

**NAGANO'S EFFORTS FOR
ENVIRONMENTAL ENERGY POLICY
~TO ACHIEVE 100% RENEWABLE ENERGY REGION~**

**ERI NAKAJIMA
VICE GOVERNOR
NAGANO PREFECTURE**



しあわせ信州

NAGANO ENVIRONMENTAL ENERGY STRATEGY

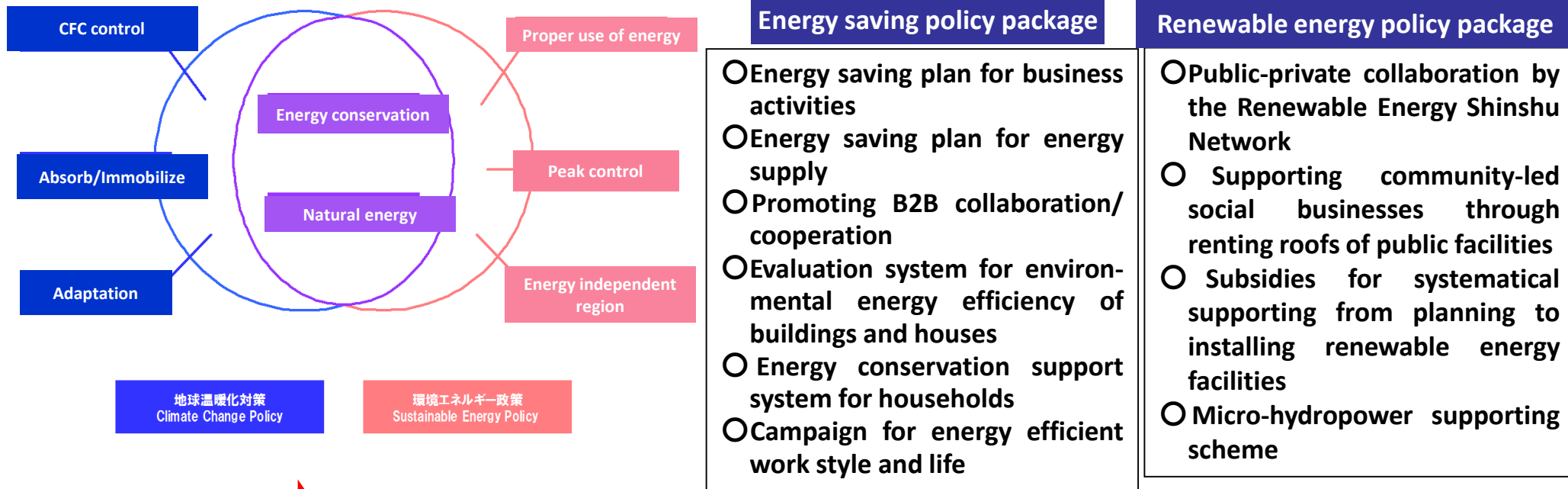
【PROJECT TERM】 FY 2013~2020 [8 years]

【BASIC TARGET】 Creating sustainable and low-carbon society.

Society with high economy growth, low energy consumption and GHG emission

SDGs

- ① Environment (GHG reduction)
- ② Economy (From outflow to intra-regional investment of capital)
- ③ Society (Local revitalization and source of creation)



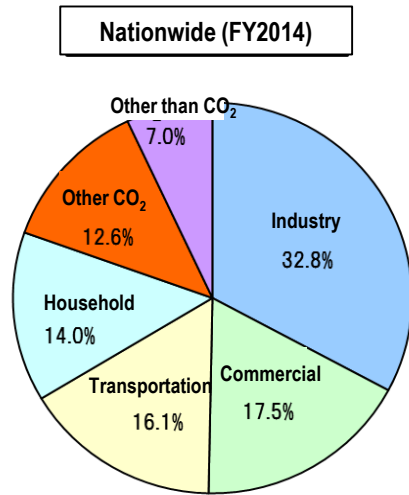
➡ New plan incorporating climate change policy with environmental energy policy

◆ Winner of the Best Long-term Target Award grand prize, in Low Carbon Cup 2016, Local Government Division

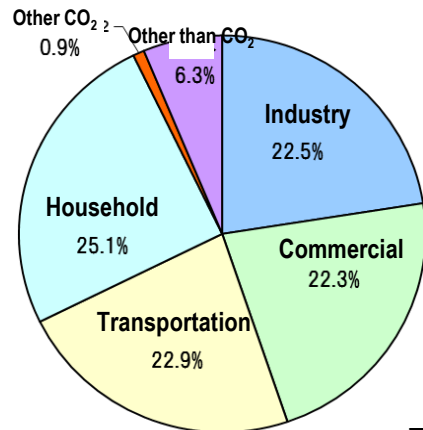
◆ Chosen the SDGs Future City initiating SDGs in June 2018.

