



WIND-SMILE Co., Ltd.

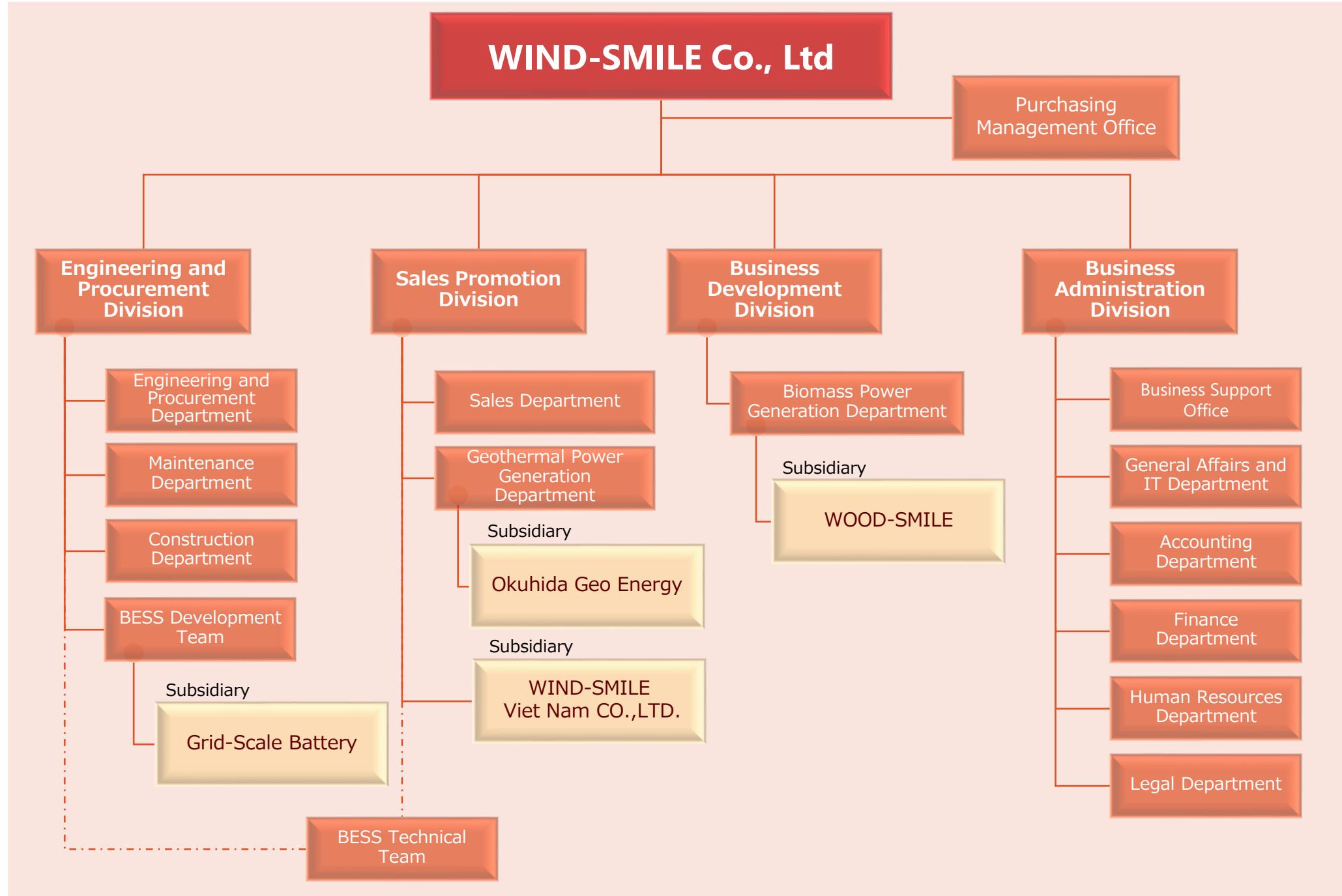
Company brochure

Company profile and Group Companies

Company profile

Legal name	WIND-SMILE Co., Ltd.	
Address	3-2-8 Shirakawa, Koto-ku, Tokyo, Japan, Wind-Smile Head Office Building TEL 03-5875-8677 FAX 03-5875-8615	
Foundation	November 15, 2007	
Capital	116,300,000 JPY (Including Capital reserve)	
CEO	FUKUDOME SHUZO	
Employees	95 persons (As of December 2025 including group companies)	
Website	http://www.wind-smile.com	
Business activity	EPC business, power plant development, operation and maintenance business related to renewable energy (Wind, Solar, Biomass, Geothermal); Geothermal resource development business	
Licenses	Construction Business License	Tokyo Governor License (Special-26) No.141806 (civil engineering, construction, scaffolding, earthworks, steel structures, wells, paving)
	Real Estate Transaction Business	Tokyo Governor (1) No.10159
	Business Certificate for certification of woody biomass	Doumokuren Biomass No.308
	Power Generator Notification	Date of Notification : September 13, 2021

Company organizational chart



WIND-SMILE qualification holders (As of December 1st 2025)

Civil engineering and construction

1 st Grade Construction Management Engineer	3
2 nd Grade Construction Management Engineer	1
2 nd Grade Licensed Architect	2
1 st Grade Civil Construction Management Engineer	9
2 nd Grade Civil Construction Management Engineer	2
2 nd Grade Piping Construction Management Engineer	1
2 nd Construction Machinery Management Engineer	2

Electrical

1 st Grade Electrical Construction Engineer	4
2 nd Grade Electrical Construction Engineer	4
First-Class Senior Electrical Engineer	1
Second-Class Senior Electrical Engineer	6
Third-Class Senior Electrical Engineer	10
First-Class Electrician	17
Second-Class Electrician	16
2 nd Grade Machine Maintenance Technician (Electrical maintenance work)	1

Boiler

First-Class Boiler and Turbine	2
Second-Class Boiler and Turbine	2
Responsible Engineer First Grade Boiler Engineer	1
First Grade Boiler Engineer	2
Second Grade Boiler Engineer	10
Power Engineer	11
Boiler Mechanic	2

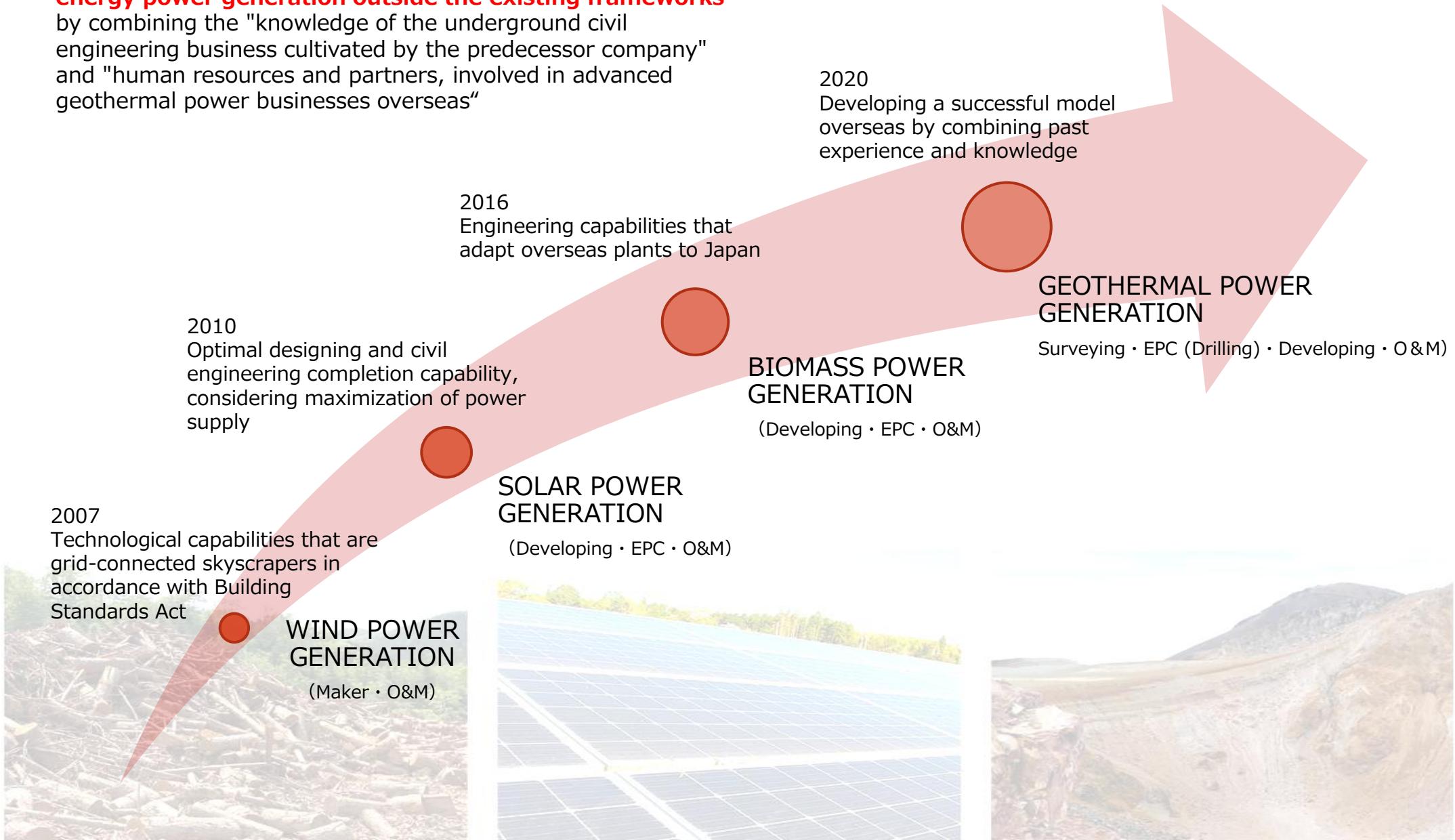
Others

Hazardous Materials Handler (Class-A, Class-B4, B5)
Pollution Control Responsible Manager
Air Pollution Control Manager (Class 2, 3, 4)
Water Pollution Control Manager (Class 1, 2, 3)
Noise-Vibration Control Manager
First Class Refrigeration Machine Manufacturing Safety Manager
First-Class Health Supervisor Ordinary Weigher
Ordinary Weigher
Consulting Engineer Assistant
Registered Surveyor Assistant
First Grade Ground Special Radio Engineer
Second Grade Ground Special Radio Engineer
U.S. Certified Public Accountant
Licensed Real Estate Consultant
Licensed Social Insurance Consultant
TOEIC (860~)

