Zero Carbon City

【Background】

In recent years, along with phenomenon such as global warming and climate change, the frequency and severity of natural hazards have been trending upwards.

【Response】

In March of 2021, Sendai City declared its commitment of becoming a Zero Carbon City by 2050. Moreover, in the "City of trees Environment Plan (Sendai City Environmental Master Plan 2021-2030)" that was drafted at the same time, "Zero Carbon City Development" was raised as the primary pillar of initiatives, and the city's commitment to further reduce greenhouse gas emissions is demonstrated by the adoption of zero greenhouse gas emissions by 2050 as the long term goal.

1 Global Warning Countermeasures Promotion Plan

This plan outlines the city's greenhouse gas reduction goals and implementation measures, etc. over medium to long term that are related to "Zero Carbon City Development" , which was raised as the primary pillar initiative in the "City of trees Environment Plan (Sendai City Environmental Basic Plan 2021-2030)" drafted in March of 2021. Based on this plan, efforts are made to tackle greenhouse gas reduction measures through cooperation between citizens, businesses and government.

2 Promotion of Sendai E-Action

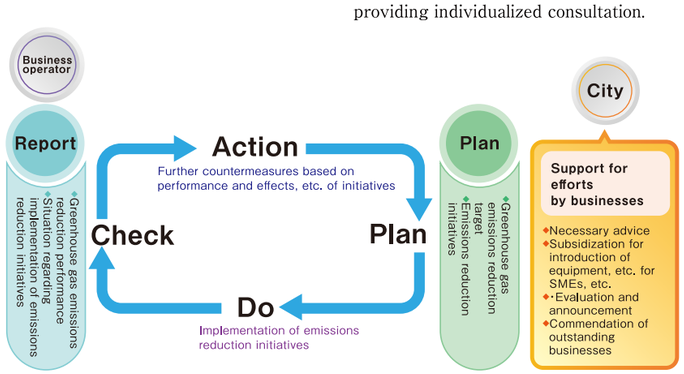
In light of the experience during the Great East Japan Earthquake, which fuel supplies were severed and power supplies were interrupted for an extended period of time, starting from 2013, dissemination and enlightenment activities based on cooperation between citizens, businesses and government were commenced with the goal of encouraging the practice of 3Es (energy saving, energy generation, and energy storage). In addition to placing exhibits at events, etc. for promoting establishment of zero carbon lifestyles and business styles, other initiatives such as the operating online awareness programs and the publication of information of informational videos were also adopted.

3 Greenhouse Gas Reduction Initiatives in Households

To promote reduction of greenhouse gases in households, measures are implemented to promote the heat insulation of homes, dissemination of ZEH (Net Zero Energy House) and other high energy performance housing, and other measures. Also, to promote domestic production and domestic consumption of energy in households, we are working solar power systems and storage batteries based on joint purchasing and so on.

4 Greenhouse Gases Reduction Action Program

Regarding the "Greenhouse Gases Reduction Action Program" for reducing emissions from business activities, which account for approximately 60% of greenhouse gas emissions in urban area, subsidies are provided for introducing energy saving/renewable energy equipment and next generation vehicles with the goal to promote the wide participation of small and medium businesses, etc. Also, city employees and external experts visit business establishments to facilitate the creation of greenhouse gas reduction plans and give detailed advice and assistance according to the type of business by providing individualized consultation.



▲Mechanism of the Greenhouse Gases Reduction Action Program

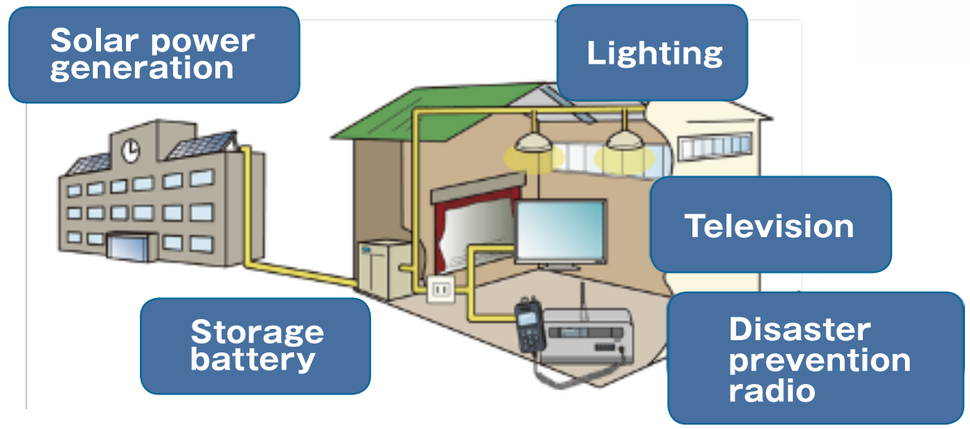
5 Introduction of Disaster-Resistant Solar Power Generation Systems

Designated Evacuation Centers

Immediately after the Great East Japan Earthquake, electricity, gas and gasoline supplies were suspended, which resulted in various problems during the initial disaster response, amongst which including the operation of evacuation centers. In light of this experience, we have introduced solar power generation systems combined with storage batteries into approximately 200 facilities including elementary and junior high schools which are used as designated evacuation centers. With these systems, an independent power supply is secured when a disaster occurs, while CO2 emissions are reduced during times of normalcy. During power outages, electricity is supplied from the solar power generation system during daytime and from the storage battery at night. This makes the operation of information communications equipment such as disaster-prevention wireless communication systems, televisions, as well as lights possible.

Initiatives for Remote Monitoring and Control Aimed at Consolidated Management of Systems

In collaboration with companies, universities, etc., we are advancing initiatives geared to introducing energy management systems that make it possible to remotely monitor and control disaster-response solar power generation systems.



6 Supports for Private Sector Operators

When introducing renewable energy equipment, etc. that is necessary for securing and maintaining disaster management base functions in private sector facilities earmarked as local disaster management bases during disasters, Sendai City subsidize the costs. Moreover, we offer subsidies to businesses within the city that manufacture and supply clean and stable energy, and businesses that construct new or additional facilities that will serve the purpose of conducting research and development and demonstration testing of net generation energy, etc.

7 Research into Revolutionary Next Generation Energy Made from Algae

Sendai City, in collaboration with universities and private sector operators, in advancing research related to "algal biomass" that can be used to produce oil, etc. from domestic waste water. So far, the "Sendai Minami-Gamo Algal Biomass Technology Development Laboratory" and an outdoor pilot plant have been constructed inside of the Minami-Gamo Wastewater Treatment Plant, where research on culturing algae with sewage and the extraction and purification of oil have been conducted. We will continue to carry out research and development based on these past results with the objective of enhancing commercial viability.

Priorities for Action 1 2 3 4　Global Targets A B C D E F G