GHG emissions reduction target

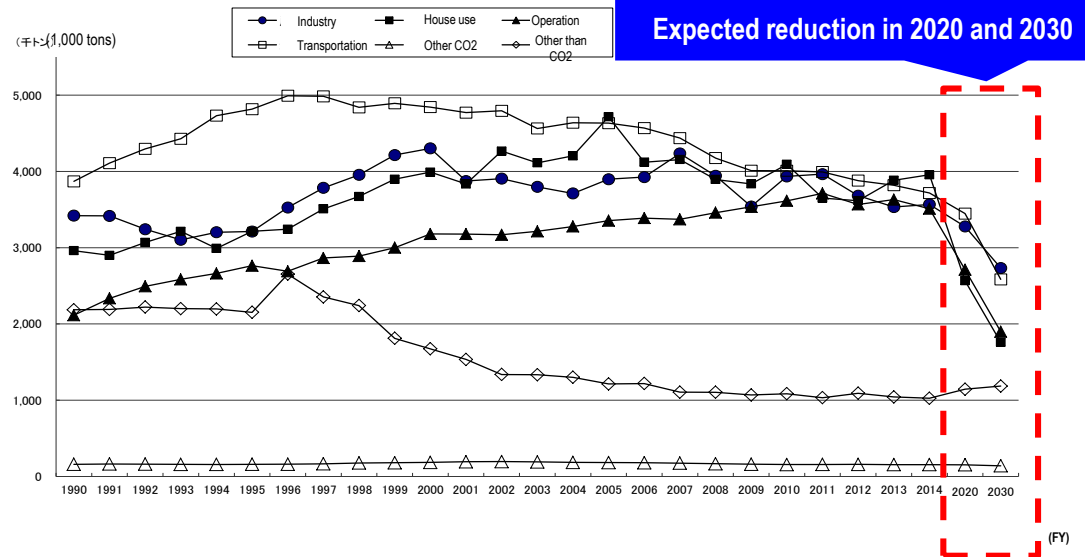
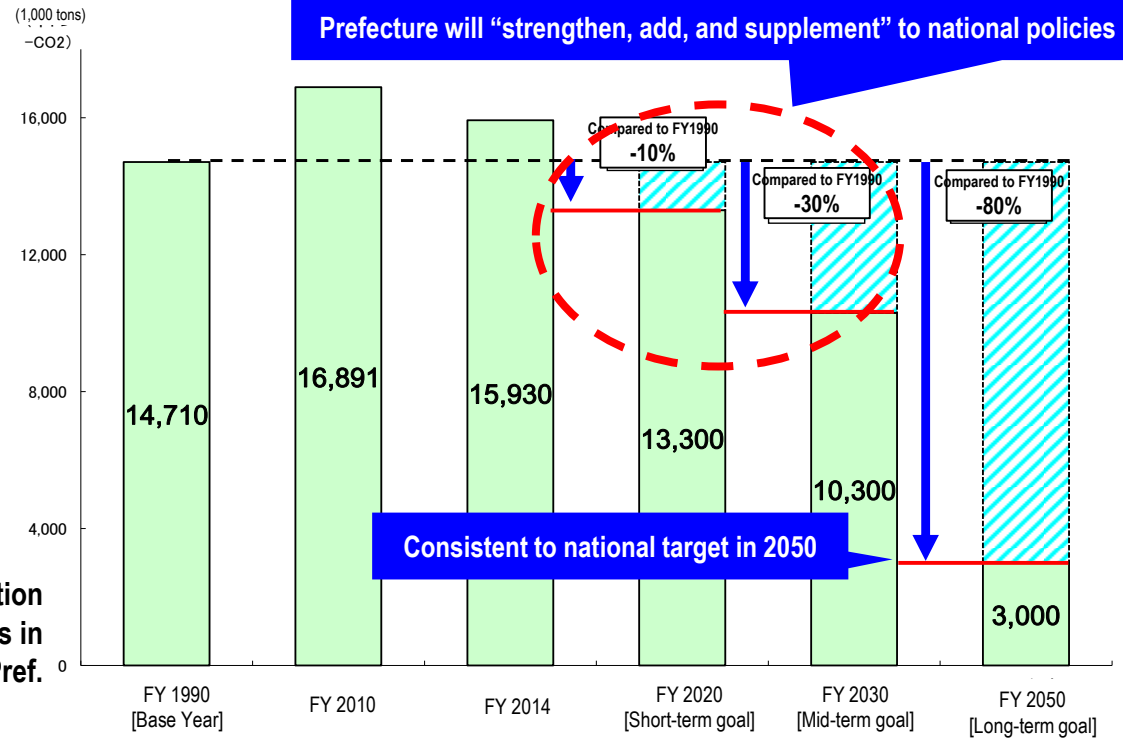
Composition of GHG emissions by sector in Nagano Pref. and nationwide (2014)



