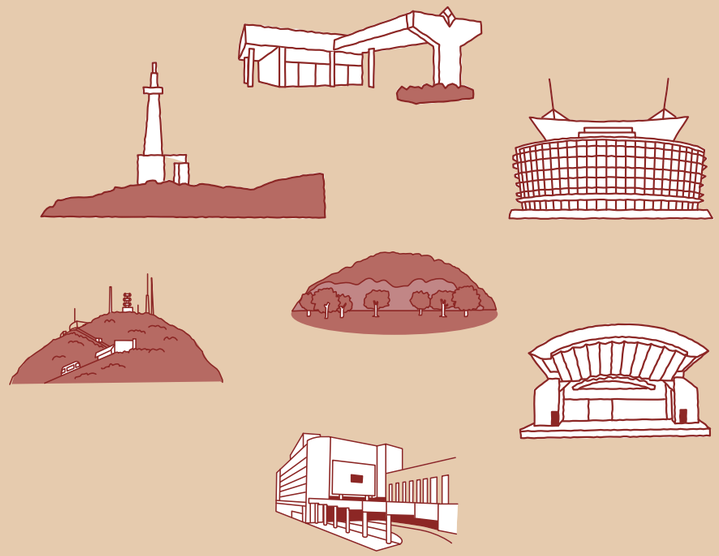

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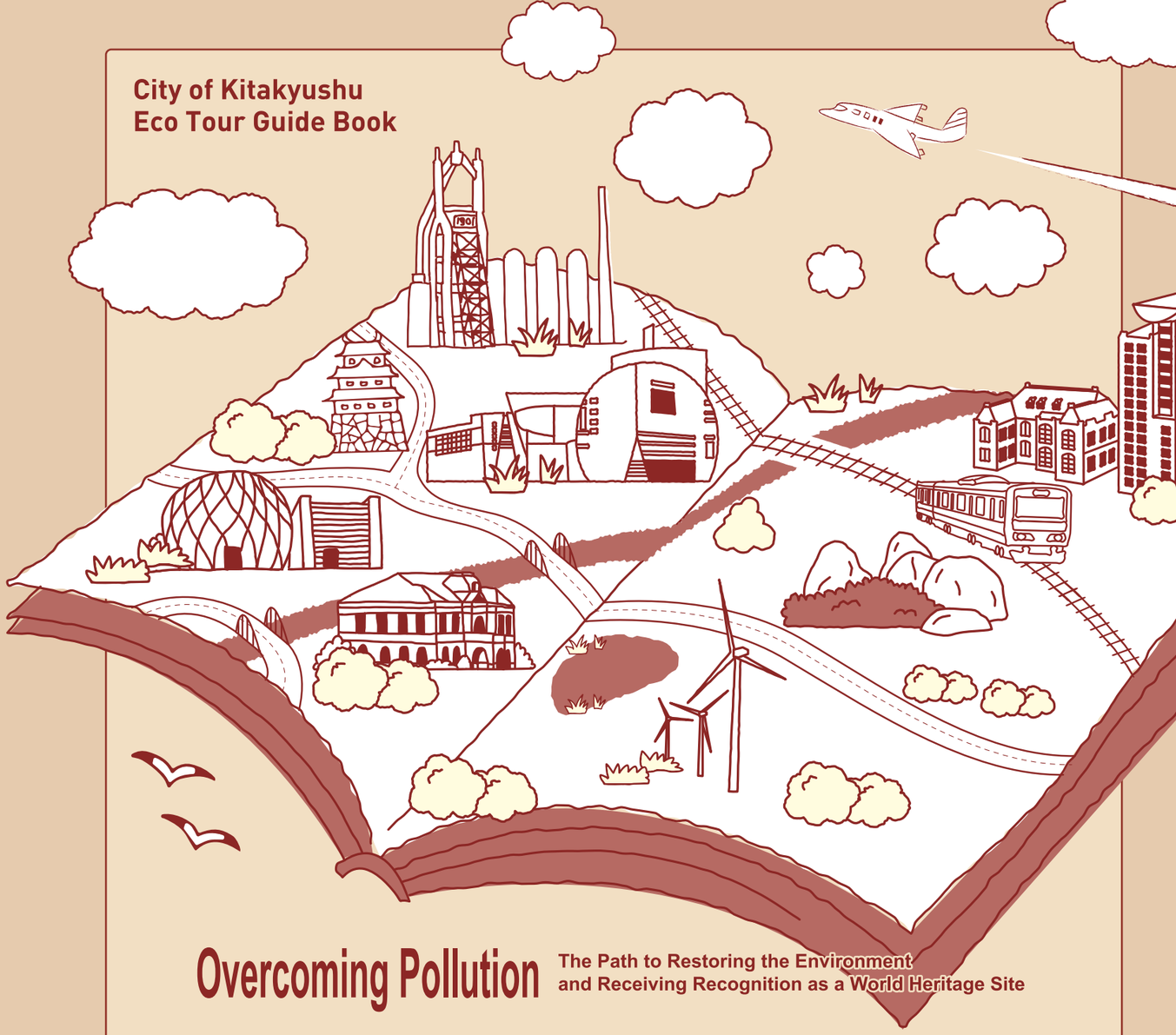

Overcoming Pollution
The Path to Restoring the Environment and Receiving Recognition as a World Heritage Site

City of Kitakyushu

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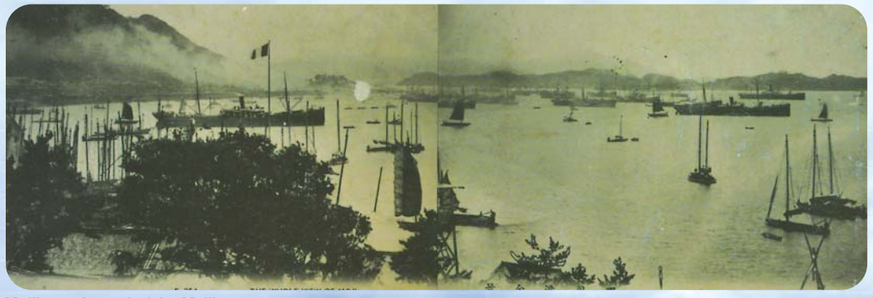
City of Kitakyushu A SDGs Future City



Mojiko at the end of the Meiji era
A great number of foreign ships used the port and the warehouses of major Japanese companies lined the streets of the area.

The commercial city of Kokura at the beginning of the Taisho period
The Tokiwabashi neighborhood made frequent appearances in the novels of Ogai Mori.

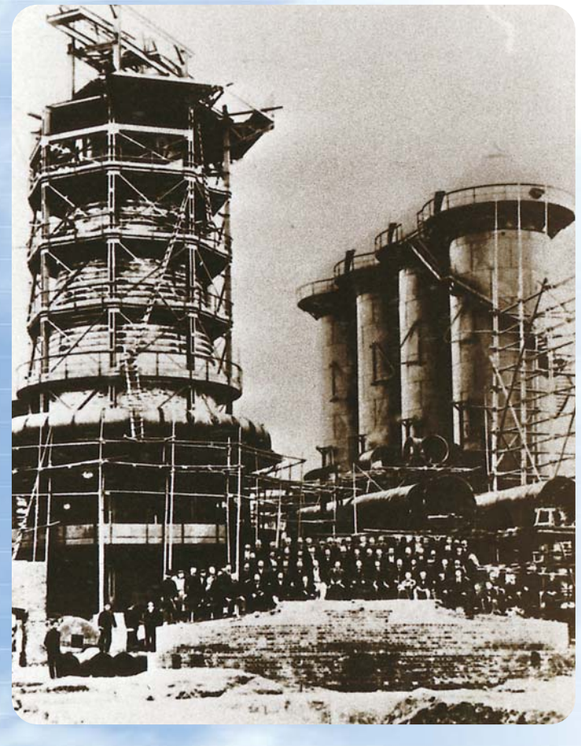
The Kitakyushu area boasts of a long and prosperous history.

The Kitakyushu area has flourished since times of old as a transportation link connecting Kyushu to the main Japanese island of Honshu. During the Edo period, Kokura developed as a castle town of the Hosokawa and Ogasawara domains.
During the Meiji and Taisho periods, Mojiko basked in its splendor as it became an international trading port.
Wakamatsu and Tobata also presented a picture of prosperity due to the area's coal shipping activities.
With its rail and port facilities, and blessed with a strong industrial base, no doubt the turning point for Kitakyushu occurred in the 34th year of the Meiji period (1901), when a government-managed ironworks was established in the Yahata area as a part of the 'rich country, strong army' policy.
This marked the beginning of the modern day manufacturing industry in Japan. Centering on the ironworks, an industrial area took shape and Kitakyushu became a region of economic vitality.
However, before long, the area was faced with the major hardships associated with *pollution*.

