



Next Generation Energy Kitakyushu

~The energy of the future, from Kitakyushu~

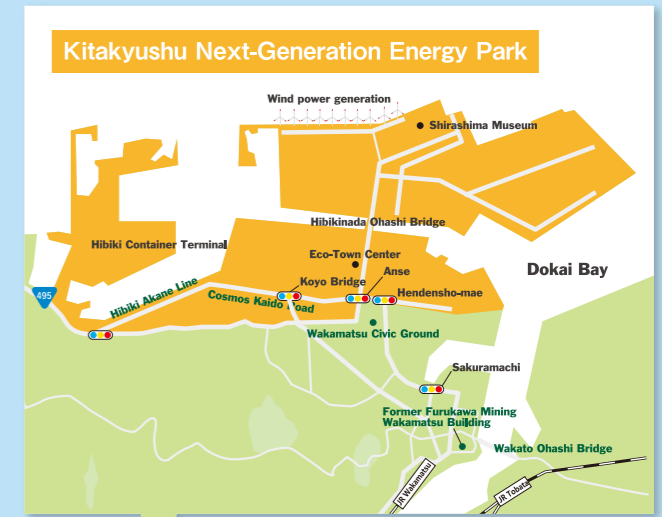


Kitakyushu : One of the best places in Japan to find solutions to energy problems

Developing into a stable, low-carbon energy production hub

- ◆ A city where residents and industries enjoy a reliable power supply
- ◆ A city attractive to corporate facilities investment of all types
- ◆ A city contributing to northern Kyushu, and the extended region

Supporting growth in the local region,
while developing into a center for resolving
environmental and energy problems



A diverse energy hub

A comprehensive showroom for energy supply

The Hibikinada region in Wakamatsu-ku, Kitakyushu offers outstanding characteristics as an energy supply hub, and is a comprehensive showroom for diverse methods of energy supply.



Wind power generation capacity
24,852 kW
(as of 31 March, 2017)



Solar power generation capacity
255,757 kW
(as of 31 March, 2017)

Disaster resilience

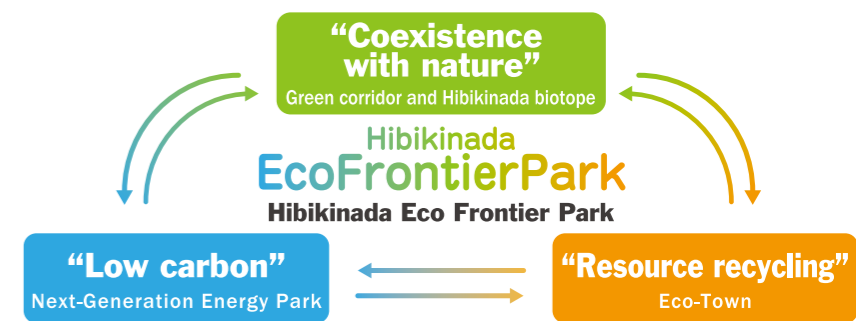
Kitakyushu : A city that provides powerful support for resilient operation

Thanks to its position facing the Japan Sea, and distance from the seismic activity of tectonic plate boundaries, earthquakes are relatively rare in the city of Kitakyushu. While two inland fault lines have been confirmed running through the city, both have been evaluated as being extremely unlikely to cause seismic activity.

In tune with the “environmental era”

The Hibikinada Eco Frontier Park combines three key elements

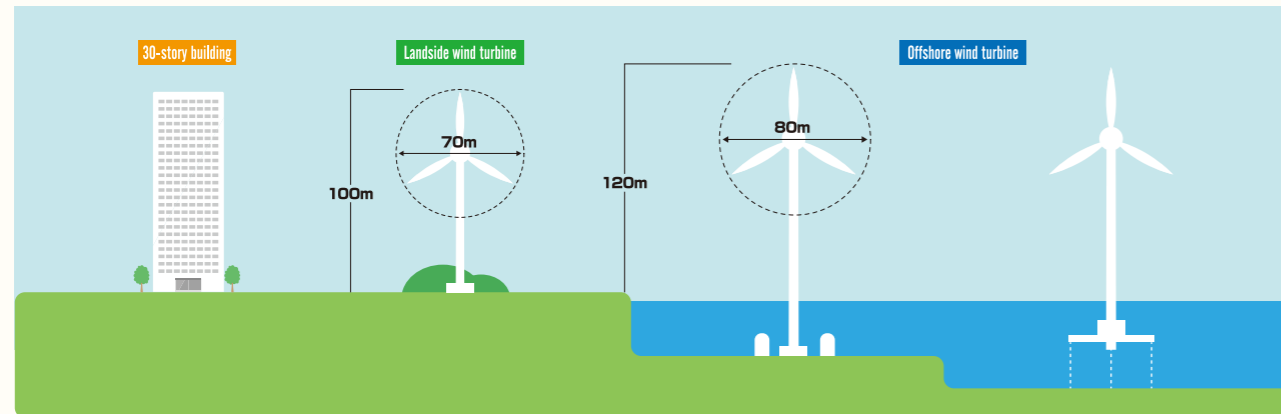
The Hibikinada region of Wakamatsu-ku, Kitakyushu is engaged in a range of energy initiatives related to the development of a low-carbon society, in parallel with the Eco-Town Project and programs to restore the natural environment. The Hibikinada Eco Frontier Park balances three key elements: low carbon, resource recycling, and coexistence with nature.