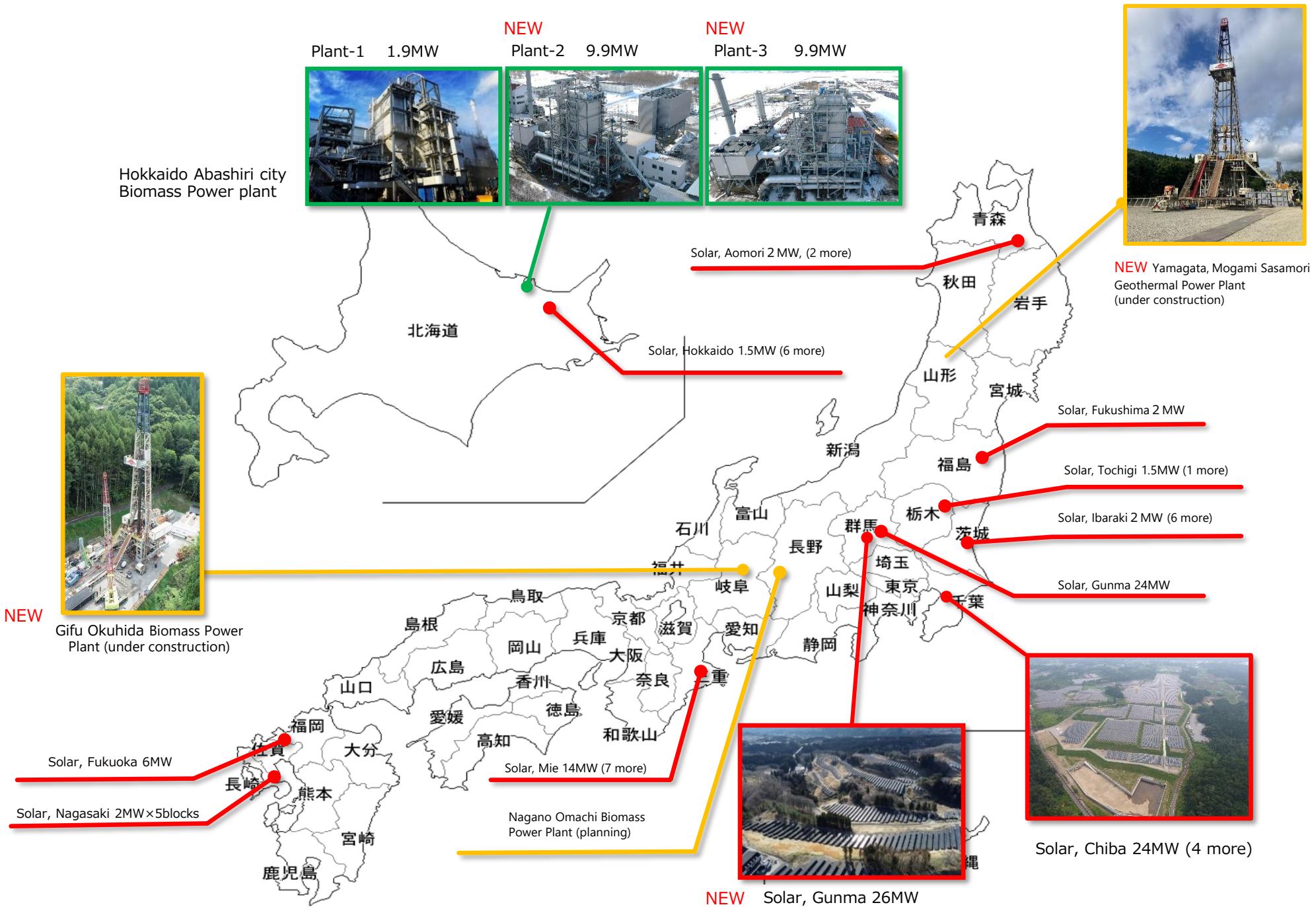
Test in Practical English Proficiency (EIKEN) First Grade
JLPT - N1

PATH OF DEVELOPMENT

Based on the experience accumulated since the company's establishment, WS is challenging "**commercializing renewable energy power generation outside the existing frameworks**" by combining the "knowledge of the underground civil engineering business cultivated by the predecessor company" and "human resources and partners, involved in advanced geothermal power businesses overseas"



WIND-SMILE PROJECTS



WIND-SMILE's advantages

To consistently handle services from project acquisition to maintenance and management

01 Project acquisition Site selection

- Selecting locations and projects, based on solar radiation/geothermal resources, which have a significant impact on power generation and the cost of development.
- Apply for obtaining necessary permits and approvals for construction of power plants, and hold discussions with the relevant government offices.



02 Design Initial management

- Plant design (optimal design) and development process management to achieve highly efficient power generation.
- As connection to power grid is required, consultation with electric power company is essential when designing.
- Depending on the scale and area, it is possible to shorten construction period and reduce costs by performing construction necessary for connecting to power grid, such as steel towers and substation equipment, on behalf of electric power company.



03 System procurement

- Procurement of materials suitable for optimal design (modules, mounts, power conditioners, wiring, etc.) from manufacturers with excellent cost performance or reliable manufacturers that are optimal for financing.
- If the optimal design cannot be achieved with general-purpose products, custom-made products may be ordered.



04 Construction

- Land preparation, plant construction, electrical works will be performed, and in some cases, subcontractors will be attracted for large-scale projects.
- High-quality construction work can be performed by making full use of civil engineering technology backed by the "propulsion method", and construction technology, that was used during installing the first wind power generation equipment on the roof of a high-rise building in Japan (Kasumigaseki building).



05 Maintenance Management

- In order to maintain high efficient power generation after installation, periodic inspection of equipment is necessary. Also, in case of damage of equipment by natural disasters or wild animals, it should be repaired.
- Utilize the information and know-how, obtained during maintenance management, in designing of new projects.





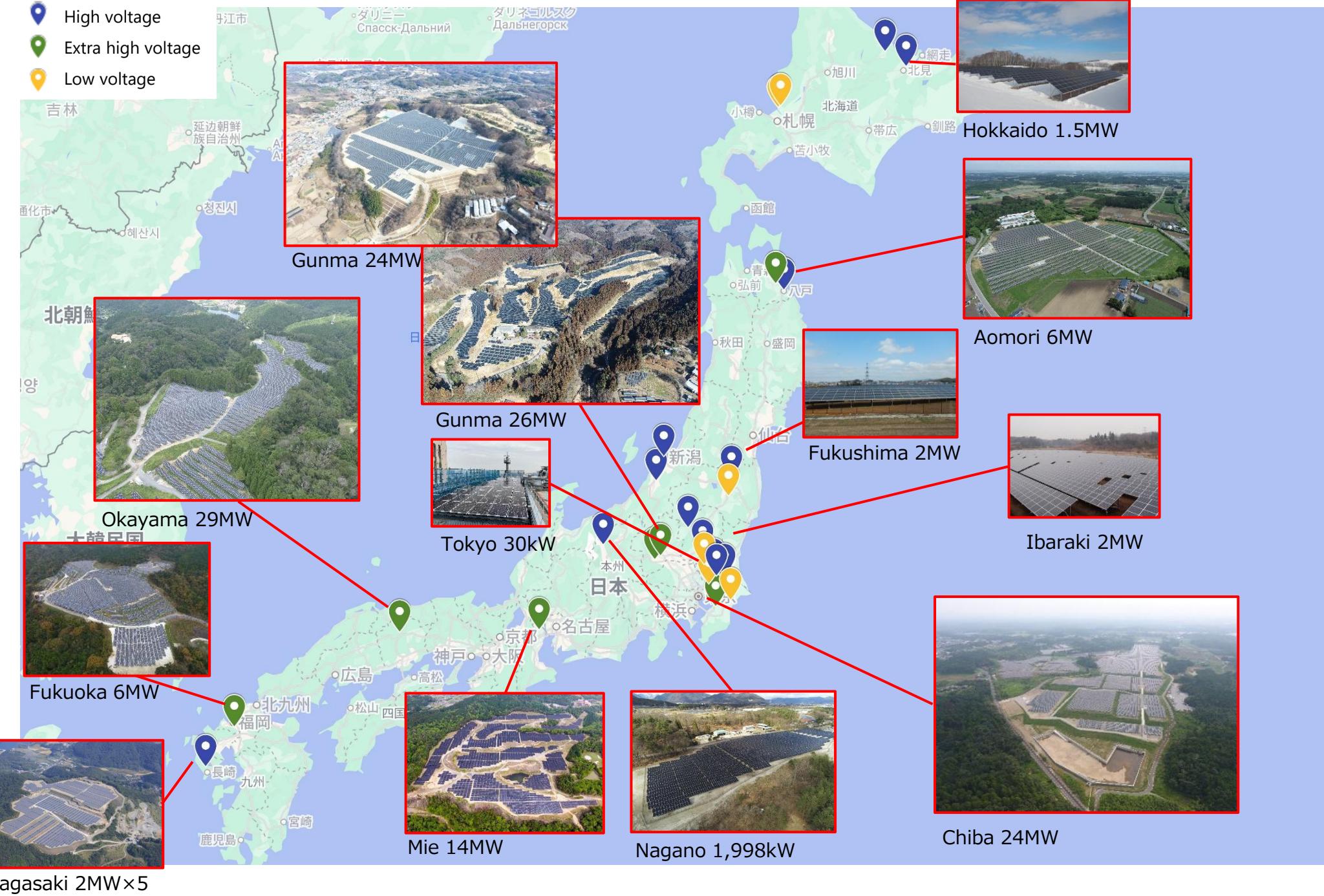
Solar power generation projects



Case studies **(Solar power generation equipment)**

Domestic solar power plants

- High voltage
- Extra high voltage
- Low voltage



Developed and Planned Large-scale Industrial Solar Power Plants

Project	Business	AC[kw]	DC[kw]	FIT	SO/connection date
Tsukubamirai City, Ibaraki Prefecture	Consulting	1,890	2,210	FIT	Mar-14
Naka City, Ibaraki Prefecture	Consulting	1,350	1,350	FIT	Mar-14
Inashiki City, Ibaraki Prefecture	Development, system planning, procurement, construction	1,350	2,210	FIT	Mar-14
Somewhere in Hiroshima Prefecture	Consulting	7,000	7,000	FIT	Jun-14
Kitami City, Hokkaido	Development, system planning, procurement, construction	750	820	FIT	Jul-14
Hachinohe City, Aomori Prefecture	Development, system planning, procurement, construction	1,890	2,020	FIT	Jun-14
Somewhere in Mie Prefecture	Development, system planning, procurement, construction	1,996	3,000	FIT	Jul-14
Shimotsuke City, Tochigi Prefecture	Development, system planning, procurement, construction	1,500	1,920	FIT	Aug-14
Nikko City, Tochigi Prefecture	Development, system planning, procurement, construction	250	280	FIT	Jan-15
Monbetsu District, Hokkaido	Development, system planning, procurement, construction	1,000	1,120	FIT	Feb-15
Somewhere in Mie Prefecture	Development, system planning, procurement, construction	1,990	2,420	FIT	Feb-15
Somewhere in Mie Prefecture	Development, system planning, procurement, construction	1,990	2,670	FIT	Mar-15
Nihonmatsu City, Fukushima Prefecture	Development, system planning, procurement, construction	1,750	2,140	FIT	May-15
Miho Village, Ibaraki Prefecture	Development, system planning, procurement, construction	1,990	2,180	FIT	Aug-15
Hashikami Town, Aomori Prefecture	Development, system planning, procurement, construction	1,260	1,570	FIT	Oct-15
Nagasaki City, Nagasaki Prefecture	Development, system planning, procurement, construction, O&M	9,975	10,650	FIT	Dec-15
Tokoro District, Hokkaido	Development, system planning, procurement, construction	1,500	1,510	FIT	Feb-17
Somewhere in Mie Prefecture	Development, system planning, procurement, construction	3,780	4,640	FIT	May-17
Chikushi District, Fukuoka Prefecture	Development, system planning, procurement, construction, O&M	6,000	6,590	FIT	Dec-18
Somewhere in Mie Prefecture	Development, system planning, procurement, construction	12,000	14,360	FIT	Jan-20
Somewhere in Gunma Prefecture	Development, system planning, procurement, construction, O&M	18,000	23,970	FIT	Jul-20
Somewhere in Chiba Prefecture	Development, system planning, procurement, construction, O&M	20,000	24,010	FIT	May-22
Somewhere in Aomori Prefecture	Development, system planning, procurement, construction	6,000	7,350	FIT	Dec-22
Somewhere in Gunma Prefecture	Development, system planning, procurement, construction	18,000	25,890	FIT	Aug-23