The City of Kitakyushu has experienced a dramatic revitalization from pollution in its efforts to become a *World Capital of Sustainable Development*.
Join us as we share the journey of the stewards of Kitakyushu as they strive to take their role as leaders in realizing Sustainable Development Goals (SDGs).

Circa 1955
Nicknamed *Gonzo*, thousands of longshoremen provided invaluable support to the coal industry of Wakamatsu.

1925
A ferry landing in Tobata is crowded with passengers transferring from the Kyushu railroad track.



1900
This is a commemorative photo showing a crowd surrounding Hirobumi Ito, who had come to see the construction of the Yahata steel works.

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Growing Kitakyushu Acts as an Engine for the Japanese Economy

1904 saw the outbreak of the Russo-Japanese war. Accompanying this conflict, the demand for iron surged. During this period, the City of Kitakyushu never lost its way, instead continuing to plunge ahead full of a vibrant energy.

The largest ironworks in Japan is born on the shores of a sleepy fishing village

Taking full advantage of a wealth of coal production and its strategic position as a transportation hub, Kitakyushu has always been prosperous. In 1901, under the Meiji administration's slogan calling for industrial production increases (i.e.stand up against the countries of the West with various policy measures that promote the modernization of Japan through the use of industry and capitalism) a government-managed ironworks was established in the Yahata area. This marked the beginning of the modern era of manufacturing in Japan.

▲ South gate of the Yahata steel works, circa 1912. Construction costs for the facility were covered by reparations from the first Sino-Japanese war.

An enormous thermal power station appears on a scenic beach

Furthermore, in 1935, a power plant was constructed on the Nakabaru coast at the mouth of Dokai Bay, in an area that was beloved for its beaches. With this development, the entire area quickly took on the appearance of an industrial zone, with six huge smokestacks that reached to the sky quickly becoming city landmarks. At the same time, reacting to the fact that the children of the area could no longer swim in the sea, local citizens lobbied the Tobata Board of Education to construct pools in all of the area's elementary schools.

▲ Kyushu Electric Power's Nakabaru Power Plant, circa 1955. Until it was demolished in 1964, this facility was known for its six smokestacks.

▲ The beach at Nagoya (on the Nakabaru coast) as it appeared from the end of the Meiji era until the beginning of the Taisho period. This was the area referred to in the *Man-yoshu* noted to the left.

A Poem of *Man-yoshu*

Like the waves that lap Tobata Inlet,
I am always looking for a way to meet you.

— Author unknown —

With its beautiful seashore, the Tobata Inlet area used to be a popular dating spot.

The Smoky Facade of a Town on the Move

Multi-colored smoke had overpowered the skies of Kitakyushu. This particular coloring came to be called *'the seven-colored smoke'*, and was often lovingly referred to as a glorious symbol in various songs of the period.

The city grew rapidly, as did the smoke and noise

The seven-colored smoke symbolized the Kitakyushu of that period. The red smoke produced by iron oxide, the black smoke created by burning coal and other fumes acted to overpower the skies. Even though the air was not clean, citizens accepted the fact that it was natural for the smokestacks to belch smoke. This was because, thanks to industrial development, local citizens had jobs and the town was quite prosperous.

A shopping district, circa 1962. ▶ An extremely lively area, the streets were crowded with people every day.

Witnessing an Era

Katae Terasaka
(deceased)
Former junior high school principal

When I was in the fourth grade, the school arts festival of our school was held at a nearby theatre, which the school rented. The Yahata steel works had 62 smokestacks, so everyone would carve this number of smokestacks in silver paper and line their sleeves with them. We all lined up in the aisles leading to the stage and performed a dance sporting these 'smokestacks'. We never gave any thought to pollution, decreased demand for iron and steel or other such issues.

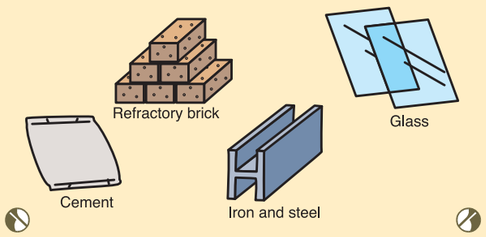
At that time in Yahata people worked at night and on holidays. I was born and raised near the West gate of the ironworks, in what is now Higashi ward. When I was a child, I could always hear the thunderous roar of the distant factory reverberating until late at night. (Edited) Before going to bed, when I would read a scary book the shaking and the noise from the factory would bring me back to reality and I would then be able to fall asleep.

Kiyoko Murata
Writer

From the "Kitakyushu Reminiscence Photo Studio" (1993 ed.)

The main industrial products of the day

Because the area had many industries dependent upon raw materials, the oil shock of the 1970s was very damaging. This crisis made it clear that a fundamental restructuring was necessary.



There Were Even School and City Songs of Praise for *the Seven-colored smoke*

The fire springing forth from the smokestacks
scorches the rough seas
And the thick smokes rise to the heavens
Our ironworks provides a magnificent
view of the descent from heaven
Yahata, Yahata, our Yahata City
The development of the city is our responsibility
(Yahata City theme song / lyrics by Noriyoshi Yatsunami)

Near the beach of Dokai Bay
The hardy smoke rising from the plants
boasting production
Nurtures the science of tomorrow
This is our Tsutsui Elementary School
(Tsutsui Elementary School song / lyrics by Tetsuro Anan)

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The Positives and Negatives of the Comprehensive Modernization of a City

A prosperous, bustling metropolis and its citizens. There was a time when the city was brimming with the pride that comes from being an urban center that provided the invaluable support so critical for the rapid economic development of Japan. However, the pursuit of this very same growth caused unimaginable hardship to local citizens living around the factories.

As the sight of birds disappeared from the sky, housewives waged a war against dust and soot

They rose early to get their husbands and children out the door. So began the busy day of the Japanese housewife. For the women of the area, being a housewife was especially trying, as even after repeatedly doing the wash, the laundry soon became dirty again after being hung out to dry, and cleaning every nook and cranny of the house was almost meaningless, as even the blades of the electric fan soon became pitch black with accumulated soot. What's more, many children became sick with asthma and the resulting doctor's bills further pinched household finances. The fight against the incessant dust and soot brought forth by the factories was an everyday struggle for these women.

▲ Circa 1955. The Yahata steel works sits on the opposite shore while a glass mill is situated in the forefront. A group of children can be seen eating their *bento* lunches.

▲ A propeller taken from a ship when Dokai Bay was at its dirtiest. It took a relatively short amount of time for the propeller to become this corroded.

▲ In 1963, in an unprecedented move, five towns joined together to form the City of Kitakyushu, the first city in Kyushu to boast a million citizens. The area was in a carnival-like mood.

Even E. coli could not survive in Dokai Bay a.k.a. the *'Sea of Death'*

After the creation of the Yahata steel works, a group of factories was established near the once-beautiful Dokai Bay. Soon thereafter, as a result of the discharge of effluents from these facilities, the area came to be plagued by what was often referred to as the worst water pollution problem in Japan. Given the overwhelming stench emitted by the pollutants, citizens couldn't help but worry that their food supply would soon become contaminated.

Newspaper anecdotes regarding the *'Sea of Death'*

• *Dokai Bay Uninhabitable for Fish*

– Astonishment shared by Prime Minister's office –

An oxygen content percentage of zero! Quite naturally no fish can live in such an environment. (March 8, 1967 The Nishinippon Shimbun)

• *Put a stopper in it now!*

In order to prevent the suffocation of freshly caught fish taken from the waters of the Hibikinada Sea, these fish were put into tanks and, as the boats approached Dokai Bay, wooden stoppers were put into the fish tanks to prevent the highly polluted waters of the bay from entering the tanks. The boats rushed through the bay as quickly as possible. (June 30, 1967 The Mainichi Shimbun)

Receiving the full brunt of the effects of pollution: the tragedy of Shiroyama Elementary School

Shiroyama Elementary School was established in 1956, along with the completion of an industrial complex. Located right in the middle of this industrial complex, the school was besieged by dust and soot, and many children suffered from asthma and tonsillitis. Determined not to lose the battle to pollution, the school poured all of its efforts into physical education, with monthly hiking and physical examinations carried out in addition to gymnastics, swimming classes, regular rubdowns and other physical activities. The city installed air purifiers in each classroom and made an all-out effort to help the school by installing purifiers in the school's pool. However, the school was unable to overcome the severe environmental damage, and many families chose to enroll their children at other schools. In the end, Shiroyama Elementary School, which was born out of the dreams of local citizens, closed after a mere 21 years of service.

▲ Shiroyama Elementary School during its heyday. Soot and ash rained down mercilessly on the school.

◀ Children of the period enjoying sword fighting. In the background, a group of smokestacks can be seen.

