

future power

— The Power of Individuals Eager to Create a New Energy Society of the Future —

Expanded introduction of renewable energy

Renewable energy indispensable to a sustainable society

I'm learning about regional revitalization in my seminar. As part of my studies, I visited a German village boasting 100 percent energy self-sufficiency thanks to local biomass power generation. New sources of energy in place of fossil fuels are necessary from the viewpoint of a stable energy supply in the future. In this context, I was convinced that renewable energy would be indispensable to the creation of a sustainable society. In the future, I would like to take advantage of this knowledge in my efforts to build a new energy society.



Majoring in Law, Fukushima University
Faculty of Administration and Social Sciences
Mr. Yamato Soga

Model construction for realizing a hydrogen-based society

Hydrogen energy that meets the needs of the times

Our company began to address solar power generation in 2000, and in 2015, we installed a 2MW large-scale solar power generation facility in Fukushima City, allowing local citizens to visit and experience renewable energy generation. As an enterprise aiming to emerge as an all-round energy supplier, we are now considering the next challenge: making hydrogen energy – a future energy source that is eco-friendly and meets the needs of the times – available to consumers in the urban areas of Koriyama and Fukushima cities.



Senior Managing Director,
Apollagos Co., Ltd.
Mr. Motoaki Sagara

Building "Smart Communities"

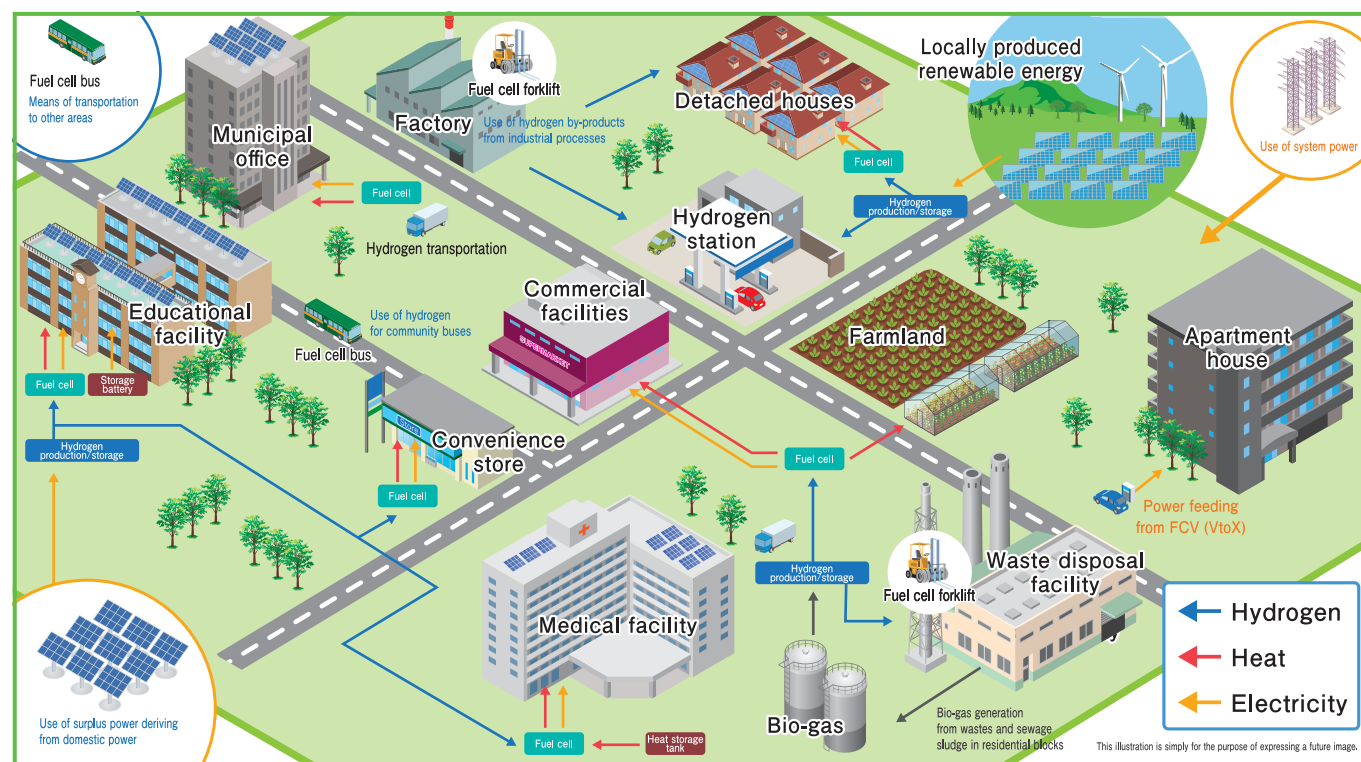
Reconstruction town planning in Shinchi station area and local energy production and consumption