Hibikinada Wind Power Generation Project

Offshore wind power generation facility size and installation

In general, offshore wind power generation facilities can be considerably larger than those built on land.



The wind turbines in the Hibikinada offshore installation stand 80 meters from nominal sea level to the center of the blade (nacelle). Blade radius is 83 meters.

Fixed foundation design
(Shallow depths up to about 50 meters)
The foundation is constructed on the seabed.

Floating design
(Deep water)
The turbine system floats, but is chained to the seabed.

Kitakyushu's offshore wind power generation

General areas

- Adopted under the Model Program for the Study of Wind Power Generation Zoning Methodologies (Ministry of the Environment) for FY2017 and FY2018, exploring the potential for the introduction of offshore wind power generating facilities in general ocean regions.
- NEDO Launches Development of Element Technology to Lower the Cost of Floating Offshore Wind Turbines
The installation is a single 3-meter class floating offshore wind power generation system, with a 2-vane blade



Port and harbor areas

- Operator : Hibikinada Wind Energy Co., Ltd.
- Turbine installations : 44 max. (for 5-meter class designs)
- Total investment : About 175 billion yen
- Schedule : From FY2017 Environmental impact assessment, etc.
From FY2022 Sequential unit construction and start-up



Hibikinada : A comprehensive wind power generation industry center

Industrial concentration

The capabilities of the Hibikinada region will be upgraded, including test facilities, maintenance training facilities, and wind power generation system parts distribution centers. Companies related to the wind power generation industry will be invited to invest into the region

Wind turbine market

The seacoast near Kitakyushu Port is optimal for offshore wind power generation, and new systems will be installed starting from the Kitakyushu port and harbor area.

Hub port development

As wind turbines grow in size, large components may exceed 60 meters in length and 400 tons in weight. Stockyards and dockside loading equipment will be upgraded to handle component storage and freighter loading.

Kitakyushu's regional energy policy

The city of Kitakyushu is implementing a range of programs to reduce CO₂ emissions, as part of its effort to attain a low-carbon society

Initiatives in Higashida region, Yahatahigashi-ku

Kitakyushu Hydrogen Town (FY2010-)

Distribution pipelines, in the first system of its kind at the full-scale community level, supply hydrogen to homes, and commercial and public facilities, while fuel cell vehicles supply electricity to homes (FCV2H). The project has demonstrated that hydrogen can be utilized as a reliable source of electric and thermal energy for public use.



Hydrogen pipeline



Supplying electricity from a fuel cell vehicle to the home (FCV2H)

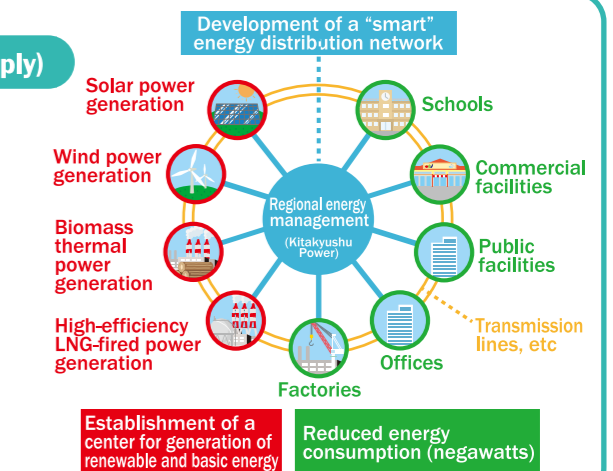
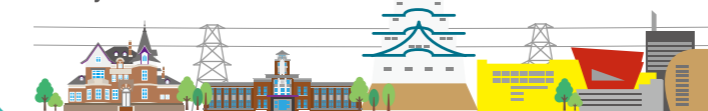
Kitakyushu Smart Community Development Project (FY2010-2014)



Based on Community Energy Management Systems (CEMS) and other technologies, an energy management framework was developed for residents (energy consumers), in a trial to demonstrate that renewable and other regional energy sources could be efficiently utilized. Results showed an electric demand peak cut of about 20% for general residential use.