A composition by a student at Shiroyama Elementary School

Friends

Today it was Yochin
I have lost yet another friend.
I wonder how many of my friends have changed schools up until now.
And more will surely leave.
This is an industrial area, I know.
And so I see my friends go.

We played together as friends
And also had our disagreements.
I can still remember these times.
At other schools, the number of students increases, I bet.
I am envious of these other schools.
I want to change schools with Yochin
But if I change schools, there will be one less student here,
and there are already so few left.
I will never leave this school.
Of this, I am determined.
(1970, sixth grade class, second group; from *Anthology*)

eco voice *We had become used to daily life in our polluted town*

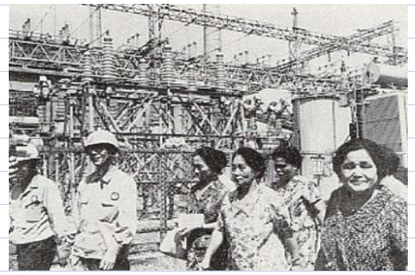
When I was a child, I lived near Shiroyama Elementary School. At that time, industrial ash blew through the school and our homes, leaving the floors gritty with soot. Wiping the floor once with a clean white rag would leave it black as night. I remember clearly how whenever I would take a bath, my mother would always remind me, "Be sure to wash out your nose!" This was because the industrial ash would get into our nose every time we inhaled, leaving it completely blackened. Our school had sinks for washing hands, as expected, but we had eye-washing stations as well. While Shiroyama Elementary had become emblematic of the city's pollution problem, looking back at that time I had only happy memories. We took part in lots of physical activities to strengthen our bodies against the pollution. I remember doing well in swimming and ball sports competitions. We had many school excursions into the countryside, and I recall my innocent childhood self thinking, "It's so much fun to go to so many different places!" I was shocked when I later learned other schools rarely made so many trips. We had become used to daily life in what others called a "polluted town".

Masae Imoto (née Koga)
Graduate of Shiroyama Elementary School

City of Kitakyushu Eco Tour Guide Book

Protect the Children! The Efforts of Mothers

The damage caused by pollution cast a shadow over local citizens' lives, going so far as to negatively impact their health. Tired of living a lifestyle not befitting human beings, a group of citizens finally chose to make a stand.



▲ Members of the women's group inspect a factory

Protect your family! Mothers finally make a stand

Pictures drawn by children in Tobata during this time show the sky in differing hues of black and grey. The children of the area were so accustomed to soot and dust darkening the skies even at midday that, when making an excursion to the outer suburbs, they could be heard to ask, "Why is the sky blue?" Children often came down with asthma, and no matter how often their mothers cleaned their homes, this was an exercise in futility, as they soon became dirty again. The first group to truly understand the implications of pollution with regards to these health problems and daily hardships was mothers and befittingly, in 1950, a local woman's club was finally started. Several wives of managers of the power plant were counted as members. Everyone wanted to protect their own family.

A straightforward, hand-made study marks the first steps towards overcoming pollution

The women's club hung out sheets and white shirts to dry at four different locations within the school district, confirming that the closer they got to factory locations, the greater the degree of soiling, with stains forming that could not be removed with any amount of cleaning. Based on the results of this survey, a petition was made to the city council. The city council quickly took up this cause, negotiating with the plant to set aside roughly ¥100 million to install dust collectors in the facility. Begun by mothers, the first citizen's movement against pollution in the post-war period employed methods consisting not of direct opposition to the corporations, but rather the utilization of the city council. These methods were ground-breaking at the time.

'Aozora ga Hoshii'-We Want Our Blue Sky Back An ardent desire to mobilize society

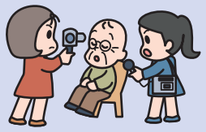
By 1965, the pollution problems that the women's club was tackling on a regional basis had come to be considered a problem affecting all citizens living in Tobata ward, and as a result of this, the Tobata Women's Association was born. Within the Association, an expert advisory committee consisting of 13 members was established to deal with issues related to soot and smoke. Experienced members of academia were accepted into the Association and given leadership positions to deal with issues related to soot and dust volumes, sulfurous acid gas concentration and damage caused by pollution. These professionals also simultaneously carried out independent studies. Finally, through the documentary film 'Aozora ga Hoshii' - *We Want Our Blue Sky Back,* which contained a synopsis of the results of these studies, as well as exhibits regarding pollution, all of Japan became aware of the horrors of pollution.

The Activities of the Housewives

Study of soot and dust conducted with the use of fresh laundry and confection boxes

Informal get-togethers with the municipal government and putting pressure on local government

Frequent meetings



Creation of the video *'Aozora ga Hoshii'-We Want Our Blue Sky Back,* and other forms of media

Pollution Exhibit creates sensation

▲The results of a factual investigation into pollution that took two years to complete is introduced by means of corroded iron plates, contaminated cloth, photos, posters, graphs and diagrams.
(October 22, 1966 The Yomiuri Shimbun)

Column

A Document That Will Live Forever:
'Aozora ga Hoshii'-*We Want Our Blue Sky Back*

'Aozora ga Hoshii' - *We Want Our Blue Sky Back* was a roughly 30– minute movie shot in 8 millimeter that brought attention to the damage caused by pollution. An expose on pollution, this movie was televised throughout the country, causing quite a stir. It eventually became the driving force behind the movement against pollution. The enthusiasm of the housewives of this period can be seen in today's local environmental administration.

▲ The children's faces soon became totally black from soot.

Local Government Acts on the Desires of Its Citizens

The fight against pollution was a concerted effort involving industry, academia, government and citizens. Supported by the popular will of the citizenry, the city administration acted swiftly in further accelerating measures to combat pollution.

Japan's first smog alert was announced in the middle of the fight

In 1963, which marked the establishment of the City of Kitakyushu, the city gained the cooperation of specialists and began to carry out comprehensive studies on air and water pollution. The city also undertook efforts to diagnose industrial pollution and construct sewerage systems. The Commission on Pollution Control Measures, which was established in 1964, included the participation of representatives from the women's club.1969 saw the beginning of the realization of a variety of anti-pollution measures. Japan's first smog alert was announced in the City of Kitakyushu following the enforcement of the Air Pollution Control Law passed in 1968, and it helped fuel feelings of anxiety amongst local citizens. Because of this, the following year the Kitakyushu Pollution Control Ordinance began to be enforced, resulting in the rapid strengthening of regulations related to air and water quality.

紫川きょうから掃除

ゴミ百余トンを処理

青年会議所 二日は呼掛けパレード

谷市長もゴミさらえ

「川も心も美しく」

ケーブル線鉄橋に看板

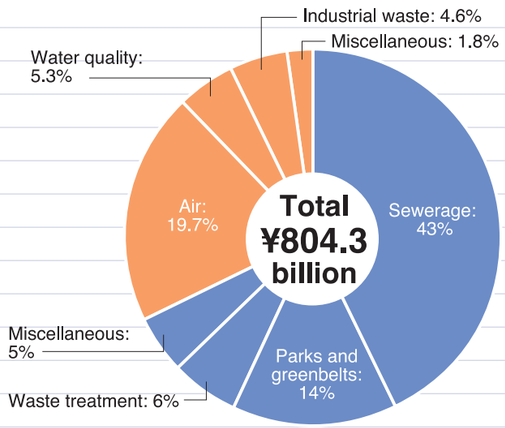
▲ The mayor participated in a cleanup of the Murasakigawa River on this day. The symbolic river for the City of Kitakyushu was plagued by severe water pollution during this period. (May 31, 1968 The Asahi Shimbun)

A place where citizens and businesses enjoyed an epoch-making dialogue

During this period in Japan, pollution-related problems such as the so-called four major pollution-caused illnesses (Minamata disease, Niigata Minamata disease, Yokkaichi asthma and Itai-itai disease) were continuously causing hardships, and, as a result, a trend slowly became perceptible whereby victims sought restitution from the national government and corporations. However, in the City of Kitakyushu, due to the intermediary actions of the city, all disputes between citizens and companies were settled amicably. Having coexisted since the Meiji period, citizens and companies were more prone to dialogue than to confrontation. What's more, conditions of settlement were more likely to include conditions for improving technology with an eye on battling pollution, as opposed to monetary reparations. These measures by the City of Kitakyushu, which were also linked to the smooth development of anti-pollution policies, received a great amount of praise from all over the country.

Column

Expenses related to the City of Kitakyushu's anti-pollution efforts



Private companies	¥252.6 billion (31.4%)
City government	¥551.7 billion (68.6%)

With a Great Sense of Pride, Companies Join In Pollution Control Efforts

Local companies quickly signed off on the enactment of a pollution control pact. Involving cooperation rather than confrontation, the Kitakyushu method that had been so instrumental in the subjugation of pollution in the area would later gain the attention of the world.