Developed and Planned Large-scale Industrial Solar Power Plants

Project	Business	AC[kW]	DC[kW]	FIT	SO/connection date
Somewhere in Niigata Prefecture	Development, system planning, procurement, construction	250	300	Self-consumption	Aug-23
Somewhere in Fukushima Prefecture	Development, system planning, procurement, construction	100	120	Self-consumption	Feb-24
Somewhere in Ibaraki Prefecture	Development, system planning, procurement, construction	1,100	1,250	PPA	May-24
Somewhere in Niigata Prefecture	Development, system planning, procurement, construction	300	390	PPA	Mar-24
Somewhere in Okayama Prefecture	Development, system planning, procurement, construction	20,000	28,860	PPA	Jun-25
Somewhere in Nagano Prefecture	Development, system planning, procurement, construction	1,998	2,998	PPA	Aug-25
	合計	146,959	185,798		

Kasumigaseki Common Gate East Building: Solar rooftop installation



Wind and solar power system at
150m above ground
Completed in September 2006
Wind turbines 5kW x 5 units = 25kW
Solar power 20kW hybrid system



Solar system for self-
consumption
Completed in March 2021
30kw (low voltage grid
connection)



Solar power generation (for industrial use, power sales, high voltage grid connection)

<Large-scale industrial solar power generation facilities>

A distribution center in Bando City, Ibaraki Prefecture
Solar power system for selling electricity (responsible for high-voltage equipment installation and electrical work)
Power generation capacity: 0.75MW, grid connection started in March 2013
High-voltage equipment: 250kW x 3 units, current collector box, connection box



Solar power generation (for industrial use, power sales, high voltage grid connection)

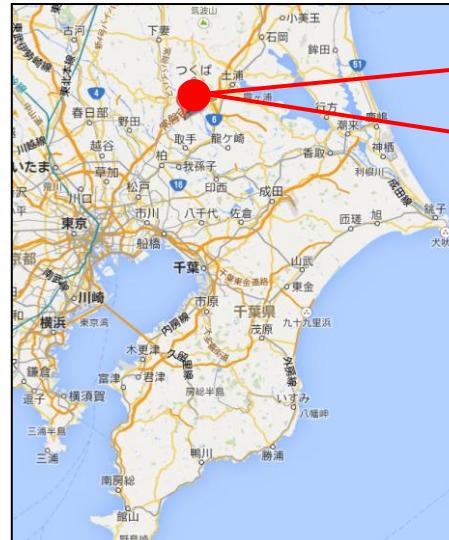
<Large-scale industrial solar power generation facilities>

Tsukubamirai City, Ibaraki Prefecture

Solar power system for sale (consulting business)

Power generation capacity: 2.0MW

Grid connection started in January 2014



Solar power generation project (Mie Prefecture)

Installation location

Inabe city

System specifications

Module	: Solar Frontier SF170-S
Output	: 170W(Rated maximum output per panel)
Cell type	: CIS
Number of cells	: 13,632 pcs.
System output	: 1.89MW
Annual generation	: 2,596,844kWh
Array tilt angle	: 15°
Array azimuth angle	: 180° (South)



Solar power generation project (Mie Prefecture)

Installation location

Inabe city

System specifications

Module	: Solar Frontier SF170-S
Output	: 170W(Rated maximum output per panel)
Cell type	: CIS
Number of cells	: 13,632 pcs.
System output	: 1.89MW
Annual generation	: 2,596,844kWh
Array tilt angle	: 15°
Array azimuth angle	: 180° (South)



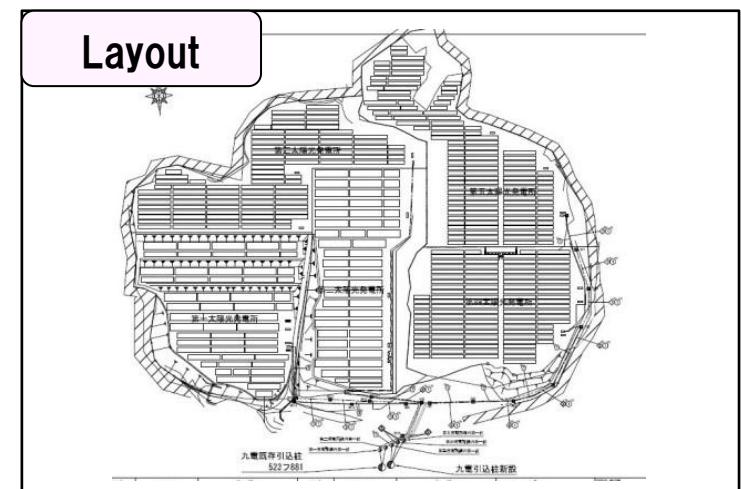
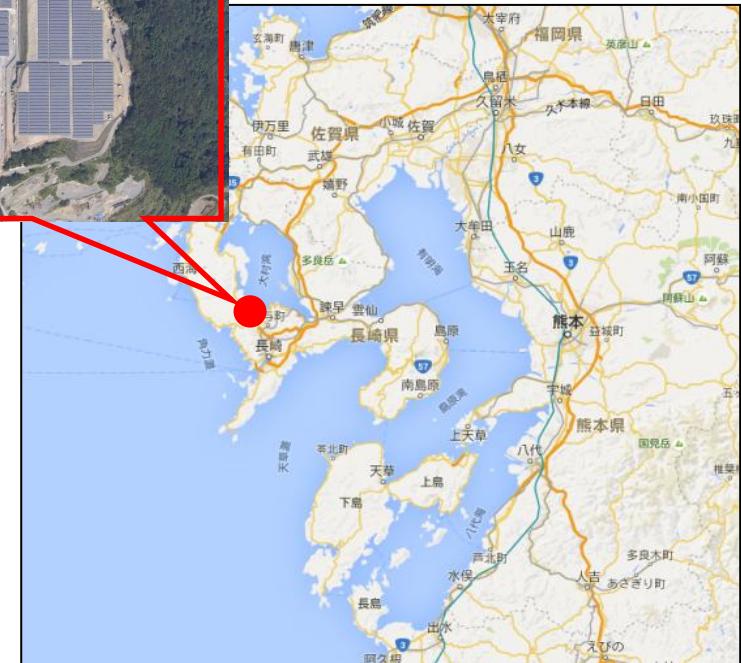
Solar power generation project (Nagasaki Prefecture)

Installation location

Nagasaki city

System specifications

Module	: Hyundai HiS-S270RG
Output	: 270W (Rated maximum output per panel)
Cell type	: Single crystal
Number of cells	: 39,424 pcs.
System output	: 10.6MW
Annual generation	: 12,171,154kWh
Array tilt angle	: 10°
Array azimuth angle	: 180° (South)



Solar power generation project (Fukuoka Prefecture)

Installation location

Chikushi district

System specifications

Module : LG Electronics LG280S1C-A3

Output : 280W (Rated maximum output per panel)

Cell type : Single crystal

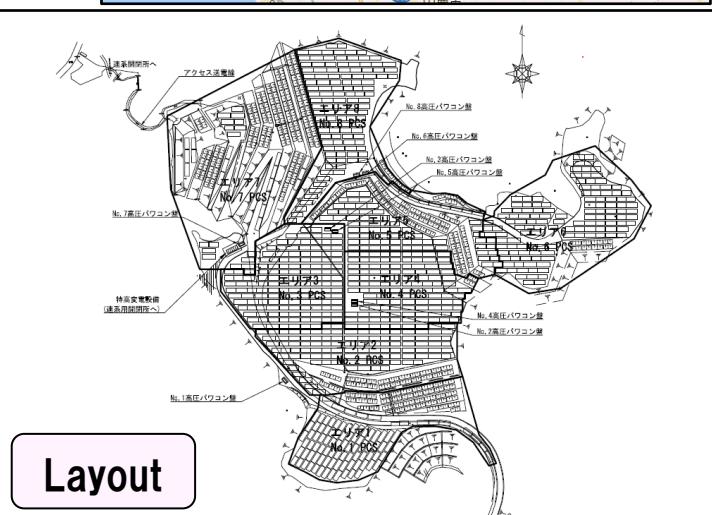
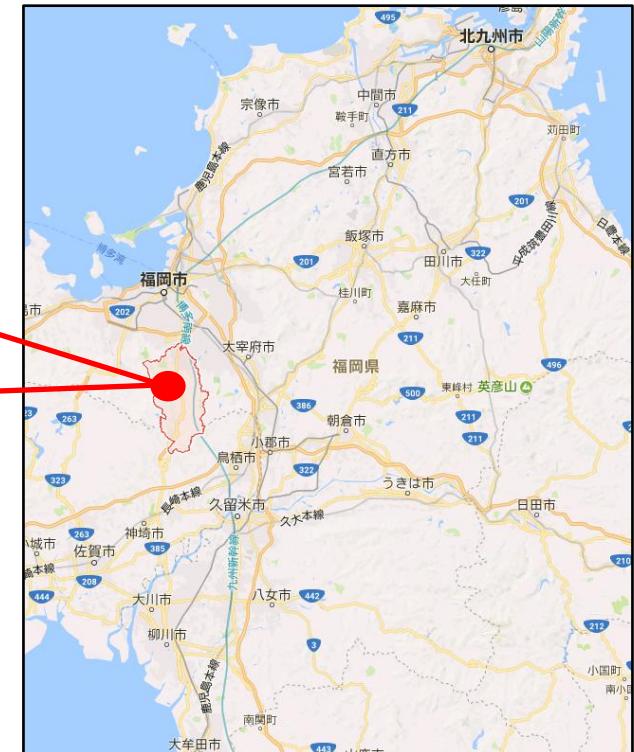
Number of cells : 23,518 pcs.

System output : 6.0MW

Annual generation : 7,365,182kWh

Array tilt angle : 10°

Array azimuth angle : 180° (South)



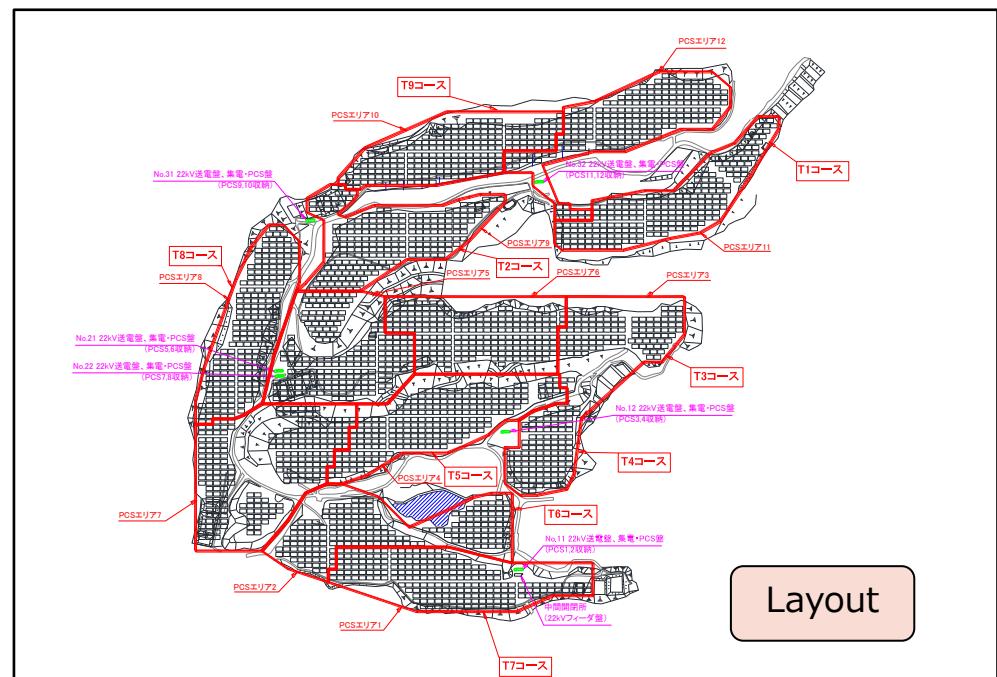
Solar power generation project (Mie Prefecture)

