New-energy based town development

Hydrogen Town Namie

Namie Town issued a Zero Carbon City Declaration on March 5, 2020, aiming to become a city that produces virtually zero CO2 emissions by 2050. We have opened the research and training Fukushima Hydrogen Energy Research Field (FH2R), equipped with hydrogen production capacity that is the largest in the world. In cooperation with a number of corporations, we are proceeding with a "hydrogen town development" model for a new energy society utilizing hydrogen produced here in Namie. Damaged by the effects of nuclear power, this town is making great progress towards creating a carbon-free society centered on the new energy source of hydrogen. These efforts are combined with other projects including Smart Communities using renewable energy, and local energy production for local consumption.

FH2R FUKUSHIMA HYDROGEN ENERGY RESEARCH FIELD

Hydrogen Town Development Action

From creation, use, and transport of hydrogen to enlightening and spreading widely use. Namie Town has started a wide range of programs and verification testing aimed at a new type of town development based on hydrogen.

Action 1

Roadside station Namie utilizing a pure hydrogen fuel cell

This roadside station that utilizes hydrogen produced at FH2R opened in 2020 as a symbol of hydrogen use.
A Toshiba pure hydrogen fuel cell (capacity 3.5 kW) is installed at the site and provides a portion of the electrical power and heat used by the facility.

● Partner:
Toshiba Energy Systems & Solutions Corporation

Action 2

RE100 Industrial Park concept utilizing hydrogen

"RE100*" is attracting growing attention amidst the current global focus on reducing environmental impacts. In addition to a supply of renewable energy from new regional electric power systems, it also uses hydrogen from FH2R for high energy efficiency and lower environmental impact.

● Partner: Kokusai Kogyou Co., Ltd.

* RE100: International initiative that aims to supply 100% renewable energy to cover the energy used by companies in their own business operations

Action 3

Factory zero emission feasibility study

This study is being carried out from the perspectives of energy efficiency and economic viability to determine whether it is possible to achieve zero emission factories through the introduction of hydrogen generators and pure hydrogen fuel cells inside and outside of the factories, and through efficient transport and use of clean hydrogen.

● Partners:
EY Japan / Biomass Resin Holdings Co., Ltd. / Soma Gas Co., Ltd. / Smart Agri Relations Co., Ltd.

Action 4

Introduction of new model Mirai as official vehicles

Aiming to rapidly create a hydrogen society, the new model Mirai has been introduced for use as official government vehicles. This model has the largest cruising range of any fuel cell vehicle produced in Japan. It will also be used to broadly promote the use of hydrogen produced in Namie.

● Partner: Toyota Corolla Iwaki

Action 5

Verification of a pole-mounted pipeline for hydrogen transport

This verification test is evaluating the installation of a pole-mounted pipeline for low-pressure transport of hydrogen as the optimal mechanism for safe and inexpensive hydrogen transport. We will continue to study specific measures for commercialization of hydrogen supply to the RE100 Industrial Park and the town.

● Partners:
Brother Industries, Ltd. / Yokohama National University / Tomoe Shokai Co., Ltd.

Action 6

Verification feasibility study for hydrogen deliveries by a cooperative association

This study is examining the possibility of installing large numbers of pure hydrogen fuel cells at ordinary households, commercial facilities, and other locations in the Hama-dori District of Fukushima Prefecture, and operating a business of supplying hydrogen through deliveries by cooperative association trucks. We intend to establish the "Namie Model" for a hydrogen supply chain that be deployed across Japan, and contribute to the creation of a hydrogen society.

● Partners: Marubeni Corporation / Miyagi Coop

Action 7

Verification project for a low-cost hydrogen supply chain

We are aiming to construct a low-cost hydrogen supply chain of truck trailers and rack-equipped vehicles in order to expand the use of commercial pure hydrogen fuel cells that utilize hydrogen produced at FH2R. These will supply heat and electricity to places such as public bathing facilities, nursing care facilities, and recovery project sites, and will be broadly promoted to the wider public.

● Partner: Obayashi Corporation

Action 8

Construction of multi-hydrogen stations

We are accelerating the introduction of FC mobility by making hydrogen fueling available for a variety of FC mobility types. At the same time, we are studying the business possibility of serving as an energy hub that can supply energy to nearby communities not only during normal times but also at times of disaster.

● Partner: Sumitomo Corporation

Action 9

Feasibility study for carbon-free tourism aimed at getting more people involved

We are aiming to get more people involved in similar projects by studying and carrying out tourism campaigns focused on zero carbon emissions and the use of hydrogen. We will also consider formulating an educational program, getting Fukushima high-school students involved in communicating information, and developing and operating FC mobility that can contribute to zero carbon tourism.

● Partners: Nomura Research Institute, Ltd. / Kooriyama Kanko Co., Ltd. / Culinary Arts Academy of Nippon / Magonote Travel

Towards a zero carbon city in 2050

In addition to "town development that will make Namie a leader in creating a carbon-free society," we will actively introduce renewable energy and create Smart Communities in order to further accelerate the pace of progress toward making Namie Town a zero carbon dioxide emission town by 2050.

Town development using Namie hydrogen

Construct a model district for creating a hydrogen society using hydrogen within the town.

Construction of Smart Communities

Maximize the use of renewable energy and construct new ways of living that connect energy and people.

- Manage and visualize renewable energy at Roadside Station Namie.
- Assign EV as official government vehicles and use them as mobile power supplies.
- Prepare an EV charging environment in the town.

Zero Carbon Namie

Attracting and collaborating with renewable energy industries

- Lithium-ion battery recycling businesses
- Vanadium electrolyte manufacturing businesses
- Mega solar power producers
- Biomass power producers
- Wind power producers

Contributing to low-carbon societies

- Carry out renewable energy education at town elementary and junior high schools.
- Introduce EV official government vehicles.
- Introduce energy-saving equipment when government offices are renovated.
- Introduce subsidies for septic tanks that are compatible with a low-carbon society.

...others

Promoting the introduction of renewable energy

- Install solar power generating equipment at schools and public facilities.
- Install LED street lamps that includes built-in solar panels.
- Introduce solar power generating equipment in town-operated housing.
- Provide subsidies for the installation of solar power generating equipment for home power consumption.

....others