Companies make great efforts to comply with the pact

The purpose of the pollution control pact was to strengthen laws that would promote anti-pollution measures in a way that reflected the actual situation in the region. The city came to an agreement with companies on items related to air and water quality, noise, odors, and increasing greenery in industrial zones. Most importantly, they agreed upon strict legal criteria for emissions to controlling air and water quality. Companies would make efforts to meet these agreed-upon values, and the city would monitor their compliance. The city worked closely with major Japanese firms like Nippon Steel to ensure the pact functioned effectively as intended. By working with these large companies to tackle pollution, many major issues were solved, and the companies became more aware of their social responsibilities through their involvement.In 1972, 47 companies and 54 different facilities signed an agreement related to sulfur oxide emissions.This would serve as a symbol of the City of Kitakyushu's history of battling pollution and was the first such large-scale agreement to be concluded in Japan.

▲ The mayor and a company representative sign the agreement. By 1996, 183 such agreements had been concluded while the number of written covenants had climbed to 883.

What was that ¥804,300,000,000 for?

This is the sum total of expenditures by the city for measures to battle pollution during the twenty-year period from 1972 to 1991. Of this, roughly 70% was covered by the city, with the remaining 30% paid by private companies. Much time and money was devoted to restoring an environment that had been sacrificed in order for the city to prosper.

The main points of the pollution prevention agreement related to sulfur oxide

1. The achievement of the numeric goals outlined in the plan concerning sulfur oxide
2. The proactive incorporation of technology related to pollution prevention and the attempt to improve on written plans.
3. The necessity of consultations with, and consent by, the city administration prior to modifications to written plans, or when equipment not covered by the plan is to be installed.
4. The proactive cooperation with administrative guidance, studies, requests for documents and other efforts.
5. The allowance of entry onto plant sites by city officials or representatives to conduct studies.

(March 30, 1972)

The Wisdom of the People Results In a Miraculous Environmental Recovery

Air and water pollution. These were the two largest environmental issues facing the City of Kitakyushu. However, with the concentrated wisdom of everyone involved, the skies became clear again and the sea returned to its former, glittering form. This was a rebirth of the environment that occurred, which the world would later call a miracle.

Overcoming Hardships: the Sky Above is Returned to Its Former Bright Blue

Scattering soot, dust, ash, sulfuric acid fumes, and a disagreeable stench, the air pollution enveloped the children and negatively impacted the lives of citizens. The air in Kitakyushu was under surveillance 24 hours a day via the Pollution Surveillance Center that had been established in 1970. This facility was aimed at plant factories and provided detailed information concerning air pollution and designated areas for improvement. Furthermore, by responding positively to the numerous pollution prevention agreements with efforts involving alternative fuel usage and energy conservation, companies also strove to comply with strict emissions standards. Thanks to these persistent efforts by industry, academia, government and citizens, in 1978 environmental standards for nitrogen dioxide had been achieved. The *seven-colored smoke* had long since become a thing of the past and the changeover in priorities from economic concerns to the health of the environment continued unabated. The blue sky that citizens had demanded was here to stay.

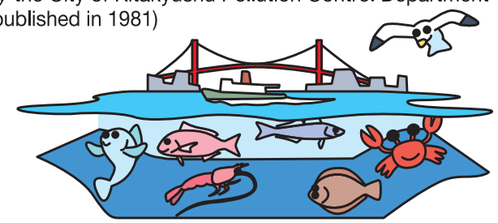
The Cleaning of the *Sea of Death*: the World's First Environmental Dredging Project

Dokai Bay, which had become a national symbol of the water pollution problem (see page 6), was the subject of a dredging project aimed at the thorough removal of sludge from the bottom of the bay. This project was started in 1974. After being completely hermetically sealed, the 350,000 m³ worth of sludge was buried in a disposal area that had been created in a part of Dokai Bay that had been cut off from the rest of the area. This project cost a whopping ¥1.8 billion and took three years to complete. Two years later, in 1976, the waters of the bay were in compliance with all pertinent water quality standards. Soon thereafter fish could be seen in its waters again. Born out of an unprecedented vision, this difficult project, as well as the drama of an environmental rebirth once thought impossible, received high praise from all over the world. Today the bay has been successfully transformed into a pristine body of water that provides a habitat for a vast array of marine life – everything from sea bream at the mouth of the bay to mantis shrimp and yellowfin gobies in its inner reaches.

Testimony of An Era

Now, ten years later, if you loiter around under the Wakato Bridge and let your eyes wander over the waves lapping on the opposite shore, you can see sticklebacks playing in waters that are not sullied by even one piece of garbage. Ships are gently rocked to and fro by foamy, white waves as a flock of seagulls takes flight overhead … At one time referred to as the *"Sea of Death"*, fish stocks have been restored in these waters that were once pitch black with oil. The Pollution Control Department presented an exhibit of fish taken from the waters of Dokai Bay at an environmental exhibition last year. The variety of fish present in the waters was truly amazing – penaeid shrimp, yellowfin goby, crab, Japanese seabass, black porgy, rudderfish, flounder, greenling, black rockfish, white croaker and numerous other species were all present in abundance. The success of the united efforts of the city government, companies, and citizens is truly amazing! This effort also bears witness to the great resiliency of nature, as is evident by the fact that several days ago a top official from the Environmental Agency was heard to ask in astonishment, "Is this really Dokai Bay?"

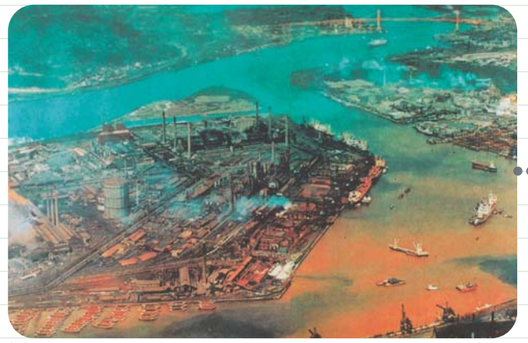
The Progress of Administrative Pollution Control Efforts by the City of Kitakyushu Pollution Control Department (published in 1981)



The 1960s **Now**

▲The sky was hidden by smoke and many people suffered from asthma.

▲ A perfectly clear, blue sky.



▲The *Sea of Death,* where even E. coli bacteria couldn't survive (Dokai Bay).

▲Dokai Bay transformed – more than 100 species of marine life now call this body of water home.

▲ Illegally constructed structures crowded the shores of the Murasakigawa River. Filthy water drained into the river.

▲ An area for water sports enthusiasts has been created, and the Murasakigawa River has become a symbol of the city.

eco voice *Promoting both environmental recovery and business through pollution-controlling technology*

"We Want Our Blue Sky Back" is an 8mm film created by the Tobata Women's Association. This work marked the beginning of efforts among citizens, companies, and the government to work together to overcome pollution. The greatest burden of pollution prevention was on the companies. The processing facilities for handling gas emissions and wastewater were larger than the manufacturing equipment. The deployment and operations costs were massive. Furthermore, this was all being done with no direct benefit for the companies themselves. At this time, a technological revolution took place among the companies involved. It was the innovative realization that they could improve their manufacturing facilities themselves to reduce the output of pollution, rather than treating pollution after it had been generated. As an example, for power generation, by overhauling their manufacturing equipment to be more energy-efficient, they were able to reduce their power requirements while also reducing gas emissions, allowing them to reduce their exhaust processing facilities as well. They were able to realize reduced manufacturing and processing costs while reducing their impact on the environment. The companies were able to apply the same approach to other aspects of their operations, such as water usage, materials handling, and byproduct recycling. In this way companies were able to promote both environmental recovery and their business. These technological innovations also led to the development of environmental industries. Their experiences with citizens and the local government have been put to use in international partnerships which are now contributing to solving environmental problems worldwide.

Satoshi Nakazono
Environment Museum Director

Newly Reborn Kitakyushu Gets Ready for Its Next Mission

Having so quickly accomplished an environmental rebirth, the City of Kitakyushu has received the attention of the world, not to mention the rest of Japan, as the City regularly receives all kinds of environmental awards. The city is now poised to utilize its knowledge and experience to lead environmental efforts on the international level.

From an Ash-Colored City to a Verdant Metropolis with Clear, Starry Skies

The city's enthusiastic initiatives and the amazing transformation that these efforts produced astonished and impressed the country and other municipalities. In 1982, the city was awarded the 'Prime Minister's Award at the Green City Awards'. In 1985, the OECD's Environmental White Paper introduced this eye-opening transformation in an article titled *Gray City to Green City.* The newly reborn City of Kitakyushu has continued to be the subject of much attention. Among other things, it was nominated for the 'Starry Skies City award', which recognizes cities with good air quality, at a contest held by the Environmental Agency in 1987.

▲ The view from the summit of Mt. Sarakura, which was selected amongst the new top three night views in Japan.