Installation location

Inabe city

System specifications

Module	: Solar Frontier SF175-S
Output	: 175W (Rated maximum output per panel)
Cell type	: CIS
Number of cells	: 82,080 pcs.
System output	: 12MW
Annual generation	: 15,944,635kWh
Array tilt angle	: 15°
Array azimuth angle	: 180° (South)



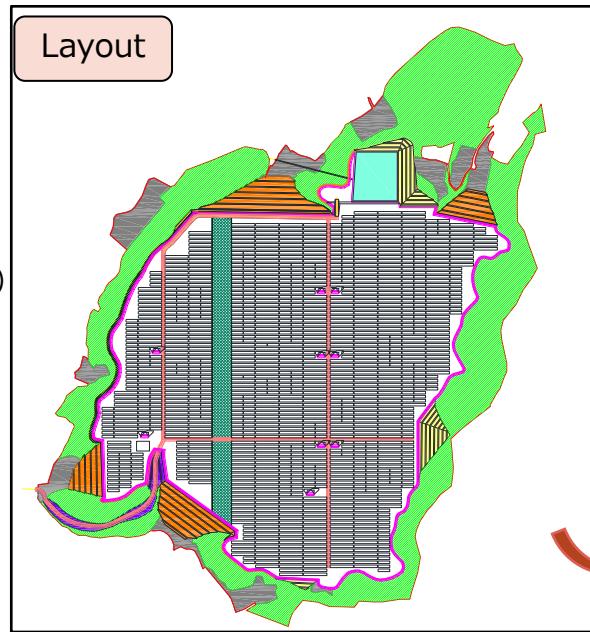
Solar power generation project (Gunma Prefecture)

Installation location

Tomioka city

System specifications

Module	: HYUNDAI HiS-S290RG
Output	: 290W (Rated maximum output per panel)
Cell type	: Single crystal
Number of cells	: 78,000 pcs.
System output	: 18MW
Annual generation	: 26,000,000kWh
Array tilt angle	: 10°
Array azimuth angle	: 180° (South)



66 kV Switchyard



Privately-operated power line, buried underground, approximately 1km away



Solar power generation project (Chiba Prefecture)

Installation location

Ichihara city

System specifications

Module : JA SOLAR JAM 6 (K)60-385/PR

Output : 385W (Rated maximum output per panel)

Cell type : Single crystal

Number of cells : 60,000 pcs

System output : 20MW

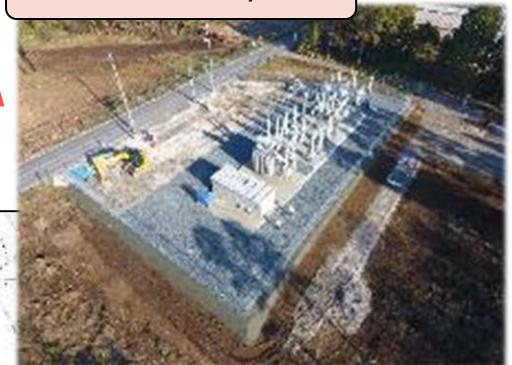
Annual generation : 25,000,000kWh

Array tilt angle : 10°

Array azimuth angle : 180° (South)

Privately-operated power line, buried underground, approximately 3km away

154V Switchyard



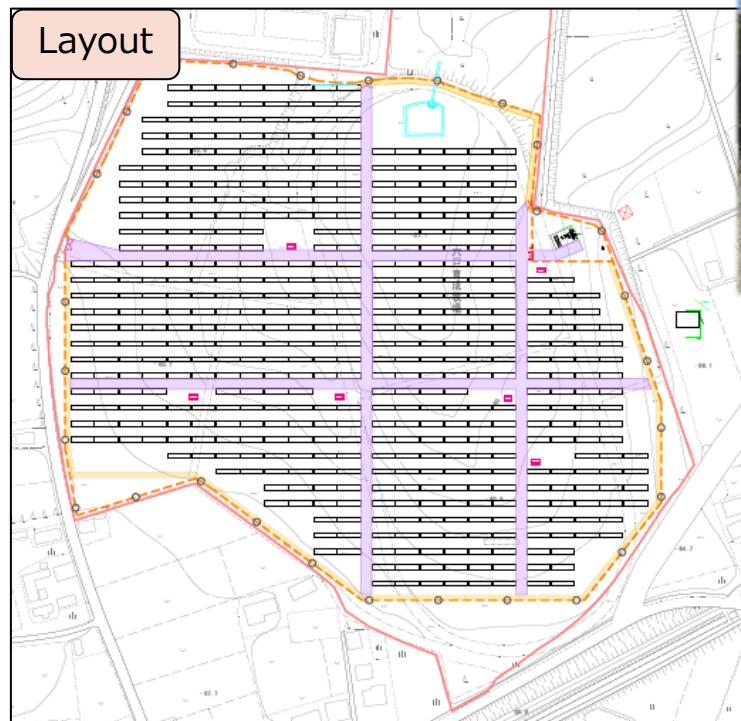
Solar power generation project (Aomori Prefecture)

Installation location

Rokunohe city

System specifications

Module	: JA SOLAR JAM72D20-455/MB
Output	: 455W (Rated maximum output per panel)
Cell type	: Single crystal
Number of cells	: 16,000 pcs.
System output	: 6MW
Annual generation	: 9,500,000kWh
Array tilt angle	: 30°
Array azimuth angle	: 180° (South)



Before



Construction



After



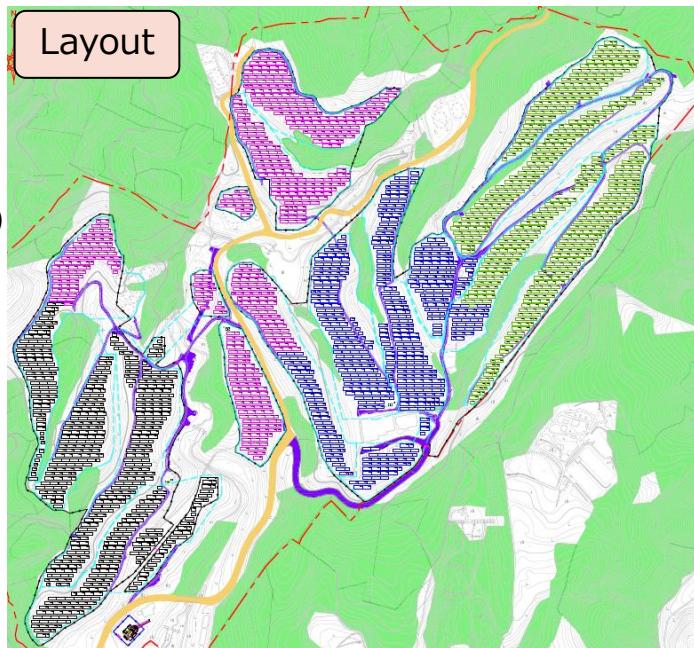
Solar power generation project (Gunma Prefecture, Takasaki city)

Installation location

Takasaki city

System specifications

Module	: Canadian Solar
Output	: 645W (Rated maximum output per panel)
Cell type	: Single crystal
Number of cells	: 40,000 pcs.
System output	: 26MW
Annual generation	: 30,000,000kWh
Array tilt angle	: 15°
Array azimuth angle	: 180° (South)



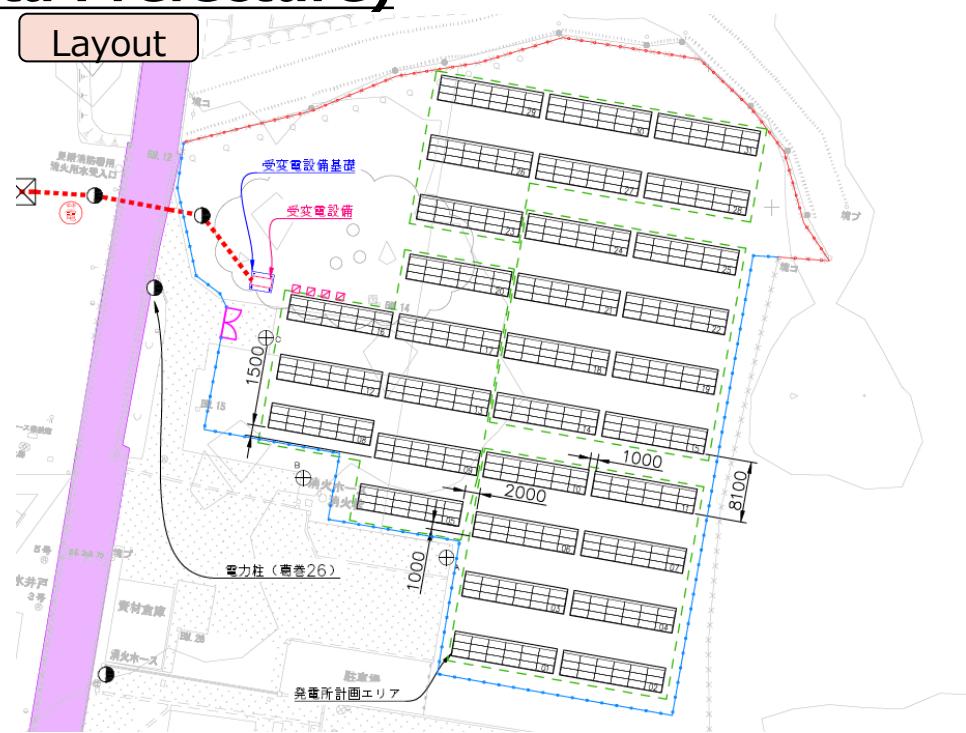
Solar power generation project (Niigata Prefecture)

Installation location

Mitsuke city

System specifications

Module	: JA Solar
Output	: 545W (Rated maximum output per panel)
Cell type	: Single crystal
Number of cells	: 588 pcs.
System output	: 250kw
Annual generation	: 359,969kWh
Array tilt angle	: 30°
Array azimuth angle	: 190° (South)



Construction

2023.6



After

2023.8



Solar power generation project (Fukushima Prefecture)

Installation location

Sukagawa city

System specifications

Module	: Yingli
Output	: 430W (Rated maximum output per panel)
Cell type	: Single crystal
Number of cells	: 288 pcs.
System output	: 100kw
Annual generation	: 114,520kWh
Array tilt angle	: 10°
Array azimuth angle	: East side 171° (South) West side 192° (South)

Result

2024.2



Layout



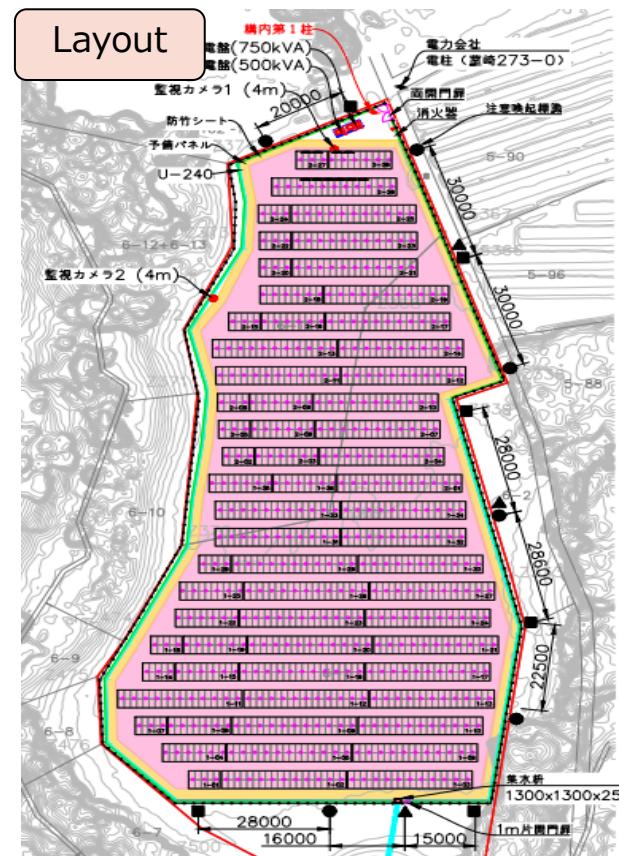
Solar power generation project (Ibaraki Prefecture)

