

Renewable Energy Business

2019/10/8

Shimizu Corporation

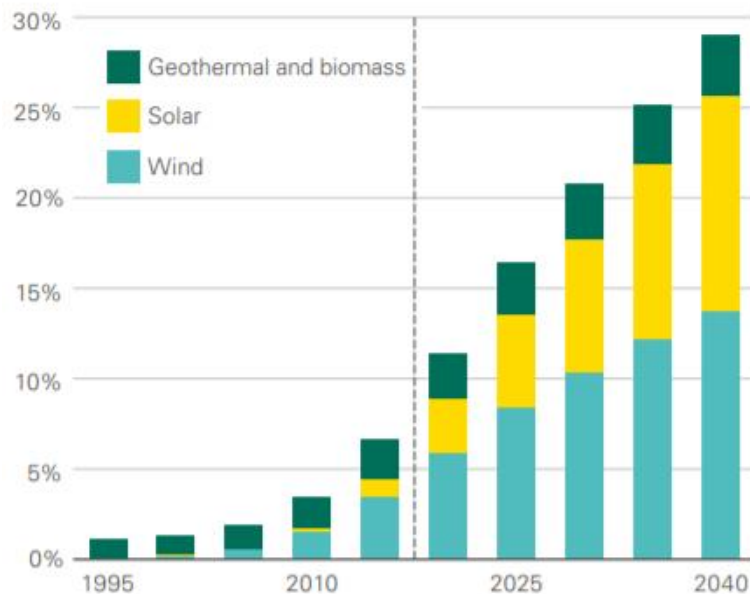


Life Cycle Valuation

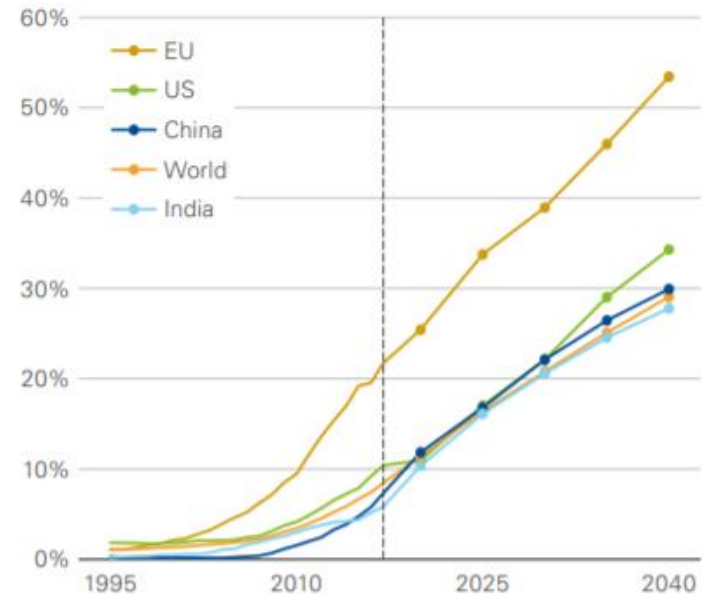
Expansion of Renewables

Renewables are the largest source of energy growth, growing in importance in global power markets

Renewables share of power generation by source



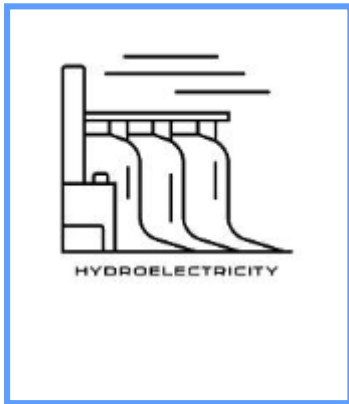
Renewables share of power generation by region