World Fame: The 'Global 500 Award'

Praise was also forthcoming from overseas. In 1990 the City of Kitakyushu was awarded the 'Global 500 Award' by the United Nations Environmental Programme for its international environmental cooperation efforts born out of its experiences overcoming pollution. At a UN conference dedicated to development and the environment held two years later (the Earth Summit), the city was the only municipality in Japan to receive the 'UN Local Government Honours'. Indeed, this was the first time that any municipality in Japan had had the honor of such recognition. Local government and citizens had come together as one and affected meaningful change, and this was now receiving recognition and praise on the worldwide stage.

▲ The city is awarded the 'UN Local Government Honours'

▲ The city is awarded the 'Global 500 Award'

The City of Kitakyushu's International Environmental Cooperation Leadership Efforts

Similar to the City of Kitakyushu years ago and other industrial cities in Japan, there are many countries throughout the world that are plagued by pollution problems. These countries are now in need of the environmental technology that the City of Kitakyushu possesses.

International Cooperation Using Environmental Technology Gained Through Actual Experience: the Expansion of KITA Activities

With the goal of providing developing countries the environmental technology and expertise the city had fostered, in 1980 the city worked with regional economic organizations to establish the public foundation KITA, the Kitakyushu International Techno-cooperative Association. With the aim of training a workforce which can help create sustainable development, KITA accepts trainees in environmental and industrial fields from developing countries and dispatches specialists to those countries. After learning cutting-edge skills, trainees return to their developing countries to contribute to improving the environment there.

The Experiences of the City of Kitakyushu are Put to Work in Asia

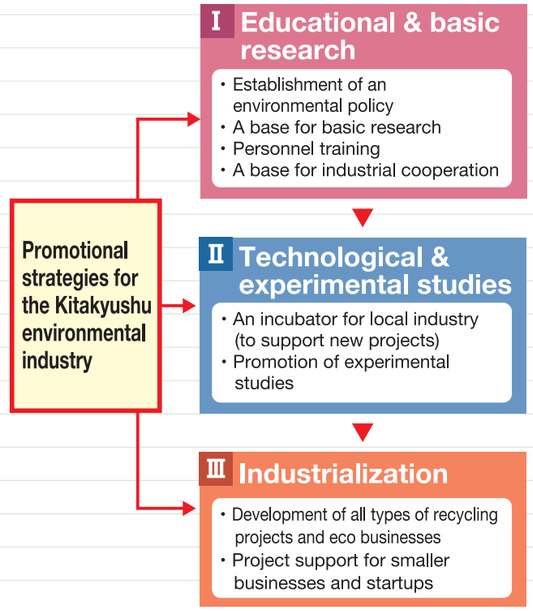
In offering support to regions in Asia with increasing environmental degradation, the city utilized its environmental conservation, waste management and Eco Town experiences. In China, the Philippines, Thailand, Indonesia and other countries, city representatives worked with local citizens on efforts to reduce air pollution and waste, as well as other cooperative projects. In order that such efforts be shared widely with other cities, successful examples of cooperative initiatives are being communicated through a network of Asian cities.

Column

Creating a Recycling Oriented Society

The Kitakyushu Eco Town Project

The Kitakyushu Eco Town Project involves integrating environmental conservation and industrial promotion efforts, and carrying out comprehensive development of *educational & basic research, technological & experimental studies* and *industrialization* in the environmental field. All types of waste are utilized as resources, and, to the extent possible, a policy of "zero emissions" whereby no waste is produced, is promoted. Having gained worldwide attention, this is also becoming a stage for the practical study of KITA trainees.



A Workforce Training Base for the Environmental Industry in Asia

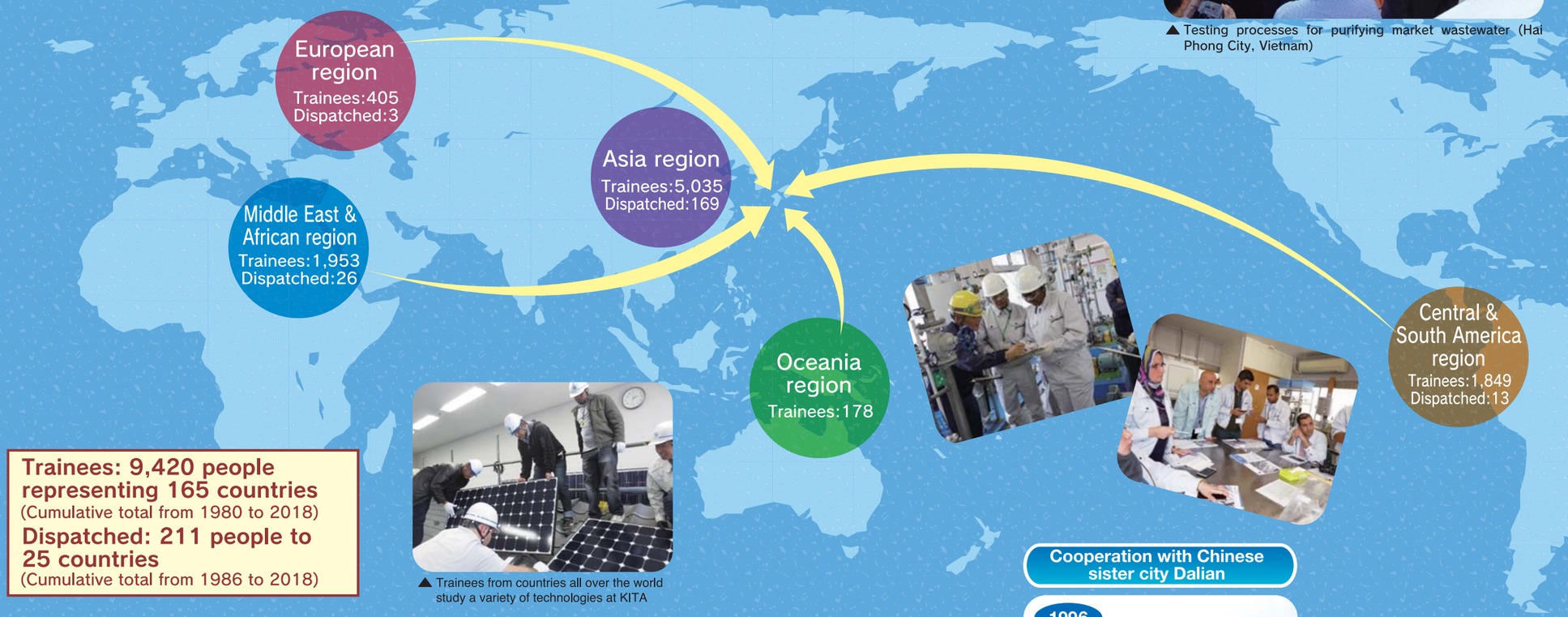
The City of Kitakyushu carries out a wide range of activities, such as research studies, the acceptance of overseas trainees, and the dispatching of specialists overseas with cooperative efforts between industry, academia, government and citizens. Through workforce training efforts, the city's experience and technological prowess is blossoming all over the world.

▲ Testing processes for purifying market wastewater (Hai Phong City, Vietnam)

▲ Composting is popularized thanks to the efforts of specialists, who are dispatched overseas (Surabaya, Indonesia)

The City of Kitakyushu's environmental technology has spread throughout the world.

Acceptance of trainees from overseas / the dispatch of specialist overseas



Trainees: 9,420 people representing 165 countries
(Cumulative total from 1980 to 2018)
Dispatched: 211 people to 25 countries
(Cumulative total from 1986 to 2018)

▲ Trainees from countries all over the world study a variety of technologies at KITA

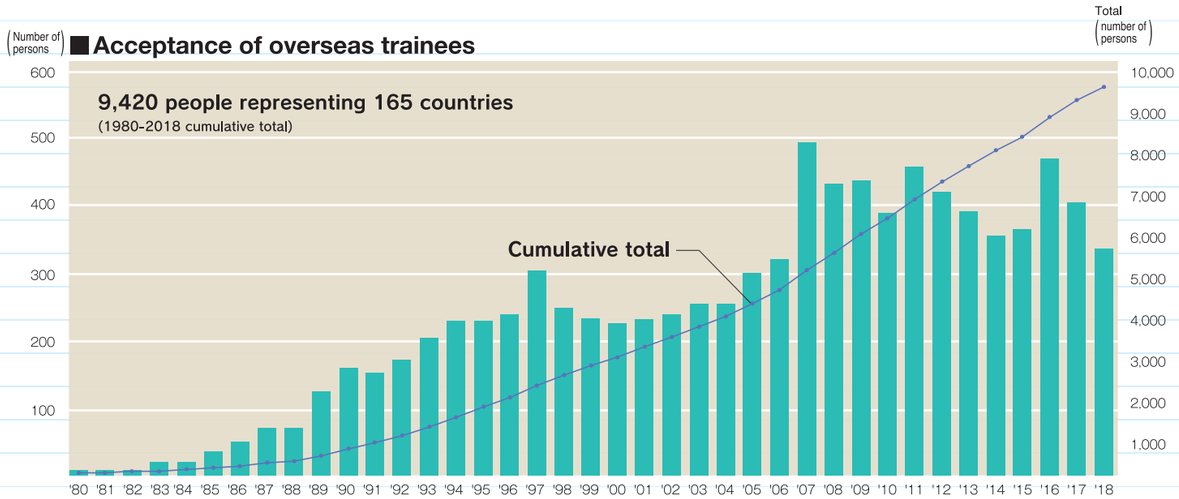
Activities of overseas trainees after returning home

Tunisia (Working at a state-run sanitation enterprise)
As a manager of factory drainage, the trainee is currently working on treating polluted water by applying an action plan developed during their research work.