Installation location

Tsukuba city

System specifications

Module	: Canadian Solar
Output	: 660W (Rated maximum output per panel)
Cell type	: Single crystal
Number of cells	: 1,900 pcs.
System output	: 1.1MW
Annual generation	: 1,700,000kWh
Array tilt angle	: 15°
Array azimuth angle	: 180° (South)



Solar power generation project (Niigata Prefecture)

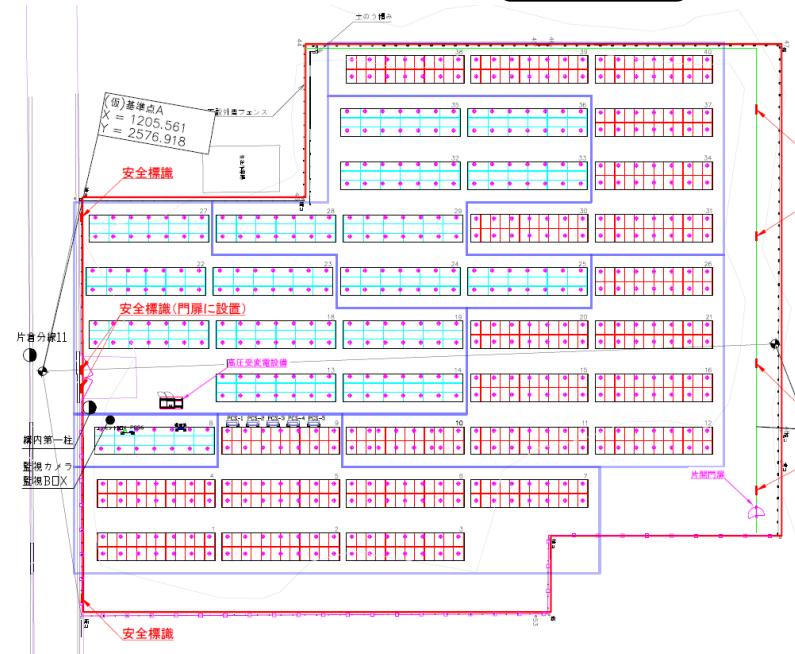
Layout

Installation location

Niigata city

System specifications

Module	: JA Solar / Kyocera
Output panel)	: 565W/395w (Rated maximum output per
Cell type	: Single crystal/ Single crystal
Number of cells	: 306/552 pcs.
System output	: 300kW
Annual generation	: 390,000kWh
Array tilt angle	: 20°
Array azimuth angle	: 170° (South)



Before

2024.12



After

2025.2



Solar power generation project (Okayama Prefecture)

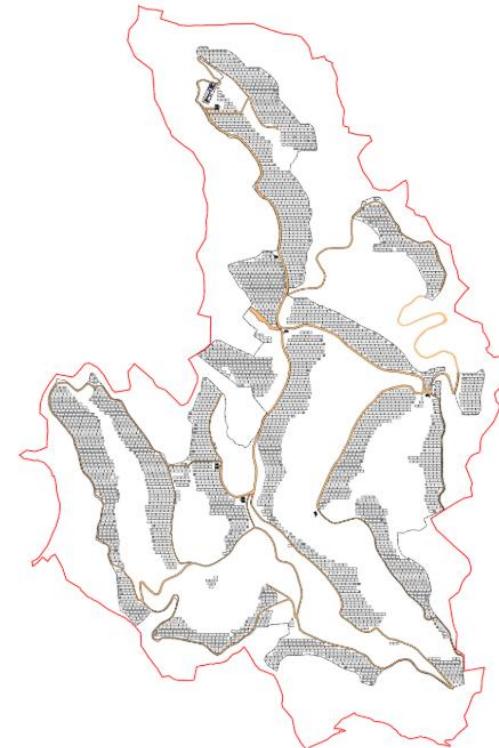
Installation location

Maniwa city

Layout

System specifications

Module	: Canadian Solar
Output	: 690W (Rated maximum output per panel)
Cell type	: Single crystal
Number of cells	: 41,832 pcs.
System output	: 20MW
Annual generation	: 33,639,565kWh
Array tilt angle	: 25°
Array azimuth angle	: 180° (South)



Before



After



Solar power generation project (Nagano Prefecture)

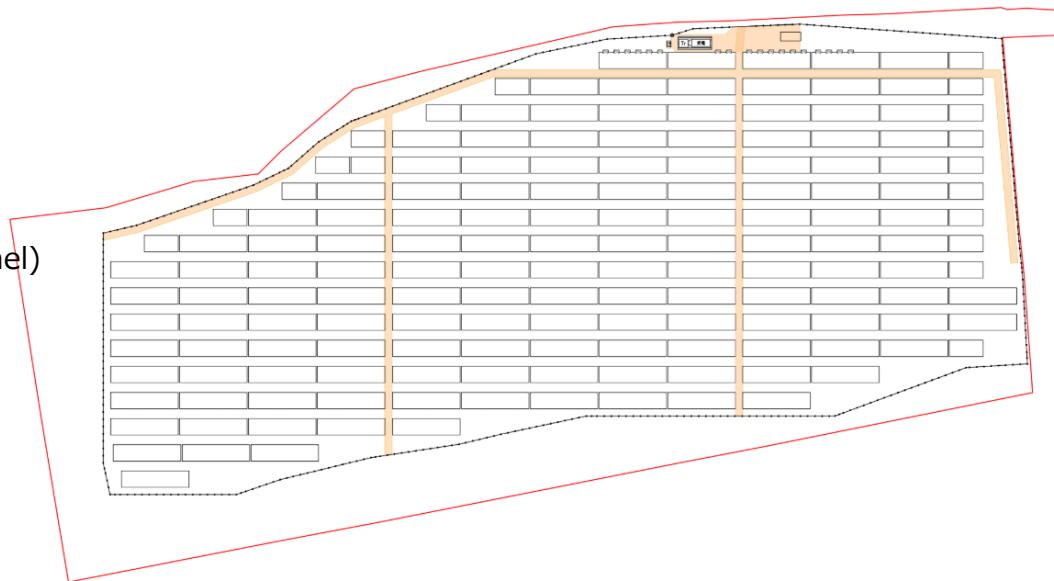
Layout

Installation location

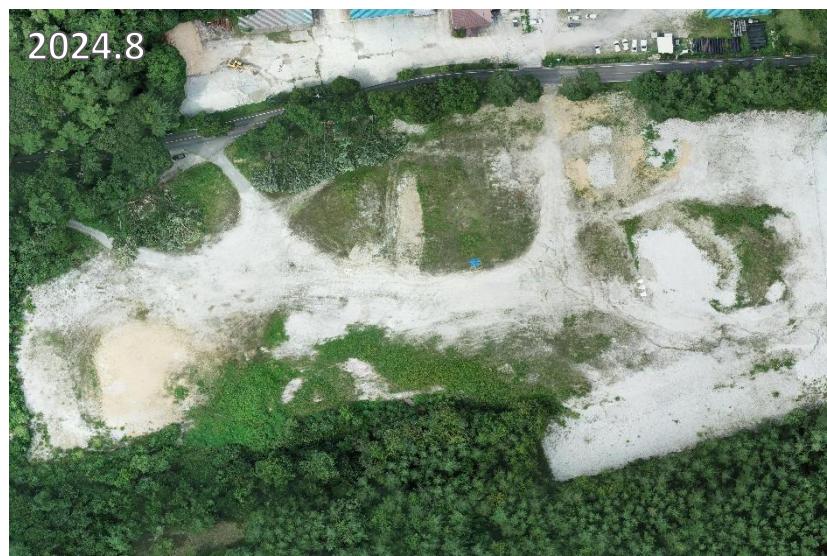
Omachi city

System specifications

Module	: Canadian Solar
Output	: 700W (Rated maximum output per panel)
Cell type	: Single crystal
Number of cells	: 4,284 pcs.
System output	: 1,998kW
Annual generation	: 3,638,985kWh
Array tilt angle	: 20°
Array azimuth angle	: 180° (South)



Before



After



Case studies (Wind power generation equipment)

Chiyoda Ward Office (in front of Yurakucho Marion)



Two hybrid (wind + solar) streetlights have been installed in the busy downtown area.

No vibration or noise, stable against strong winds and safe.



Micronesia project

Micronesia Telecom: Auxiliary power supply for relay towers

A hybrid windmill + solar power system that is easy to maintain is used on an uninhabited island with strong sea breezes.



Tokyo, Ajinomoto stadium

Hybrid system using 1kW wind power generator and solar cell module



Two units installed at the stadium entrance along Koshu Kaido

The generated electricity is stored in a battery and used as a power source for LED lighting in the parking lot. A backup circuit to the commercial power source is implemented, so the lights can be turned on every day even if there are consecutive days without power generation.

Newly constructed building for a pharmaceutical company in Fukushima Prefecture

A hybrid system consisting of five 1kW wind turbines and a 10kW solar cell module



The generated electricity is connected to the facility's power system via a controller and power conditioner in the control panel, and covers a portion of the general load.



Biomass power generation projects

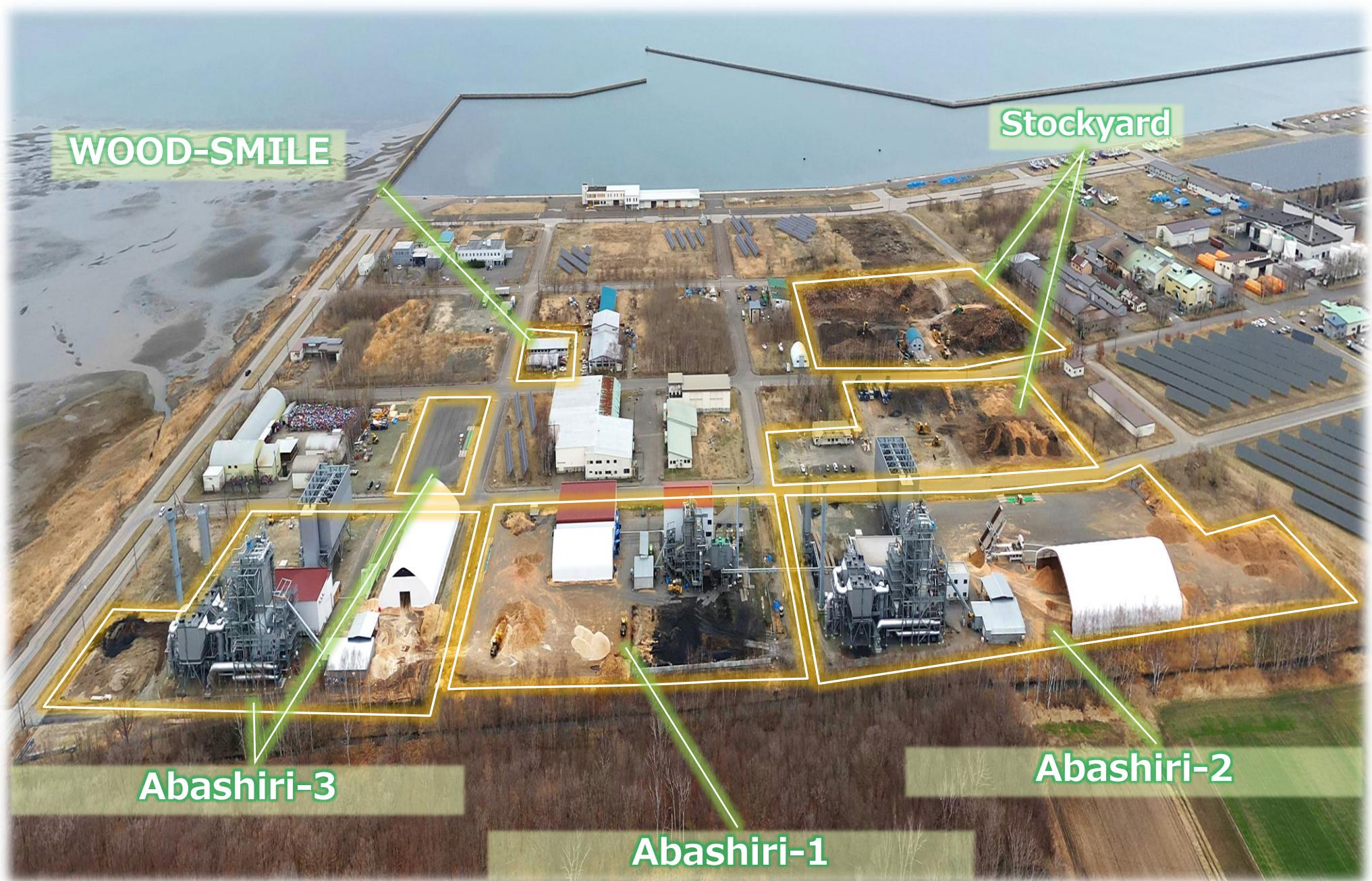


Abashiri power plant



Destination	Distance	Travel time
Memanbetsu Airport	23km	25 min.
Abashiri port	10.5km	17 min.
Abashiri city office	9.8km	15 min.
Abashiri station	8km	12 min.