Kitakyushu Power Co., Ltd. (regional energy supply)

This regional energy supply company was established as a joint venture between the city of Kitakyushu and local companies to provide the region with a stable supply of low-carbon energy. It began supplying electricity generated from city waste incineration to public facilities and businesses in the city from April 2016. Future plans call for continued expansion of the consumer base, enhancement to the energy management system, and contribution toward the realization of a low-carbon society.



BONJONO



This project is developing an advanced residential community in an unused plot owned by the national government, on the north side of JR Jono Station. The development will include "green" residences, energy-generating and energy-saving facilities, prioritized public transport and other low-carbon technologies and related strategies.

Kitakyushu Science and Research Park



The Research Park brings together national, local, and private universities and research institutions in the sciences as a center for research open to all of Asia, and a hub for the creation and refinement of new technologies and businesses. It supports a variety of education and research activities, primarily in environmental and information technologies.

For more information, contact

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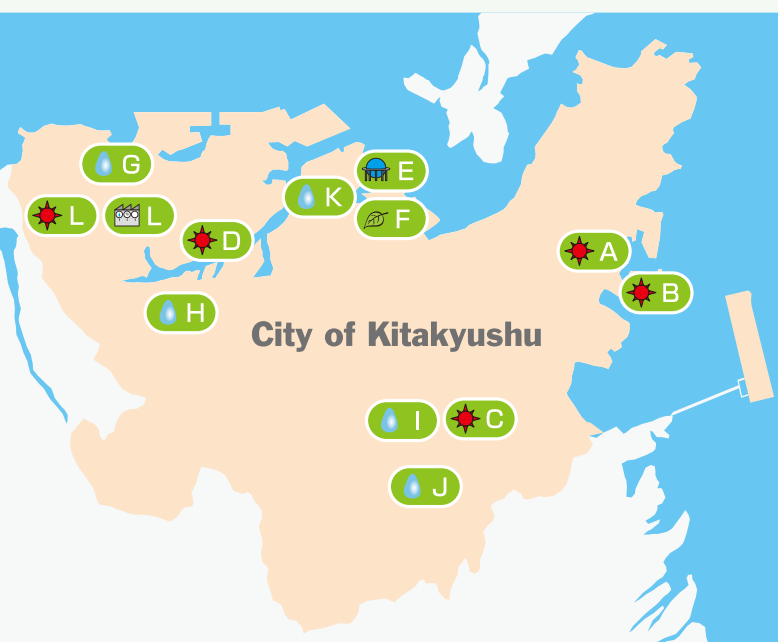
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VEGETABLE OIL INK

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Next-Generation Energy Park

We face looming problems including global warming and fossil fuel depletion. As society becomes increasingly concerned with reducing CO2 emissions and energy issues, the Next-Generation Energy Park has been opened in Wakamatsu-ku, Kitakyushu. Here, visitors can explore energy initiatives from five different approaches including the energy supply systems at support our lives today, natural energy such as solar and wind power as the next generation of technology, biomass energy, collaboration between companies in the energy sector, and research into innovative technology.



Energy facilities outside the area



A Solar power generation
Ene-Seed NOK Co.,Ltd.
Generating capacity : 1800 kW

B Solar power generation
Shin-Idemitsu Co.,Ltd.
Generating capacity : 2900 kW

C Solar power generation
Kyuden Mirai Energy Co.,Inc.
Generating capacity : 1990 kW

D Solar power generation
Shin-Idemitsu Facilities Co.,Ltd.
Generating capacity : 518 kW

E Gasification power generation
City of Kitakyushu (Hiagari Purification Center)
Generating capacity : 150 kW

F Fuel production
City of Kitakyushu (Hiagari Purification Center)
Production capacity : 7030 tons/year

G Small-scale hydroelectric generation
City of Kitakyushu (Water and Sewer Bureau Tonda Generating Plant)
Generating capacity : 68 kW

H Small-scale hydroelectric generation
City of Kitakyushu (Water and Sewer Bureau Ano Generating Plant)
Generating capacity : 340 kW

I Small-scale hydroelectric generation
City of Kitakyushu (Water and Sewer Bureau Masubuchi Generating Plant)
Generating capacity : 520 kW

J Small-scale hydroelectric generation
City of Kitakyushu (Water and Sewer Bureau Aburagi Generating Plant)
Generating capacity : 780 kW

K Small-scale hydroelectric generation
City of Kitakyushu (Hiagari Purification Center)
Generating capacity : 1 kW

L Solar power generation
Kitakyushu Science and Research Park
Generating capacity : 150 kW

M Natural gas cogeneration
Kitakyushu Science and Research Park
Generating capacity : 160 kW