Kazakhstan (Working at an automobile factory)
The trainee began an energy-saving promotion program with major results. Compared to the previous year, electricity bills were reduced by 10%, heat energy usage was reduced by 7.7%, and 22% less wastewater was generated.

Peru (Working for the local government)
As the first environmental management initiative for the handling of waste to be undertaken on a regional level within the country, the trainee began an environmental education program at schools to produce organic fertilizer (compost).

Acceptance of overseas trainees



Cooperation with Chinese sister city Dalian

International cooperation efforts led to major contributions in the water supply sector

Starting in 1990, for over 25 years the Kitakyushu City Water and Sewer Bureau has continuously promoted international cooperation activities in the field of water and sewer management. To the present, approximately 200 specialists have been dispatched to 12 countries and more than 6,000 trainees have been taken in from 156 countries to contribute to the improvement of water environments in developing countries. Notably, in Cambodia, following the conclusion of years of civil war in 1993, over 70% of supplied water went unaccounted for. By 2006, this loss was reduced to 8%, comparable to that of the City of Kitakyushu, and a stable supply of drinking water was realized. This achievement was so great it has come to be called the "Miracle of Phnom Penh".

The City of Kitakyushu's Development as the *World Capital of Sustainable Development*

Industry, academia, government and citizens are acting in unison for the purposes of communicating a clear vision of the future. Setting its aim high, the City of Kitakyushu is continuing to progress as the World Capital of Sustainable Development.

The World Capital of Sustainable Development Settling on a Grand Design

A "Capital of Sustainable Development" is a city whose citizens can sense the real worth of their city and desire to call it home for the rest of their lives. In 2004, the City of Kitakyushu created a grand design to outline the basic principles behind the basic concept of a "World Capital of Sustainable Development". Currently, citizens, NPOs, companies, local government and others are working in cooperation to advance a broad range of initiatives. Symbolic of this effort, "Eco-Life Stage", an event held once a year, promotes environmentally-friendly urban development.

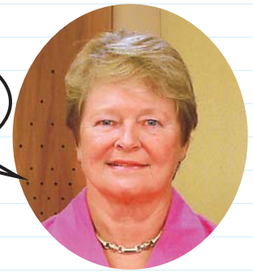
▲ Eco-Life Stage presents everyday environmental activities. Over 150,000 visitors take part in the event over 2 days.

Growing Environmental Consciousness on the Part of Citizens

The establishment of a level of citizen awareness consistent with the city's status as the World Capital of Sustainable Development continues, as evidenced by results in the form of reductions in waste, practical, on-site educational initiatives and an increased emphasis on ethics and the like. At the same time, the city's reputation has been enhanced on a global level due to its international environmental cooperation efforts and the Eco Town project. The story of the city's environmental rebirth in overcoming pollution, which was first spread word-of-mouth by members of the Woman's Association, has now been told all around the world. Creating a beautiful planet for future generations is a challenge that the City of Kitakyushu is continuing to meet.

▲ Cleanup activities are undertaken as a part of efforts to protect the Sone tidelands. Such grassroots activities are also often carried out at education sites.

When it comes to sustainable development, the City of Kitakyushu is a model city for the world.



Gro Harlem Brundtland
Former Chair of the United Nations World Commission on the Environment and Development
(Photos courtesy of the Yomiuri Shimbun)

Just go ask the City of Kitakyushu if you have any questions about the environment!

Wangari Maathai
Nobel Peace Prize winner

an environmental role model

▲ The American news magazine TIME, which is known the world over, introduced Kitakyushu as an 'environmental role model'.

Recognized as an Eco-Model City Poised to Realize a Low-Carbon Society

The City of Kitakyushu was recognized by the government of Japan as an Eco-Model City on July 22, 2008. The city's past efforts on behalf of the environment and its initiatives aimed at creating a low-carbon society were recognized. The city's emissions volume for carbon dioxide is to be cut by 50% from 2005 levels by 2050. What's more, utilizing its network of Asian cities, the city is also aiming for an aggregate reduction in such emissions of roughly 200%, which is to include reductions overseas in an amount equivalent to 150% of the carbon dioxide emitted by the City of Kitakyushu.

Selection as an Environmental Future City

An "Environmental Future City" is a city selected by the national government for regions which have been promoting measures that confront challenges such as environmental conservation and our aging society with positive results. In 2011, eleven regions including the City of Kitakyushu were selected. As the City of Kitakyushu experiences an aging society along with a decreasing population, it is redoubling its efforts under the concept of "Putting to use experiences in overcoming pollution and continually innovating to realize a vibrant, safe, and lively community throughout the city and the region".

City of Kitakyushu Eco Tour Guide Book

No one will be left behind
A SDGs Future City
New Challenges Facing the City of Kitakyushu

The City of Kitakyushu has put to use its human capital, who have the experience of overcoming pollution and manufacturing skills, to engage in several initiatives such as the "Eco-Model City" and "Environmental Future City" programs Now, the City of Kitakyushu is putting its experiences to use in a new initiative to become a "SDGs Top Planner".

What are SDGs (Sustainable Development Goals)?

SDGs (Sustainable Development Goals) are international goals set for 2016-2030 as selected by the 193 member states of the UN at a summit in September 2015. SDGs are comprised of 17 goals and 169 targets for realizing a sustainable world, with the promise that "No one will be left behind". SDGs are universal in nature and can be taken up by both developing countries as well as developed countries.

Winner of the Special Award of the 1st "Japan SDGs Awards"

In December 2017, 12 bodies including the City of Kitakyushu were awarded the 1st "Japan SDGs Awards" as presented by the office of the Prime Minister. (Among the recipients, the only municipalities were Shimokawa Town in Hokkaido and the City of Kitakyushu.) The Ministry of Foreign Affairs, who oversaw the awards, praised the City of Kitakyushu, describing it as "a model for other municipal governments, with outstanding results from initiatives for the environment and international contribution."

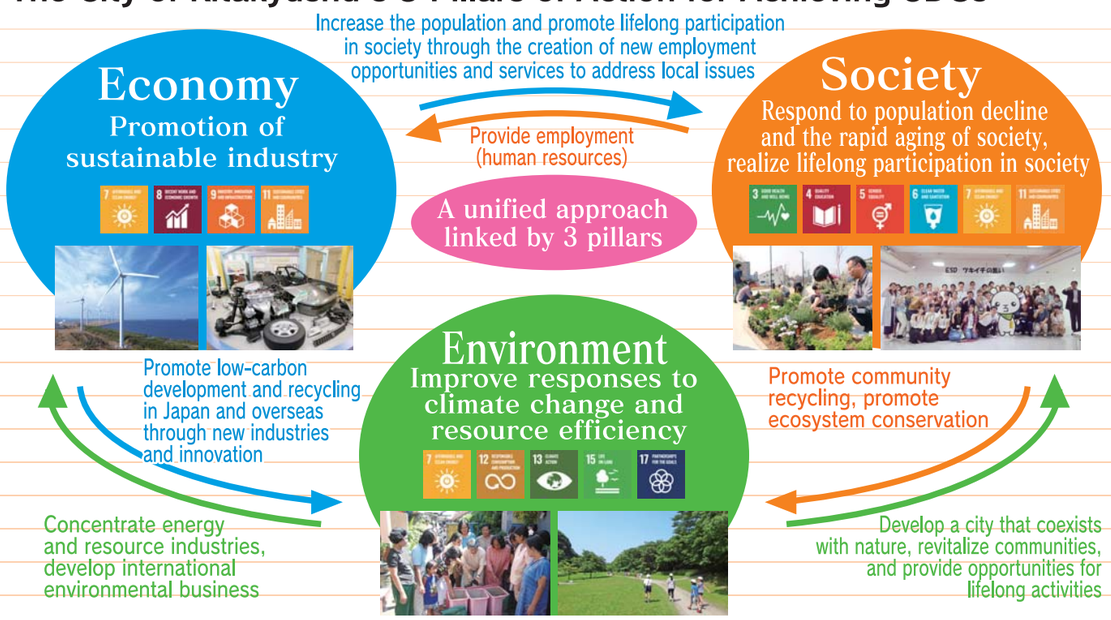
Selection as a "SDGs Pilot Model City"

After being selected as a "Green Growth City" by the OECD in 2011, the City of Kitakyushu was recognized for its work towards SDGs as a "SDGs Pilot Model City" in April 2018. It was the first such designation for a city in the Asia region.