Abashiri power plant

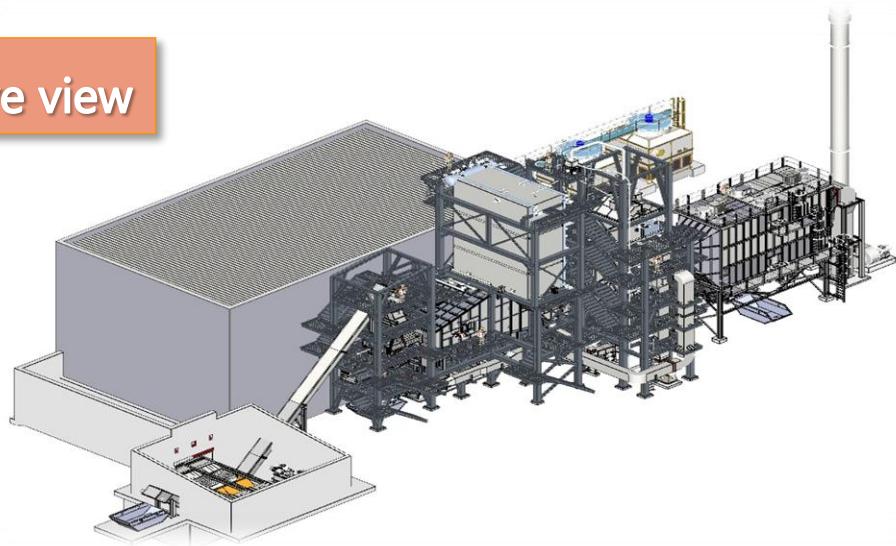


Abashiri-1 Biomass Power Plant

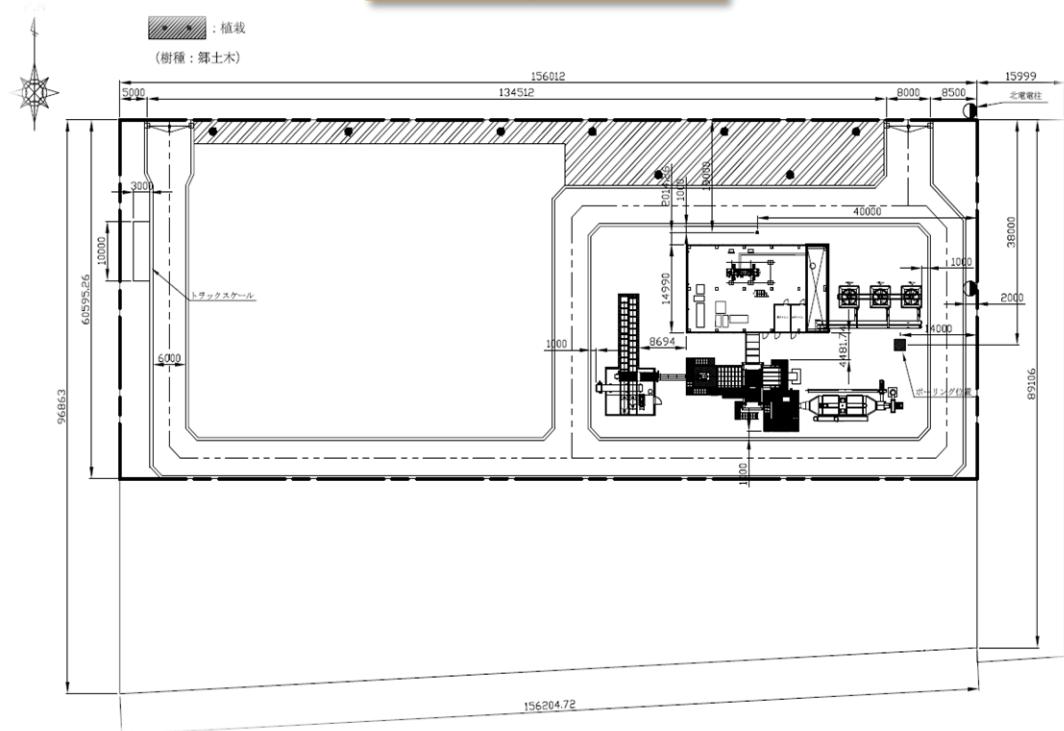
Business overview	
Generation company :	LLC WS Abashiri biomass power plant 1
O&M :	LLC WOOD-SMILE
Name of power plant :	Abashiri biomass power plant
Location of power plant :	Hokkaido, Abashiri city, Notorominatomachi 4 (Notoro Industrial park)
Site area :	11,808m ²
Site purchased from :	Abashiri city
Operation hours :	24 hours a day, 330 days a year (scheduled to be suspended for maintenance)
Generation capacity :	
(a)	Output : 1,995kW
(b)	Amount of electricity sold : 1,695kWh
(c)	Amount of electricity sold for a year : 13,424,400kW
Purchaser :	Hokkaido Electric Power Network, Inc.
Method of sale :	Selling all electricity generated under the Feed-in Tariff program
Generation method :	Biomass thermal power generation (steam turbine power generation using a stoker-type boiler)
Fuel :	Biomass (100% thinned wood)
Construction period :	August 2017～October 2018
Start of operation :	February 2019

Abashiri-1 Biomass Power Plant

Bird's-eye view



Layout



Abashiri-1 Biomass Power Plant

List of major equipment manufacturers

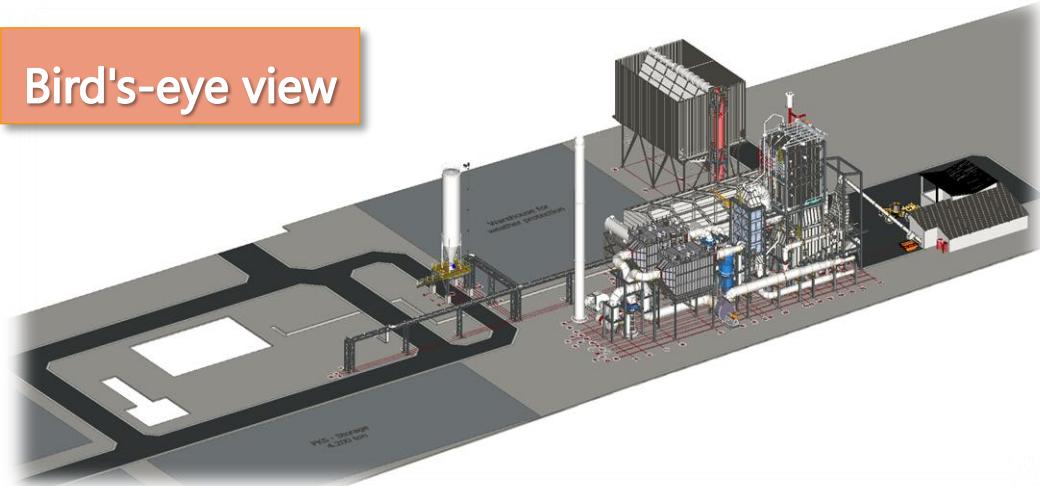
Equipment	Maker	Country
Grate / Boiler	INTEC	Germany
Turbine generator	M+M	Germany
Exhaust tower	VL Staal a/s	Denmark
Cooling tower	M-CTI	Germany
Electrostatic dust collector	Save Energy	Switzerland
Water treatment equipment	EUROWATER	Denmark
Generator control panel	M+M	Germany
Auxiliary control panel	LAE Engineering	Germany
Electrostatic dust collector control panel	Save Energy	Switzerland
Water treatment equipment control panel	EUROWATER	Denmark
Power receiving board/high voltage board	K-Powertron	Japan
Independent Operation Detection Equipment	Nissin Electric	Japan

Abashiri-2 Biomass Power Plant

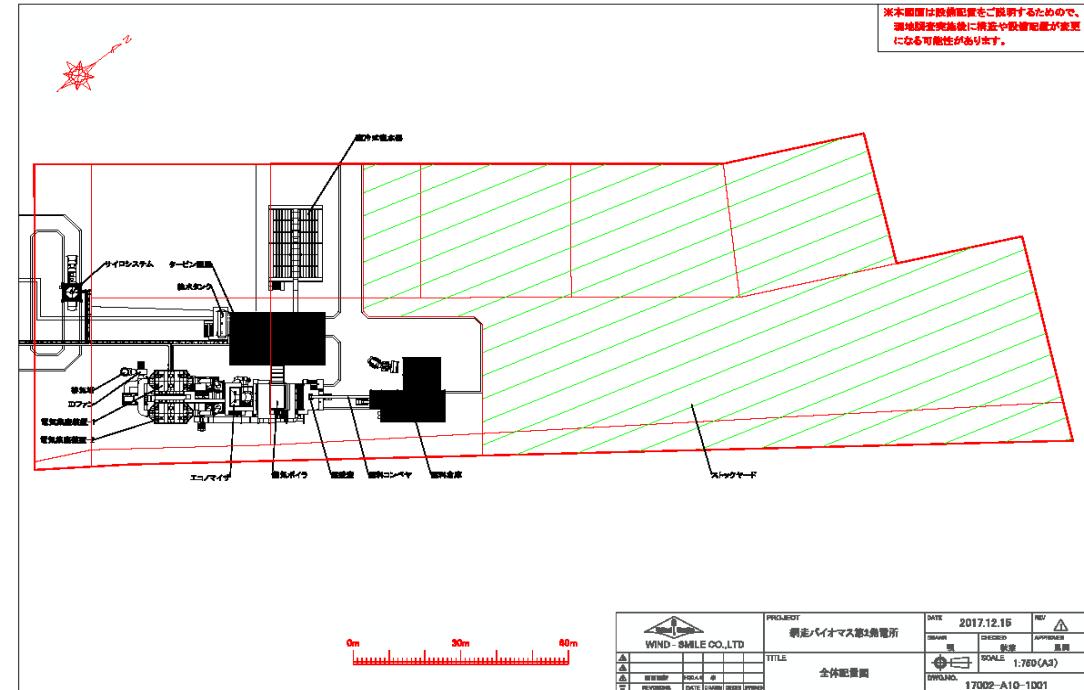
Business overview	
Generation company :	LLC WS Abashiri biomass power plant 2
EPC :	WIND-SMILE Co., Ltd.
O&M :	LLC WOOD-SMILE
Name of power plant :	Abashiri biomass power plant 2
Location of power plant :	Hokkaido, Abashiri city, Notorominatomachi 4 (Notoro Industrial park)
Site area :	20,107m ²
Site purchased from :	Abashiri city (partly private)
Operation hours :	24 hours a day, 330 days a year (scheduled to be suspended for maintenance)
Generation capacity :	
(a)	Output : 9,900kW
(b)	Amount of electricity sold : 8,900kWh
(c)	Amount of electricity sold for a year : 70,488,000kW
Purchaser :	Hokkaido Electric Power Network, Inc.
Method of sale :	Selling all electricity generated under the Feed-in Tariff program
Generation method :	Biomass thermal power generation (steam turbine power generation using a stoker-type boiler)
Fuel :	Biomass (thinned wood, wood pellets, PKS)
Construction period :	August 2020～October 2022
Start of operation :	October 2022