Our Shinchi town, designated as Environmental Future City by the Japanese government, is promoting a project to become a hybrid energy town with local production for local consumption of energy. Now, we are building an energy center which uses natural gas from the Soma port LNG terminal to supply heat and electricity. The energy center will start to provide heat and power to public and private facilities near Shinchi station in FY2018.



Planning & Promotion Division, Shinchi Town Office,
Fukushima Prefecture
Mr. Seihei Izumida

Friendly to your lifestyle and the environment: a renewable energy-based society of the future



For further information about the Fukushima Plan for a New Energy Society, please visit:

► http://www.enecho.meti.go.jp/category/saving_and_new/fukushima_vision/



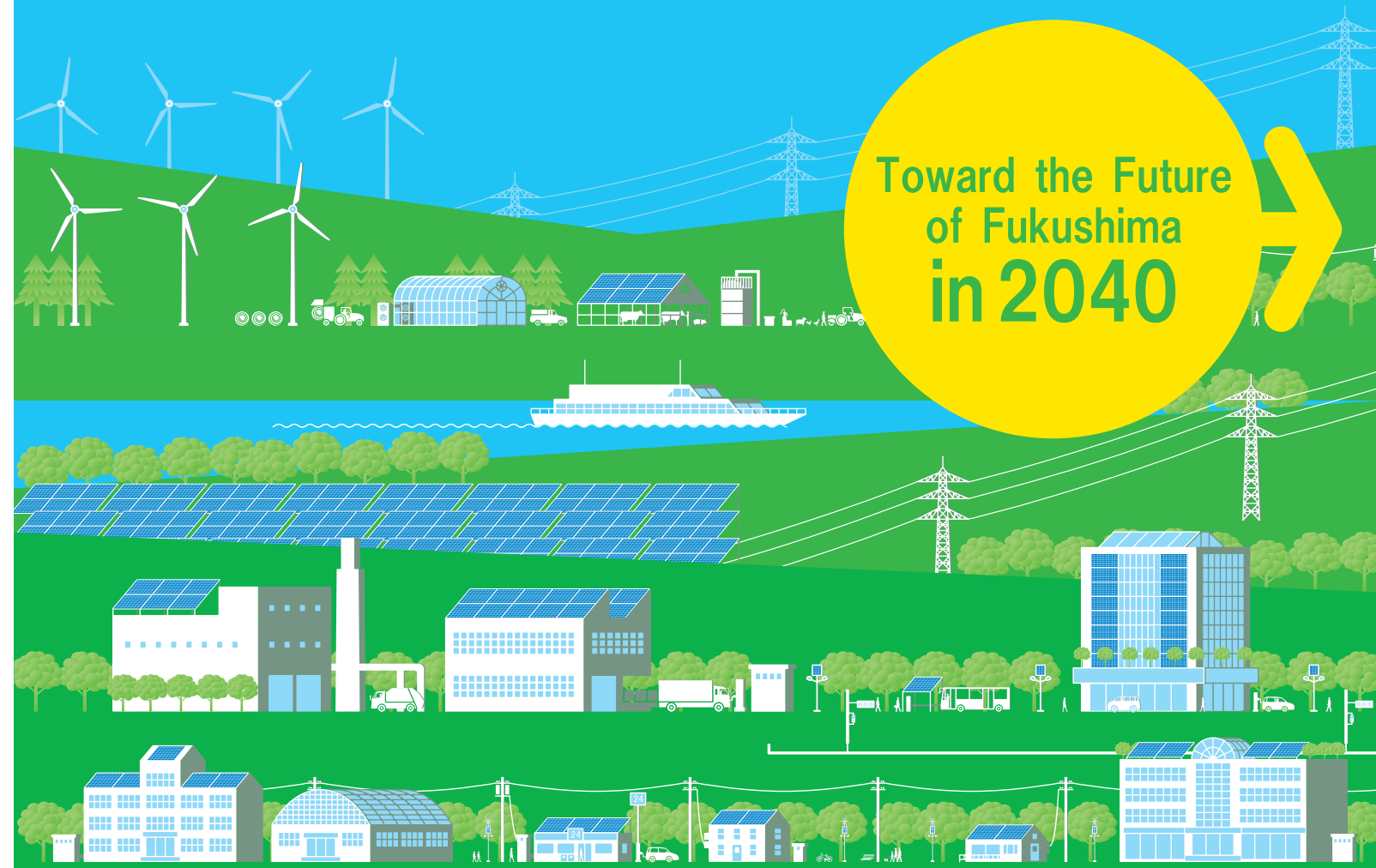
The Fukushima Plan for a New Energy Society: Promoting Fukushima as a Leading Region for a New Energy Future