Selection as a "SDGs Future City" and a "SDGs Model Project for Local Governments"

In June 2018, the City of Kitakyushu was one of 29 municipalities nationwide selected by the Japanese government as a "SDGs Future City". Furthermore, a project proposed by the City of Kitakyushu was selected as one of 10 nationwide to be recognized as a "SDGs Model Project for Local Governments", with partial funding provided by the Japanese government.

The City of Kitakyushu's 3 Pillars of Action for Achieving SDGs



Fostering a trusted "Green Growth Model City" with true wealth and prosperity that contributes to the world

City of Kitakyushu Eco Tour Guide Book

The City of Kitakyushu's Journey Towards Environmental Recovery and Creating a SDGs Future City

1901-2018

Year	Event	Social Trend and Events
1901	・The government-managed Yahata steel works goes into operation. The area develops as a *'steel town'*.	・Dawn of 20th Century, death of Yukichi Fukuzawa
1960s	・The heavy chemicals industry develops and the pollution problem grows ever more serious (Pollution is in the form of dust, smoke, etc.)	・Anpo Protests, Miike Struggle
1963	・The City of Kitakyushu is born out the merger of five cities. ・A special Pollution Officer position (4 staff members) is established at the Public Health Division of the Sanitation Bureau.	・Debut of Japan's first anime, "Astro Boy"
1964	・Automatic air pollution measurement device installed (to measure sulfur oxide and airborne dust)	・The Olympics are held in Tokyo
1965	・An annual average of 80 tons/km² per month (maximum of 108 tons) of falling ash is measured for the area in the immediate vicinity of Dokai Bay. ・The Tobata Women's Association creates the documentary film 'Aozora ga Hoshii'-*We Want Our Blue Sky Back.*	・Yumenoshima landfill, "The Monkey" dance
1969	・Japan's first smog alert is announced in the City of Kitakyushu. ・A water quality study of Dokai Bay shows a dissolved oxygen content of 0.6 mg/l and COD of 48.4 mg/1. The study also shows that high quantities of toxic substances such as cyanide and arsenic are present. Thereafter, Dokai Bay becomes known as the *'Sea of Death'*. ・The City of Kitakyushu Air Pollution Control Communications Conference is established.	・Apollo 11 moon mission
1970	・Authority for official smog alert warnings is given to the mayor of the City of Kitakyushu ・A pollution surveillance center is created within Kitakyushu City Hall. ・The City of Kitakyushu publishes ordinances for controlling pollution.	・Japan's Expo '70, coup attempt by Yukio Mishima
1971	・A special meteorological information reporting system is established ・Completion of a fully outfitted waste incineration facility	・Nixon shock, "AnNon" fashion trend
1972	・A pollution control agreement is concluded with 54 plants in the city	・Japan-China relations restored, panda boom
1974	・Dokai Bay dredging work begins (completed July 1975).	・Prime minister Tanaka resigns following a scandal
1979	・Green buffer zone project begins (completed in fiscal 1983).	・Energy-conscious fashion, regional revitalization
1980	・A large-scale waste treatment plant is established in the coastal area ・Dredging work in the Murasakigawa River completed (started in 1969) ・The Kitakyushu International Techno-cooperative Association (KITA) is established.	・Popularization of school-based dramas, "Takenoko-zoku" dancing
1985	・In its Environmental White Paper, the OECD introduces the city's eye-opening transformation in an article titled *Gray City to Green City.*	・Japan launches its astronaut training program
1987	・At the 'Starry Skies City Contest' held by the Environmental Agency, the city is nominated for the 'Starry Skies City award' in recognition of its superior air quality.	・Japan's rail network is privatized, novel "Salad Anniversary" published
1990	・The city becomes the first municipality in Japan to be awarded the 'Global 500 Award' by the United Nations Environmental Programme (UNEP).	・Bubble economy, "Narita divorces"
1992	・The city is one of only eleven municipalities worldwide to receive the 'UN Local Government Honours' at the Earth Summit held in Rio de Janeiro.	・Earth Summit, green vehicles
1997	・Region approved as an Eco-Town Project.	・Tamagotchi toys are a hit
2000	・A conference of Environmental Ministers sponsored by the United Nations Economic and Social Commission for Asia and the Pacific is held in the City of Kitakyushu, where the *Kitakyushu Initiative for a Green Environment* is unveiled.	・Y2K bug and emergence of IT industry
2001	・International environmental cooperation with the Chinese city of Dalian is recognized, and the city receives the 'Chinese Friendship Award'.	・9-11 terror attacks, birth of Princess Aiko
2002	・The city wins the 2002 Earth Summit Sustainable Development Award at the Earth Summit held in Johannesburg (one of two cities to win the award). ・The *Kitakyushu Initiative for a Green Environment* is specified in the Earth Summit implementation schedule. ・The "Environment Museum" is established.	・Japan-Korea FIFA World Cup
2004	・A pledge from the citizens of Kitakyushu to future generations regarding mankind and the future of the planet is settled on. This pledge takes the form of the city's *Grand Design.*	・Niigata Chuetsu Earthquake
2006	・The city is authorized as a Regional Centre of Expertise (RCE) for the United Nation University's Education for Sustainable Development (ESD).	・Livedoor scandal, Yuki Saito, "The Handkerchief Prince"
2007	・The City of Kitakyushu's Plastic Recycling Center begins operations. ・The city partners with Qiangdao City in a Japan-China environmental urban cooperation project.	・Privatization of postal service
2008	・The city is awarded 1st place in the "Japan's Top Eco-City" contest for the second year in a row. ・The city is selected as an "Eco-Model City". ・The city partners with Tianjin City in a Japan-China environmental urban cooperation project.	・Poisoned dumplings incident ・Sub-prime mortgage crisis
2009	・The "Kitakyushu Eco-model City Action Plan" (Kitakyushu Green Frontier Plan) is established. ・The Ministry of Environment begins road trials of electric vehicles in the City of Kitakyushu. ・The "Kitakyushu Next-Generation Energy Park" is established. ・The "Kitakyushu Hydrogen Station" opens.	・Trend of "herbivore men" ・Swine flu pandemic
2010	・The Kitakyushu Smart Community Creation Project is selected as a region for the national government's Next Generation Energy and Social System Demonstration Project. ・The "Asian Center for Low Carbon Society" is established.	・Smart cities ・"AKB48" music group
2011	・The city is selected as a "Green Growth City" for the "Green City Program" of the Organisation for Economic Co-operation and Development (OECD). ・The "Kitakyushu City Fundamental Plan for Establishing a Sound Material-Cycle Society" is established. ・The city is selected as an "International Strategic Comprehensive Special Zone". ・The city is selected as an "Environmental Future City".	・Great Tohoku Earthquake and Tsunami ・Japan wins the FIFA Women's World Cup
2012	・The "Kitakyushu Hibikinada Biotope" opens.	・The Tokyo Sky Tree tower opens
2013	・The "OECD Green Cities Programme Commemorative Meeting for the Kitakyushu Report Publication" is held.	・Mt Fuji is registered as a World Heritage Site
2016	・The G7 Energy Ministerial Meeting (EMM) is held in the City of Kitakyushu.	・Earthquake disaster in Kumamoto
2017	・The city signs a "Memorandum of Understanding on a Green Sister City Partnership" with Davao City in the Philippines.	・Explosion of posting images in social media ・"Sontaku" becomes a buzzword
2018	・The city is selected as a "SDGs Pilot Model City" by the OECD. ・The city is selected as a SDGs Future City.	・"Sodane" becomes a buzzword

A museum that connects people with their past and shows them their future.

Kitakyushu Environment Museum

北九州市 環境ミュージアム

Zone 3

Since its opening as a pavilion for the Kitakyushu Expo held in 2001, the Environment Museum has been a place for environmental studies and activities, attracting many visitors from both in and outside the city. Its exhibits shows through diverse perspectives as related in this booklet the history of the city overcoming pollution, environmental problems around the world, green activities at the individual level, and environmental initiatives by businesses and citizens. Visitors look, touch, and have fun as they learn about the history of Kitakyushu, which has become a SDGs Future City, and also consider their role in our future society.

Each zone in the exhibit space tells an interconnected story.