Nagano Prefecture (FY2014)

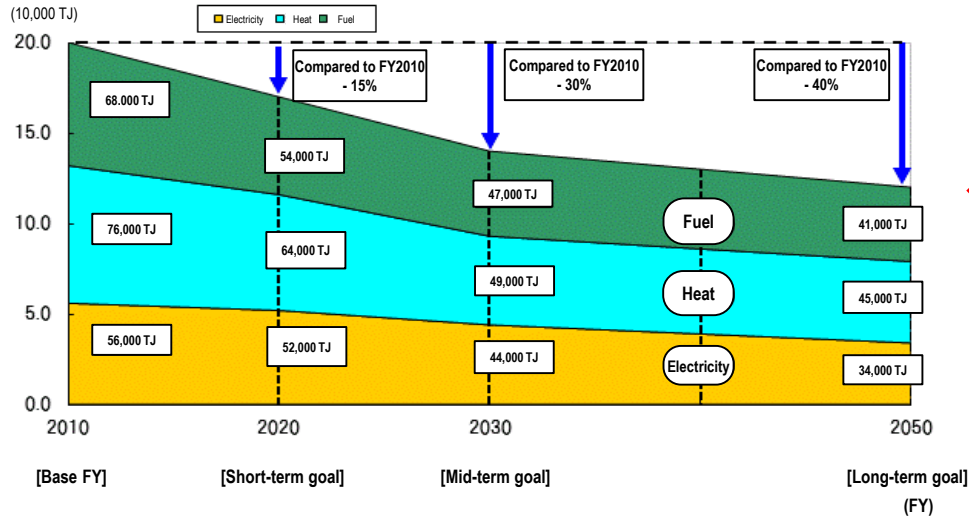


Trends of GHG emissions by sector in Nagano Pref.

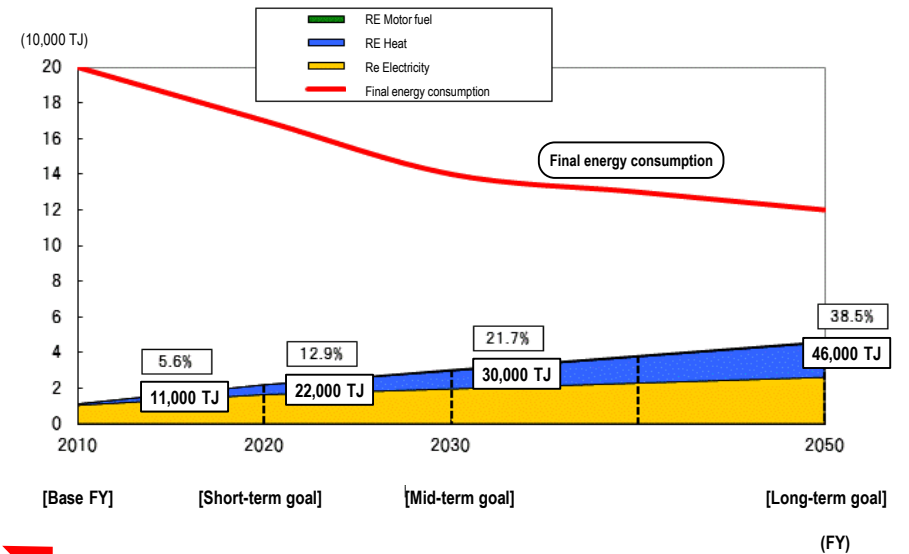
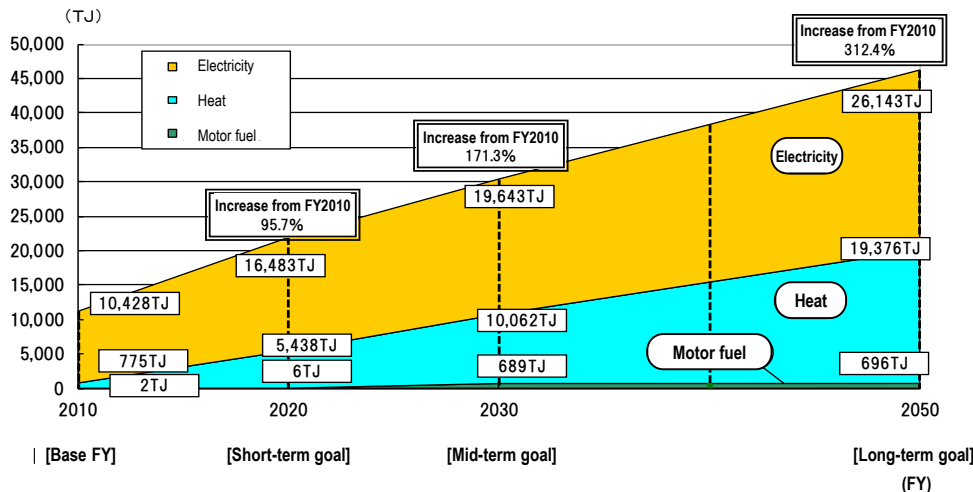