The "Fukushima Plan for a New Energy Society" was formulated in September 2016.

The projects aim to support Fukushima's reconstruction from the disasters of March 2011 through advances in the field of energy.

The plan includes promotion of renewable energy while testing ways to produce hydrogen from renewable energy, and to store, transport, and use it.

In parallel with these endeavors, we are also moving forward with the development of smart communities in various areas of the prefecture.



Toward the Future
of Fukushima
in 2040

Council for Realizing the Fukushima New Energy Society Vision

Promoting the New Energy Society Concept: From Fukushima to the World

Expanded use of wind, solar and other forms of renewable energy. Leading-edge empirical research using one of the world's largest renewable energy-based hydrogen production facilities. The development of communities based on renewable energy and hydrogen... We are actively moving forward with these projects – with the government and private sectors united – to realize the Fukushima Plan for a New Energy Society.



Expanded introduction of renewable energy

Establish a new power transmission company to develop the power grid necessary for building a wind farm in the Abukuma mountain and coastal regions.



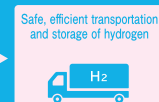
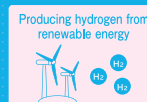
H₂
H₂

Model construction for realizing a hydrogen-based society

Hydrogen is a focus of attention as a next-generation source of clean energy. An ambitious project is now in progress in Fukushima: verification of leading-edge technologies required to produce hydrogen from renewable energy on a large scale, and to transport, store and use it. We plan to use the Fukushima-generated hydrogen during the 2020 Tokyo Olympics and Paralympics.



Fuel cell vehicle (FCV)



Green Energy Aizu

Green Energy Aizu supplies electricity generated by woody biomass. It aims to ensure a stable supply of electricity and to revitalize the local forestry industry and regenerate forests in a sustainable manner, thereby contributing to the realization of a society based on resource recycling.



Aizuwakamatsu City

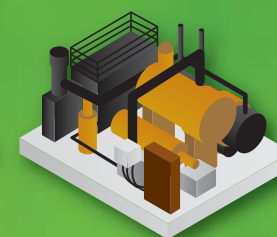
Hydroelectric Power Plants around Lake Inawashiro

Commencing operation as far back as 1914, the Inawashiro Daiichi Hydroelectric Power Plant became the first in Japan to succeed in long-distance transmission to Tokyo at an extra-high-voltage of 115,000V. As such, it contributed significantly to the modernization of Japan.