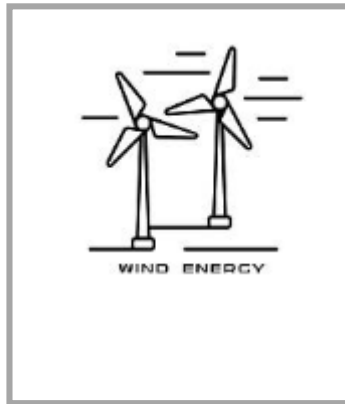
BP Energy Outlook 2019

Variety of Renewables

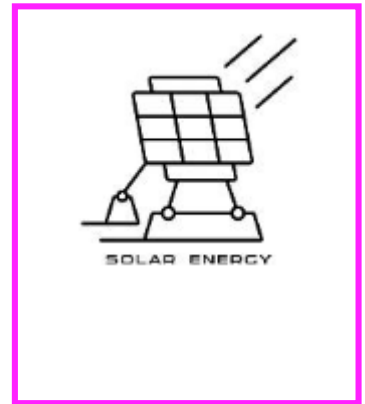
Hydro Power



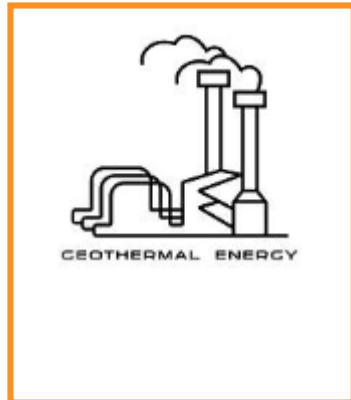
Wind Power



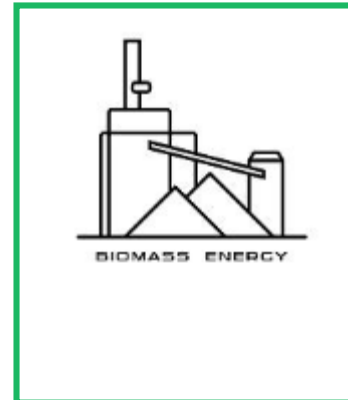
Solar Power



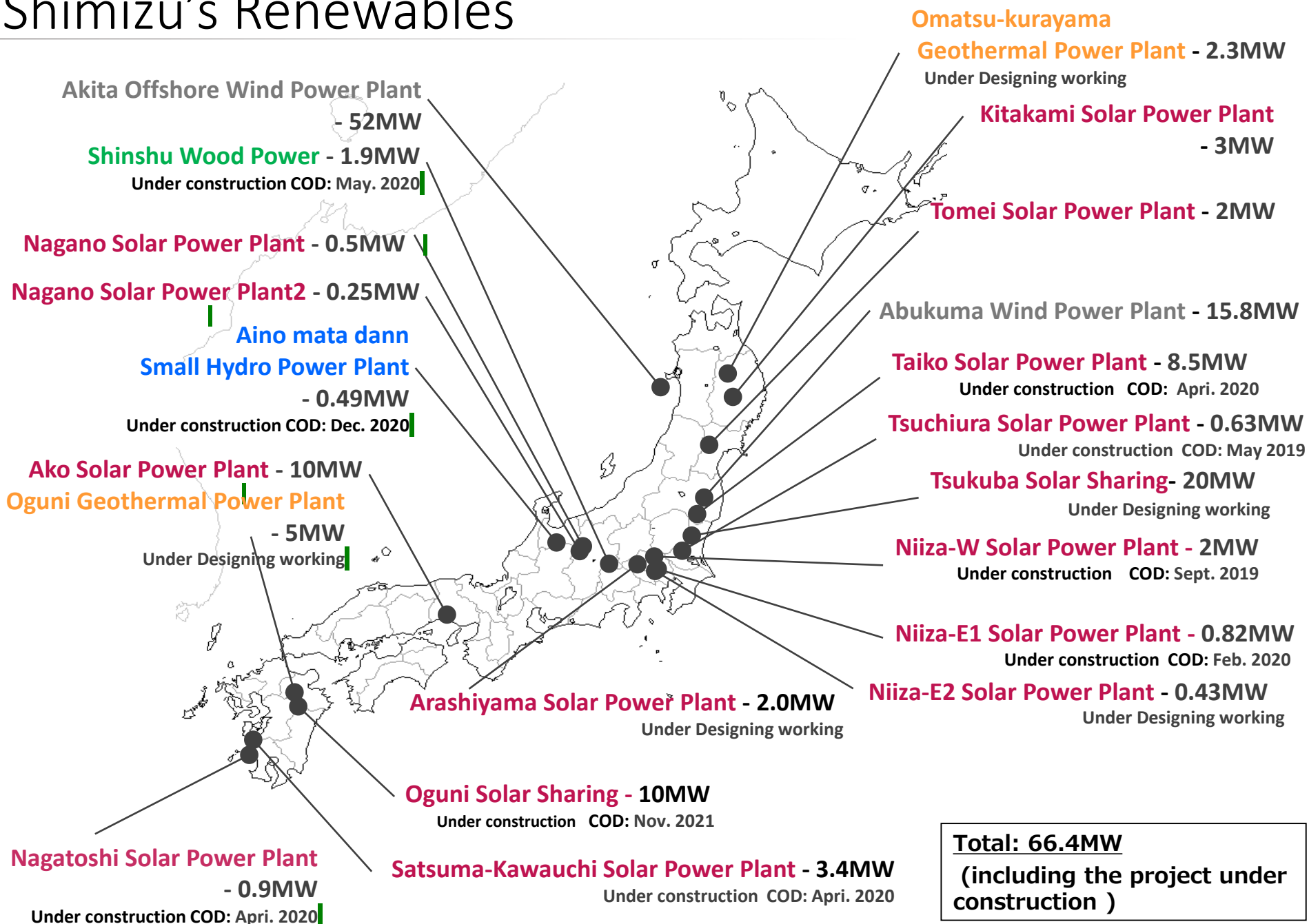
Geothermal Power



Biomass Power



Shimizu's Renewables



Our Track Records

Ako Solar Power Plant

(9.9MW)



Shinshu Wood Power (Biomass Power Plant)

Under Construction (1.9MW)



✂ Conceptional Drawing

Aino-mata-dani

Small Hydro Power Plant

Under Construction (0.49MW)



Fukushima Floating Offshore Wind Farm

Demonstration Project



Oharayama Wind Farm (33MW)



What is “Solar-Sharing” (Agrivoltaic)



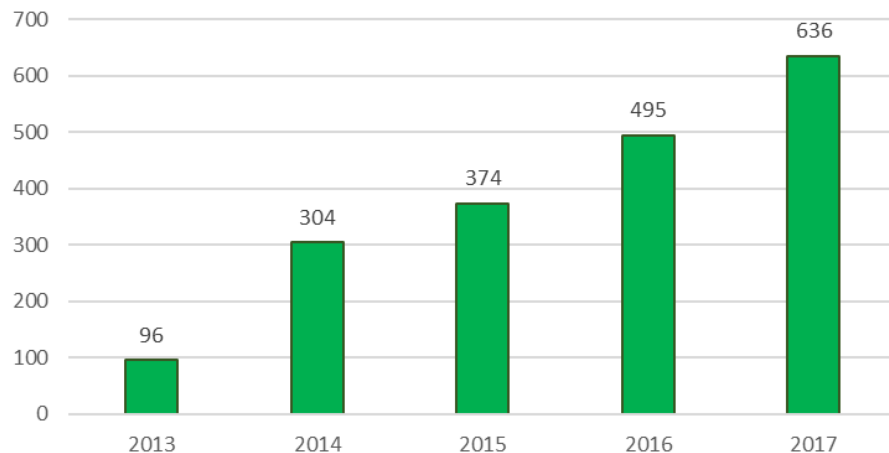
- Agrivoltaic is a co-development of both solar power and agriculture on the same area of land.

- Solar panels are installed 3-4m above the farmland.

- More farmer's income while reclaiming abandoned farmlands and creating renewable power.

- With the Japanese government's encouragement, the number of approved Solar-Sharing projects are increasing year by year.

The number of approved Solar-Sharing Plant



Source: Ministry of Agriculture, Forestry and Fisheries

Benefit of Solar-Sharing

Benefit #1

No need to open new land for building solar power plant



COST



Cleaner
energy with
lower cost

Avoiding environmental problems.
Reducing the cost of construction.

Benefit #2

Farmers can make good use of the generated energy



Power supply to the farms and fisheries directly under the panels
(ex. Plastic green house temperature controlling)



Improving
agriculture
technology
with IoT

Solar-Sharing Track Records of Shimizu

- Feb. 2018 Whole sale contract with “Kamisu Solar Sharing”(150kW)
- Mar. 2018 Whole sale contract with “Sousa-Iizuka Sola Share-3”(50kW)
- Aug. 2018 “Chiba-city Okido Solar Sharing”(50kW) construction started
- July. 2019 **“Tsukuba Solar Sharing”(20MW) construction started**
- Sept. 2019 **“Chiba-city Okido Solar Sharing”(50kW) generation started**



Sousa-Iizuka Mar. 2018



Chiba-city Okido Sept. 2019

Creating Sustainable Communities

Shimizu is aiming to create sustainable society
through the technology of renewable energy and Smart-City



Contributing to the
Realization of Sustainable
Global Communities