesis technology development demonstration research facility

Research Group The Institute of Japan Green LP Gas Promotion

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: 500 m to 1,500 m

Applications accepted on an ongoing basis (contact information listed on back page)

Hibiki Recycling Area

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

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

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



Empty 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 KARS Co., Ltd.

Hibikinada East Area coverage to the rest of the city.

Kitakyushu aims to continue attracting more environmental industries while at the same time expanding



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.



Hardened Alloy Recycling

A wide variety of hardened alloys are recycled dissolution which are selected according to the materials and their condition, including high grade tungsten carbide used to make drill bits, tips, and

Operated by Kohsei 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



Mobile Phone Recycling

Used Mobile 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.



Waste Wood / Plastic Recycling Waste wood and plastic are mixed together

to produce highly water/we

Operated by Eco-Wood Co., Ltd.



Glass Recycling

Culletization (breaking down) of waste glass is performed at a processing facility using proprietary methods. Then, proprietary blending techniques are used to produce and sell glass cullet in line with the specifications of glass manufacturers.

West Japan Glass Recycle Center 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 Amita Circular Corporation;
Kitakyushu Recycling Resources
Manufacturing Plant

Other Areas



OA Equipment Reuse

Purchases OA equipment (mainly personal offices, conducts inspections, erases data, cleans and conducts other tasks, and then reuses that

Anchor Network Service, Inc.

Urban Mining Recycling

Operated by Astec-irie Co., Ltd.

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

Address Kovo Machi, Wakamatsu Ward



Japan's first facility for cor recycle treatment through heat treatment. Implements a firing technique and advanced sorting technology that enables resource recovery from cracked panels. Nearly 100%



Solar Panel Recycling

recyclable, including heat recovery.



Waste Paper Recycling into Foam Inhibitors used for Steel Production Refined waste paper is recycled into toilet

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

Main Project Coordinator Address Maeda-Kukioka Yahatahiaashi-ku



Food Waste Recycling

Food waste including ferme 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 Well Create Co., Ltd.



Receives clothing such as used general household clothing and company uniforms and the like, and recycles them into raw materials for use as interior and exterior materials and the like

Operated by NCS Co., Ltd. Address Koyo Machi, Wakamatsu Ward



Used Clothing Recycling





https://www.kitaq-ecotown.com/ecotown/cluster.php

Introduction to

Eco-Town Demonstration Research

https://www.kitaq-ecotown.com/ecotown/research/