Abashiri-2 Biomass Power Plant

Bird's-eye view



Layout

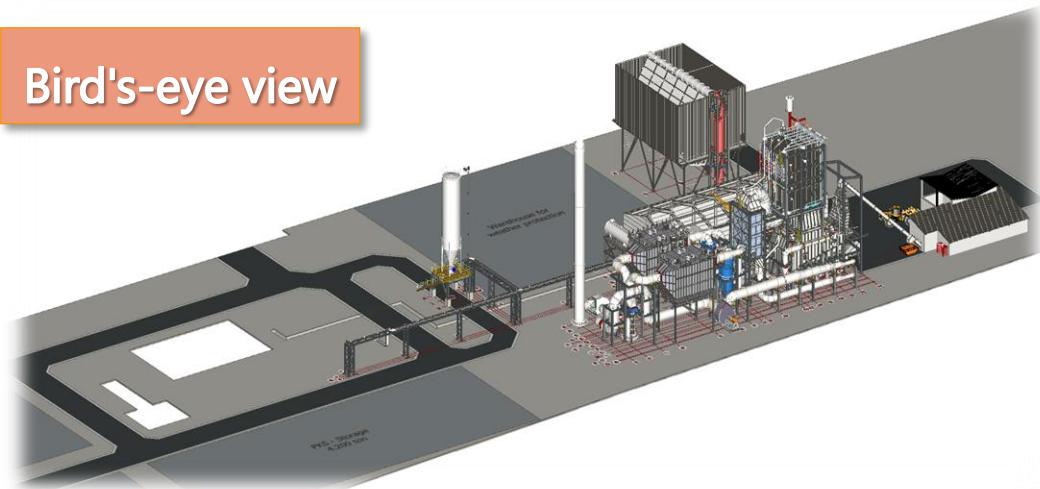


Abashiri-3 Biomass Power Plant

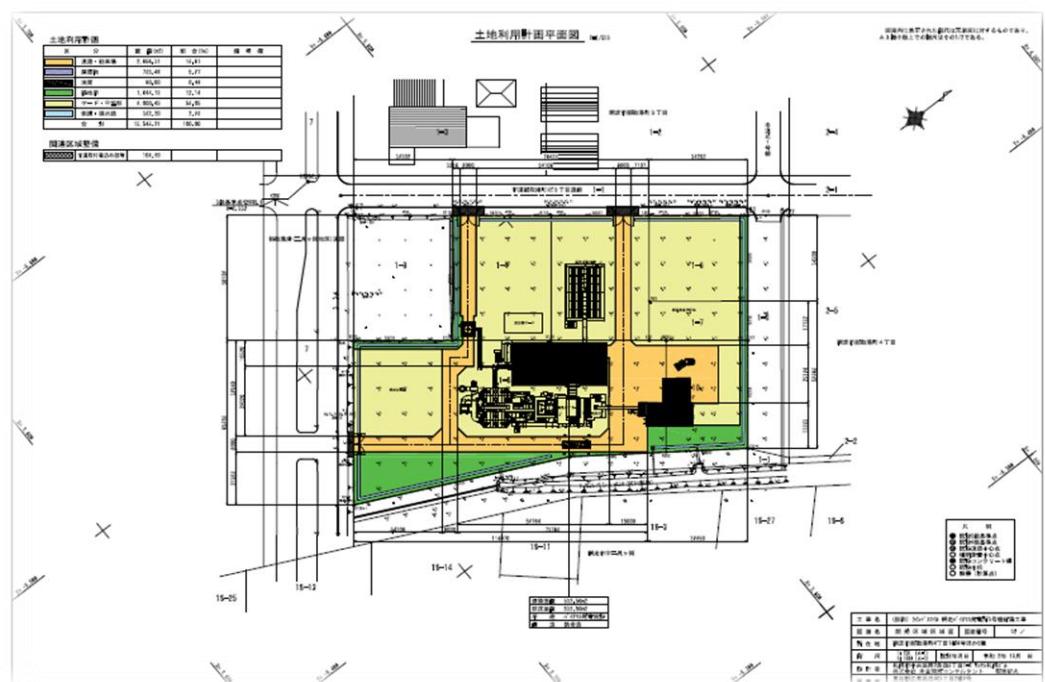
Business overview	
Generation company :	LLC WS Abashiri biomass power plant 3
EPC :	WIND-SMILE Co., Ltd.
O&M :	LLC WOOD-SMILE
Name of power plant :	Abashiri biomass power plant 3
Location of power plant :	Hokkaido, Abashiri city, Notorominatomachi 4 (Notoro Industrial park)
Site area :	19,763m ²
Site purchased from :	Abashiri city
Operation hours :	24 hours a day, 330 days a year (scheduled to be suspended for maintenance)
Generation capacity :	
(a)	Output : 9,900kW
(b)	Amount of electricity sold : 8,900kWh
(c)	Amount of electricity sold for a year : 70,488,000kW
Purchaser :	Hokkaido Electric Power Network, Inc.
Method of sale :	Selling all electricity generated under the Feed-in Tariff program
Generation method :	Biomass thermal power generation (steam turbine power generation using a stoker-type boiler)
Fuel :	Biomass (thinned wood, wood pellets, PKS)
Construction period :	April 2021～March 2023
Start of operation :	March 2023

Abashiri-3 Biomass Power Plant

Bird's-eye view



Layout



Abashiri-2&3 Biomass Power Plant

List of major equipment manufacturers

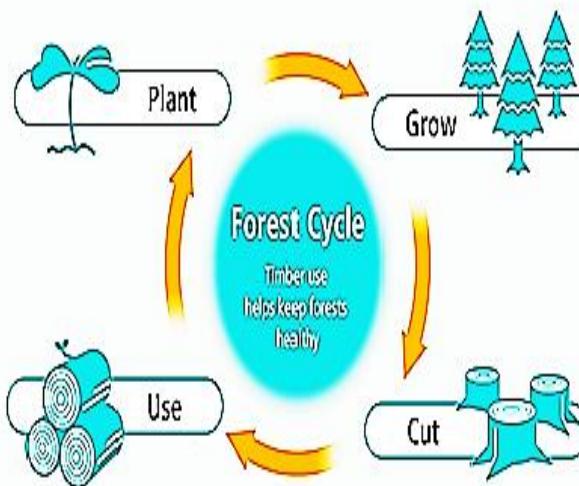
Equipment	Maker	Country
Grate	INTEC	Germany
Boiler	Fakop	Poland
Turbine	TGM Kanis	Germany
Generator	TDPS	India
Exhaust tower	VL Staal a/s	Denmark
Air-cooling type cooling tower	Benvig Heat transfer	Czech Republic
Electrostatic precipitator×2	save energy	Switzerland
Water treatment equipment	Kurita Hokkaido LLC	Japan
6.6kV equipment	Fuji electric	Japan
Extra-high-voltage equipment	Nissin Electric	Japan

Fuel for the Abashiri biomass power generation projects

WIND-SMILE's biomass power plant uses unused wood from Hokkaido, which has been thinned and otherwise harvested, as fuel. Fossil fuel such as oil, coal, and natural gas emits large amount of carbon dioxide that is buried underground and contributes to global warming, but when wood is used as fuel, the carbon dioxide emissions from incineration are offset by the amount of carbon dioxide absorbed through photosynthesis (carbon neutral). WIND-SMILE believes that we can create a sustainable forest by working with local communities to protect Japan's forest resources for the next generation.



Loading and transporting unused lumber



Crushing of unused lumber



Chip fuel within power plant



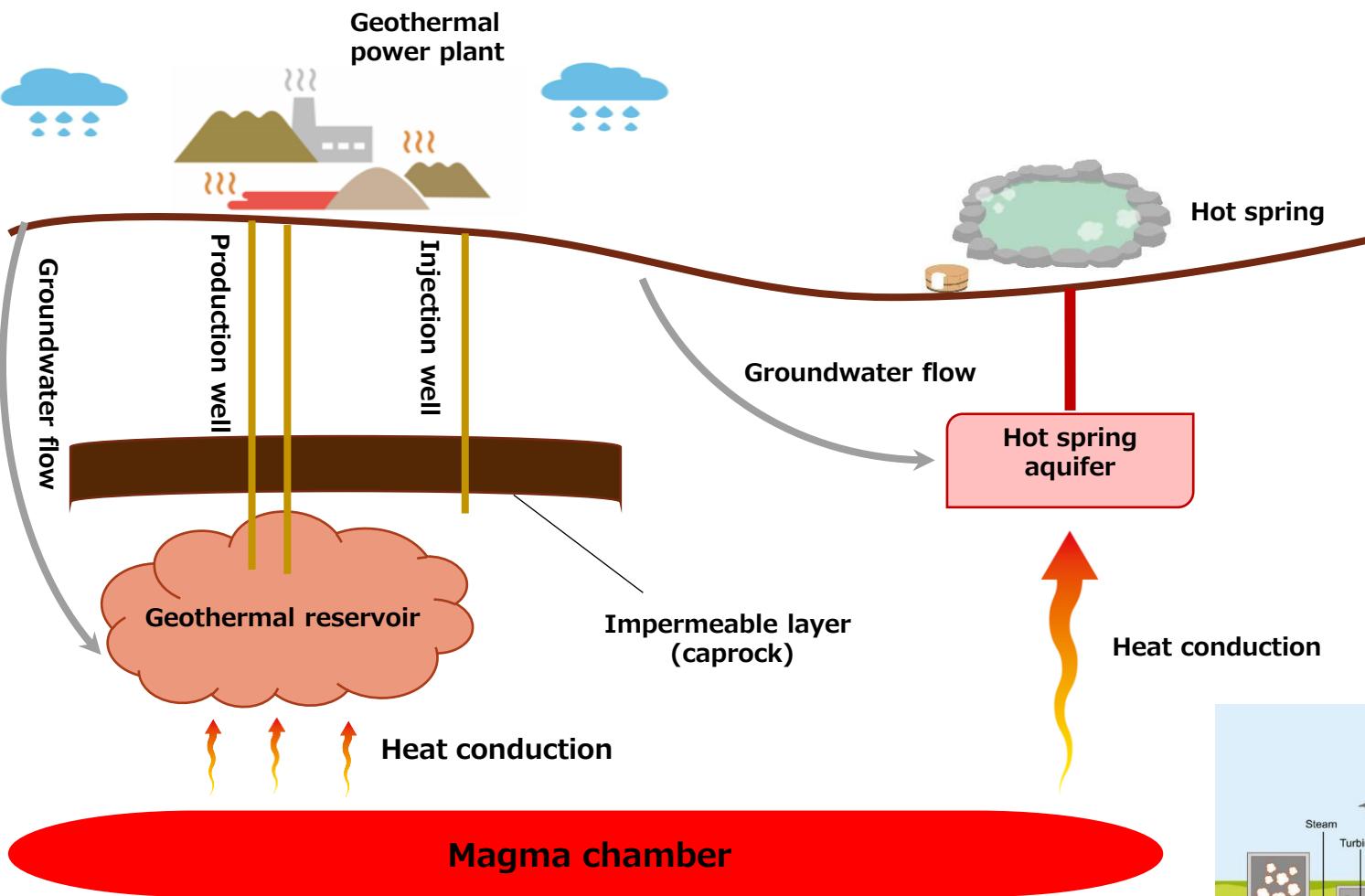
Loading chip fuel to boiler



Geothermal power plant projects



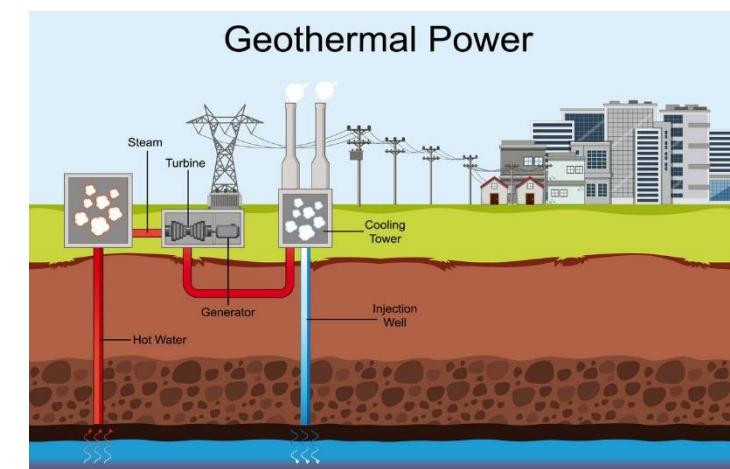
What is geothermal energy and power generation?