Tsuchiyu Onsen Binary Power Plant

A binary power generator with a maximum output of 440kW is in operation using thermal energy from the Tsuchiyu Onsen hot spring, located to the southwest of Fukushima City.



Soma City

Shinchi Town

Wind prevailing in the Abukuma mountain area

Wind prevailing in the coastal area

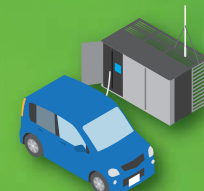
Minami-Soma Substation

To accommodate renewable energy, Tohoku Electric Power Company installed commercial operation of a large-capacity storage battery system (40,000kWh) in 2016 in the Minami-Soma Substation.

Namie Town

Renewable Energy-based Small Hydrogen Station (within Koriyama City Office)

*Under construction



Yanaizu Nishiyama Geothermal Power Plant

This geothermal power plant commenced operation in May 1995 as the first large-scale geothermal power plant in Fukushima Prefecture.



Fukushima Renewable Energy Institute

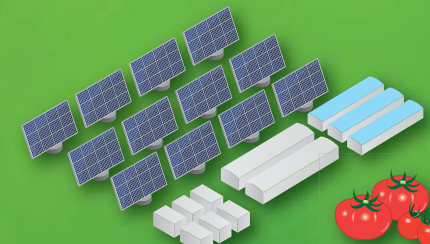


Fukushima Airport Mega Solar Power Plant

In collaboration with the National Institute of Advanced Industrial Science & Technology (AIST), this mega solar plant engages in long-term operation and evaluation of various types of solar panels, thus accumulating the know-how and experience necessary for developing renewable energy.

Solar-Sharing Power Plant "Tomato Land Iwaki"

This solar sharing system has a power output of approximately 1MW, one of the largest among farming-oriented solar sharing systems.



Naraha Town

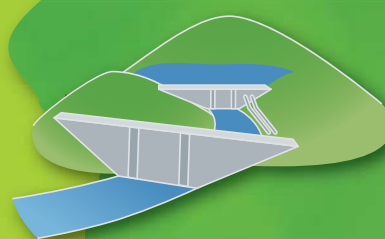
Fukushima Floating Offshore Wind Farm

This project is tasked with full-scale testing of floating offshore wind power generation systems composed of multiple wind turbines – the first attempt of its kind in the world – in the waters off Fukushima Prefecture.



Okutadami Hydroelectric Power Plant

With a maximum output of 560,000kW, this plant has the largest output for hydroelectric power plants (not including pumped-storage plants) in Japan.



Koriyama-Nunobiki-kogen Wind Farm

Located at an elevation of 1,000m on the Koriyama-Nunobiki Plateau to the south of Lake Inawashiro, this is one of the largest wind farms in Japan. It produces 125millionkWh of electricity annually, which is equivalent to the annual power consumption of approximately 35,000 households.



Joint research (EMC test) with a local manufacturer

Fukushima Renewable Energy Institute(FREA), National Institute of Advanced Industrial Science & Technology(AIST)

The primary missions of the Fukushima Renewable Energy Institute (FREA) are: to promote research and development into renewable energy, which is open to the world; and to contribute to reconstruction of the region through developing clusters of new industries. As the only laboratory in Japan dedicated to renewable energy research, FREA focuses on research into new technologies that support the anticipated massive introduction of renewable energy, while developing related technologies in collaboration with local businesses. FREA opened one of the world's largest power electronics test facilities in 2016, which allows it to develop power conditioners and other power control devices with local electrical machinery manufacturers. In addition, it undertakes joint research with universities and so forth to foster capable personnel for the future.



Building "Smart Communities"

We are tackling the construction of "Smart Communities" designed to effectively use renewable energy and hydrogen locally. In FY2015, Aizuwakamatsu City completed the construction of a smart community powered by solar energy. Smart community projects are currently in progress in Soma City and the towns of Shinchi, Namie and Naraha – all in the coastal Hama-dori region. The projects also aim to facilitate recovery of these municipalities.

● Municipalities implementing smart community projects