Upon entering the museum, visitors start at the "Prologue" that presents a vast panoramic view of the City of Kitakyushu, then move on through 5 zones: (1) History of Kitakyushu City, (2) History of Overcoming Pollution, (3) The Global Environment and Our Daily Lives, (4) Environmental Technologies and Eco-Friendly Lives, and (5) Kitakyushu, a SDGs Future City. Zone 3 is notable for its assortment of hands-on learning games and fun exhibits. This museum provides an experience where visitors can see, touch, and be surprised.

Prologue

Zone 1

Zone 2

Zone 4

Zone 5

Navigate the environment, coordinated for you
Environmental Learning Concierge

The Environmental Learning Concierge coordinates with visitors focusing on what they want to learn or see to navigate them through the City of Kitakyushu's destinations and activities. The concierge can assist with environmental learning opportunities, such as introducing environmental learning sites and programs throughout the city, proposing an eco-tour plan, or by helping organize research or seminars.

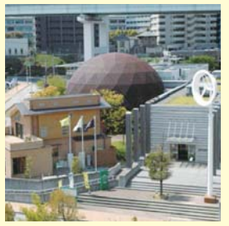
[Basic Information]

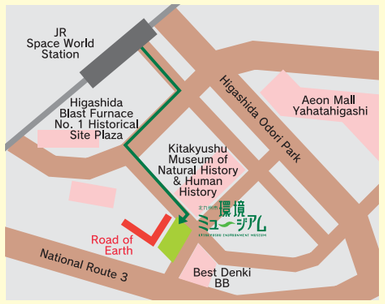
2-2-6 Higashida, Yahatahigashi-ku, City of Kitakyushu

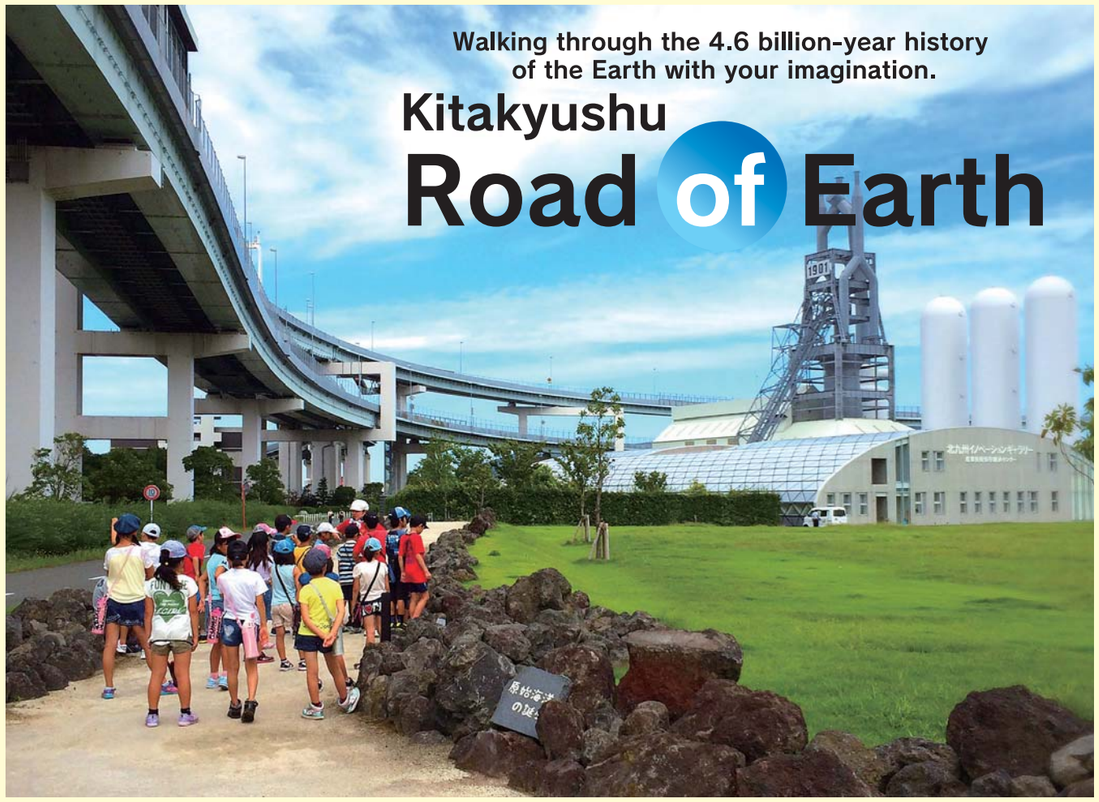
Phone: 093-663-6751

Hours of Operation	Exhibits: 9 a.m. - 5 p.m. (admissions until 4:30 p.m.) Information Library and Reuse Corner: 9 a.m. - 7 p.m. (5 p.m. on weekends and holidays)
Days closed	Mondays (Tuesday when Monday is a Holiday), New Year's Holidays
Admission Fee	Free *See following page for the Road of Earth program

https://www.eco-museum.com/







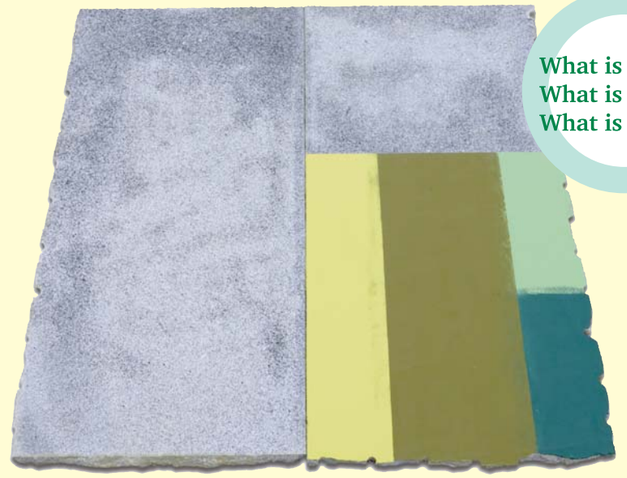
Walking through the 4.6 billion-year history of the Earth with your imagination.

Kitakyushu Road of Earth

Experience the spectacular drama of our planet's story, from its birth to the present, on the "Road of Earth". This unique experience-based environmental learning program stimulates the imagination. It was created by Furano Nature School, which is run by President So Kuramoto, a famous screenwriter active in Furano, Hokkaido. Set in an open field that starts at the Environment Museum and continues on to the Higashida Blast Furnace No. 1 site, the installation provides surprises and discoveries about the mysteries of our planet and modern environmental issues.

The amazing story will spark your imagination!

"Our planet is unlike any other, some would say a miracle. We are merely stewards of the planet for future generations. We must cherish this responsibility, and that is why I want visitors to not just think about it, but use all five senses to experience our planet's story." This vision of Kuramoto's is what gave birth to the environmental learning program, "Road of Earth". The epic history of our planet, from its birth to the present, is recounted in scenes such as "The magma ocean era", "The ice age", and "The extinction of dinosaurs". A guide provides commentary that stimulates the imagination as participants traverse the path and experience the exhibits. What lies under the Earth's surface? How thick is the Earth's atmosphere? How much ocean is there compared to land? How far is the Earth from the moon and the sun? Imagine yourself walking through Earth's history and feel with your heart to contemplate both the great wonders and delicate fragility of our planet.



What is yellow?
What is brown?
What is green?

A dramatic hands-on environmental learning program with the theme of the Earth's environment.

- **Exhibit Space** — Between the Kitakyushu Environment Museum and Higashida Blast Furnace No. 1 Historical Site Plaza
- **Program Participation Fee** — Adults: 500 yen (tax included), High school students and younger: 250 yen (tax included)
  *City of Kitakyushu elementary, junior high, and high school students are free of charge when participating in school events such as tours and school trips.
- **Eligibility** — Elementary school students or older
- **Time Required** — Approx. 90 min.
- **Capacity per program** — 30 participants
  *Contact us about groups of more than 30
- **Participation requests** — Reservations by phone are required
  *In principle, reservations are required at least 3 days in advance

北九州市 環境ミュージアム
KITAKYUSHU ENVIRONMENT MUSEUM

● For inquiries about Kitakyushu Road of Earth:
Phone:093-663-6751
(Kitakyushu Environment Museum)

Works cited: A History of Anti-pollution Measures in the City of Kitakyushu, A History of Anti-pollution Measures in the City of Kitakyushu: Analysis, The Progression of Anti-pollution Administration, Capital of Sustainable Development Report, The International Environmental Cooperation Efforts of the City of Kitakyushu, The Environment of the City of Kitakyushu (these works published by the City of Kitakyushu)

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Photos by Saeko Kono chosen from works entered in the Kitakyushu Nature Photo Contest

City of Kitakyushu Eco Tour Guide Book