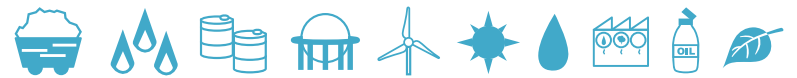
Detailed information available via the G-motty regional information portal

City of Kitakyushu New energy map

Search



Natural energy for the next generation



Wind power generation



1 **Landside wind power**
NS Wind Power Hibiki Co.,Ltd.
Generating capacity : 15,000 kW
Turbines: 10



2 **Landside wind power**
Ene-Seed Wind Co.,Ltd.
Generating capacity : 4000 kW
Turbines: 2



3 **Landside wind power**
Kitakyushu Wind Power Research Inc.
Generating capacity : 1990 kW
Turbines: 1



4 **Landside wind power**
The Electric Power Development Co., Ltd.
Generating capacity : 2700 kW
Turbines: 1



5 **Landside wind power**
Hibikinada Wind Energy Research Park.LLC
Generating capacity : 6600 kW
Turbines: 2



7 **Offshore wind power**
The Electric Power Development Co., Ltd.
Generating capacity : 1980 kW
Turbines: 1



6 **Landside wind power**
Shizen Energy Inc.
Generating capacity : 4999 kW Turbines: 1 Planned for FY2018



8 **Offshore wind power**
Marubeni Corp, etc.
Generating capacity : 3000 kW Turbines: 1 Planned for FY2018



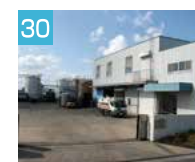
9 **Offshore wind power**
Hibiki Wind Energy Co.,Ltd.
Generating capacity : 220,000 kW Turbines: 44 Sequential construction from 2022

Solar power generation



- 10** The Electric Power Development Co., Ltd.: 1000 kW
- 11** Ene-Seed NOK Co.,Ltd.: 1800 kW
- 12** Showa Energy Co.,Ltd.: 1990 kW
- 13** Ene-Seed Co.,Ltd.: 1700 kW
- 14** City of Kitakyushu: 1500 kW
- 15** Hibikinada Development Co.,Ltd.: 1990 kW
- 16** AG International Energy Corp.: 2000 kW
- 17** Solar Power Kitakyushu Co.,Ltd.: 13,000 kW
- 18** Ene-Seed Hibiki Co.,Ltd.: 22,400 kW
- 19** Hkk & TEK .LLC: 1500 kW
- 20** Kitakyushu TEK & FP .LLC: 5737 kW
- 21** Takataya K.K.: 42,900 kW
- 22** Ene-Seed Co.,Ltd.: 2400 kW
- 23** Hibikinada Solar Power Generation .LLC: 1890 kW
- 24** Hibikinada Wind Energy Research Park.LLC: 2000 kW
- 25** Kyushu Asahi Broadcasting Corp.: 730 kW
- 26** RKB Development Corp.: 900 kW
- 27** Chiyoda Ute Co., Ltd.: 500 kW
- 28** The Electric Power Development Co.,Ltd.: 161 kW
- 29** Kitakyushu TEK & FP .LLC: 45 kW

Biomass renewable energy



30 **Fuel production**
Kyushu-Yamaguchi Yushi Jigyoo.coop



31 **Mixed-fuel biomass/coal power generation**
Hibikinada Wind Energy Research Park.LLC
Generating capacity: 112,000 kW
Installations: 1

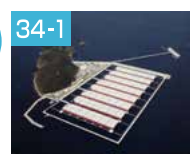


32 **Mixed-fuel biomass/coal power generation**
Hibikinada Thermal Power Plant Co.,Ltd
Generating capacity: 112,000 kW
Installations: 1

Other energy



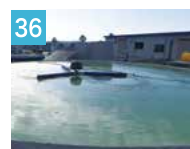
33 **Collaboration between companies working with steam(CDG generation)**
Nippon Coke & Engineering Co.,Ltd.
Kitakyushu Works
Generating capacity: 44,400 kW



34-1 **Petroleum storage**
Shirashima National Petroleum Stockpiling Base
Installations: 1
Shirashima Museum **34-2**



35 **Natural gas**
Hibiki LNG Corp.,Hibiki LNG Terminal
Production capacity:
6,432,000 m³/day



36 **"Green" oil**
The Electric Power Development Co.,Ltd.
Wakamatsu Office

eco Kitakyushu Eco-Town Center



The key facility supporting the city's Eco-Town Project. The separate exhibition area introduces the basics of power generation and energy issues, as well as the advanced initiatives supported by the city of Kitakyushu (reservations not required). Tours of the Next-Generation Energy Park are also available to visitors interested in learning more about energy (reservation required two weeks in advance).

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Open: 9:00 to 17:00 Closed: Sun. and holidays