Geothermal power generation uses the thermal energy of underground magma to generate electricity. When rain that falls on the ground seeps into the high-temperature magma layer underground, it turns into steam due to the heat of the magma and accumulates around 1,000 to 3,000 meters underground. The general mechanism for geothermal power generation is to extract this high-temperature steam by digging wells and use it to turn turbines to generate electricity.

Geothermal energy is the thermal energy that has been generated and stored inside the Earth since the Earth's birth.

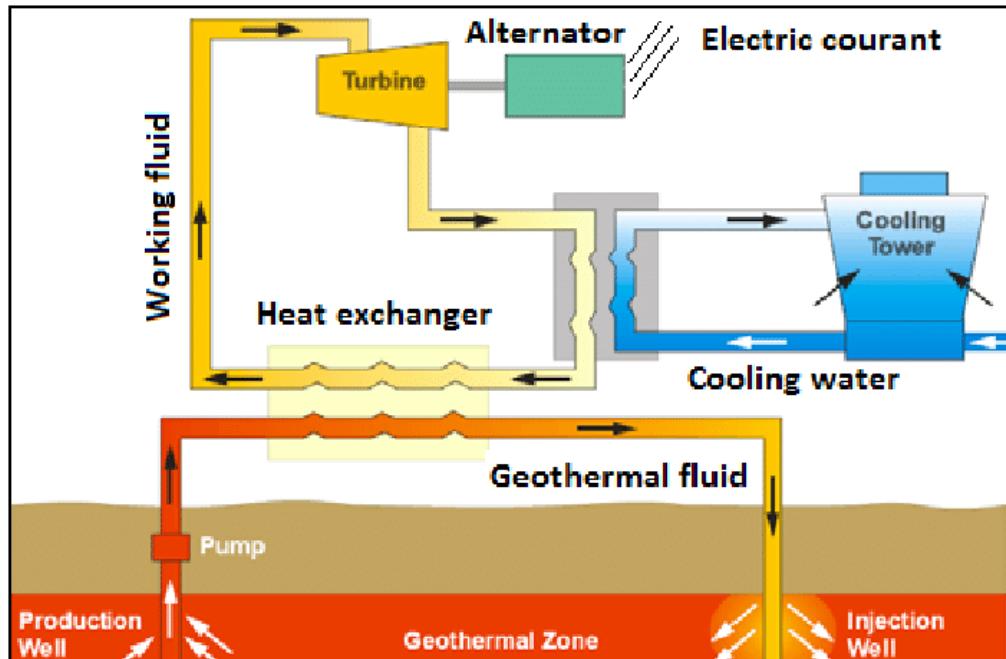
It is released from underground near the Earth's surface, for example, through volcanic activity and hot springs.



Source: powercompare.co.nz

How binary geothermal power generation works

- Binary power generation is a system in which geothermal fluid (hot water and steam) is heat exchanged with a secondary medium that has a lower boiling point than water (evaporator), and the secondary medium is used to rotate a turbine and generate electricity.
- After heat exchange, the utilized geothermal fluid is returned to the subsurface through reinjection well to maintain geothermal fluid underground (it is also assumed that the fluid can be used as hot water at the surface to the extent that it does not cause problems for underground recharge).



Source: researchgate.net

- **Advantages of binary system (cf. Flash system)**
 1. Power can be generated using only hot water
 2. Power can be generated at lower temperatures (expands business areas)
 3. Operation rate of equipment is high
 4. No assumption of exposure of steam hydrothermal water to the ground, and preservation of the ground environment is possible (easy to obtain understanding from the community).
- **Disadvantages of binary system (cf. Flash system)**
 1. It is difficult to make it super large
 2. High equipment cost due to the need for a heat exchanger

✓ **The binary method has a better return on investment**

✓ **Binary system is predominant method in the World**

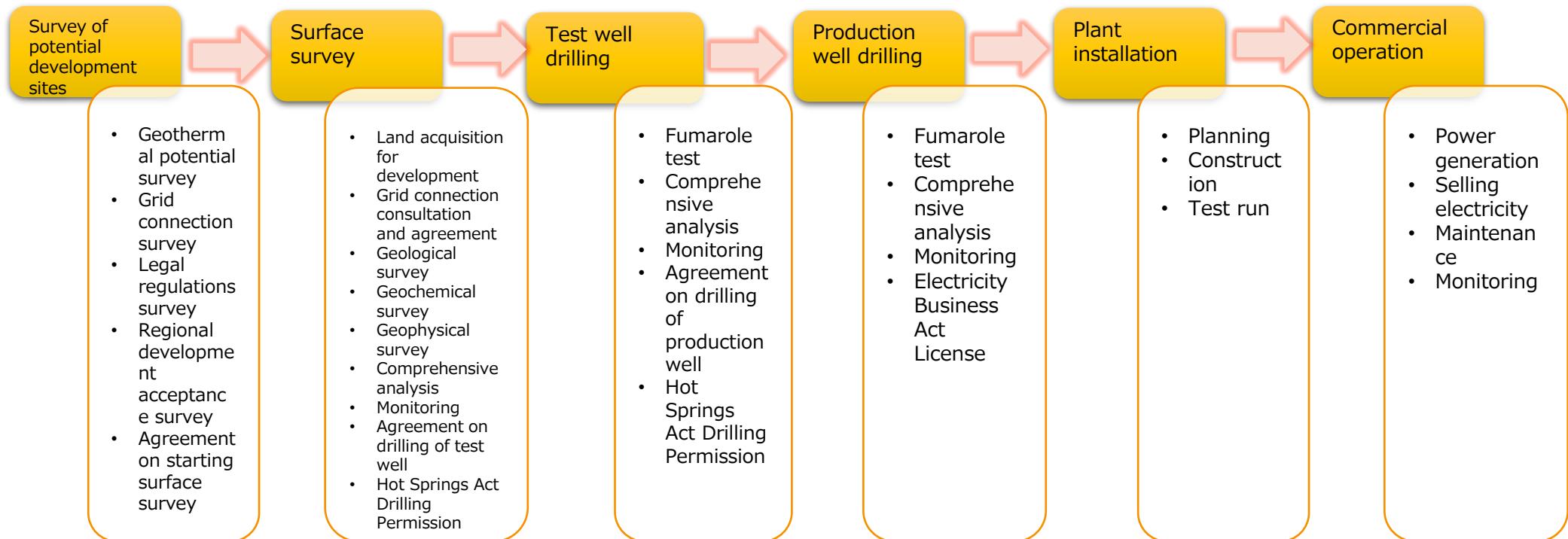
✓ **Flash system is predominant method in Japan**

- ① Geothermal fluid is extracted from the production well.
- ② The geothermal fluid is used to heat the secondary medium and convert it to steam. After the secondary medium is heated, the fluid is returned to the ground from the reinjection well.
- ③ The secondary medium steam rotates the turbine to generate electricity
- ④ After power generation is completed, the secondary medium is returned to liquid form in the condenser and then sent to the evaporator again by the circulation pump.

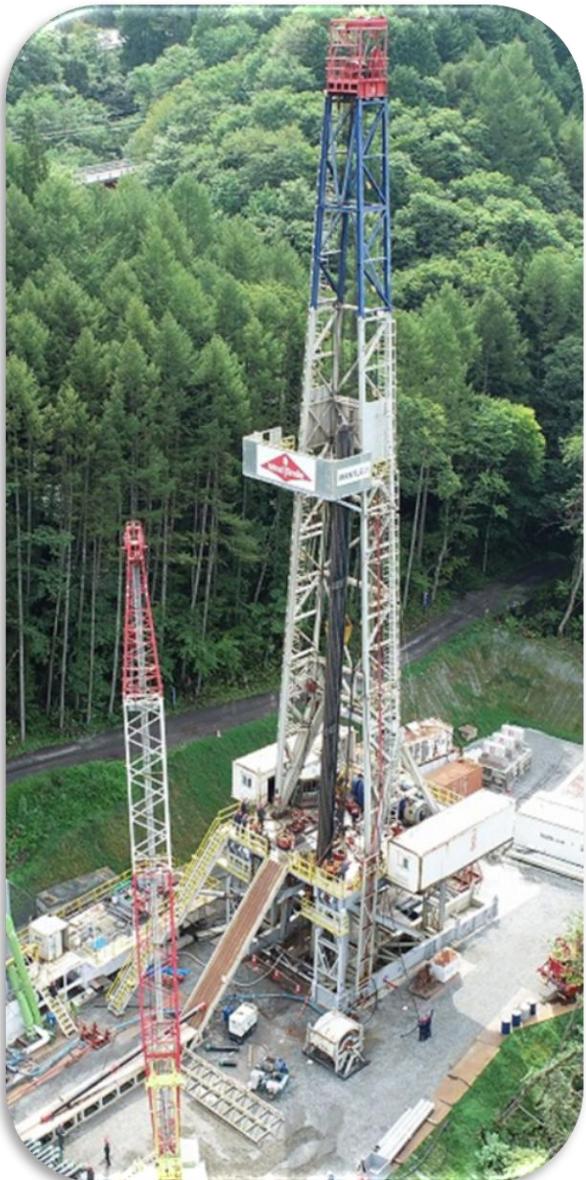
Project overview

We are currently working on the following two binary geothermal power plant development projects using the FIT (FIP) system.

PJ name/SPC/Location	Status
Okuhida PJ Okuhida Geo Energy SPC Okuhida Onsen Village, Takayama City, Gifu Prefecture	<ul style="list-style-type: none">● Generation method: Binary geothermal power generation planned● Hot Springs Act drilling permission obtained (test well)● Grid connection contract signed● FIT certified
Mogami Sasamori PJ Mogami Geo Energy SPC Mogami Town, Mogami District, Yamagata Prefecture	<ul style="list-style-type: none">● Generation method: Binary geothermal power generation planned● Hot Springs Act drilling permission obtained (test well)● Grid connection contract signed



WIND-SMILE's advantages



- **Owning drilling rig (ZJ50/3150D)**

Item	Outline
Rig type	ZJ50/3150D
Specifications	Draw works output 1,500hp
Drilling depth	5,000m
Others	We own the rig and perform the drilling with our own crew

- **Promoting in-house geophysical exploration with support of experts**



Electromagnetic survey



Gravity survey