Target of final energy consumption and renewable energy introduction

Target of final energy consumption



Target of renewable energy introduction



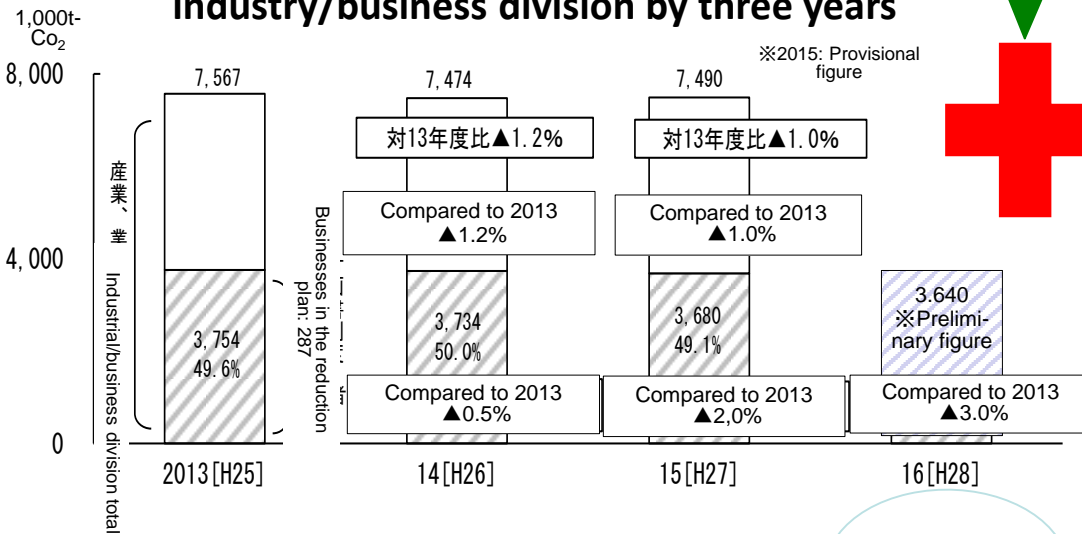
**Energy self-sufficiency rate
(Case of energy consumption)**

Ratio of the generated renewable energy in prefecture to annual energy consumption in prefecture

ENERGY SAVING POLICY FOR BUSINESS ACTIVITIES

○ Energy saving Plan for Business Activities

- Businesses whose energy consumption in crude oil is 1,500kl/year or more: 287 at the end of FY2016 (covering about 50% in industrial/business division)
- The Energy saving plan, the Achievement Report are required. Technical advice, evaluation by the prefecture are provided.
- Results : 3% reduction of GHG emissions of industry/business division by three years



Budget for 2014~2016: App. 78 million yen

Estimated carbon reduction by the system: 114,000t-CO₂

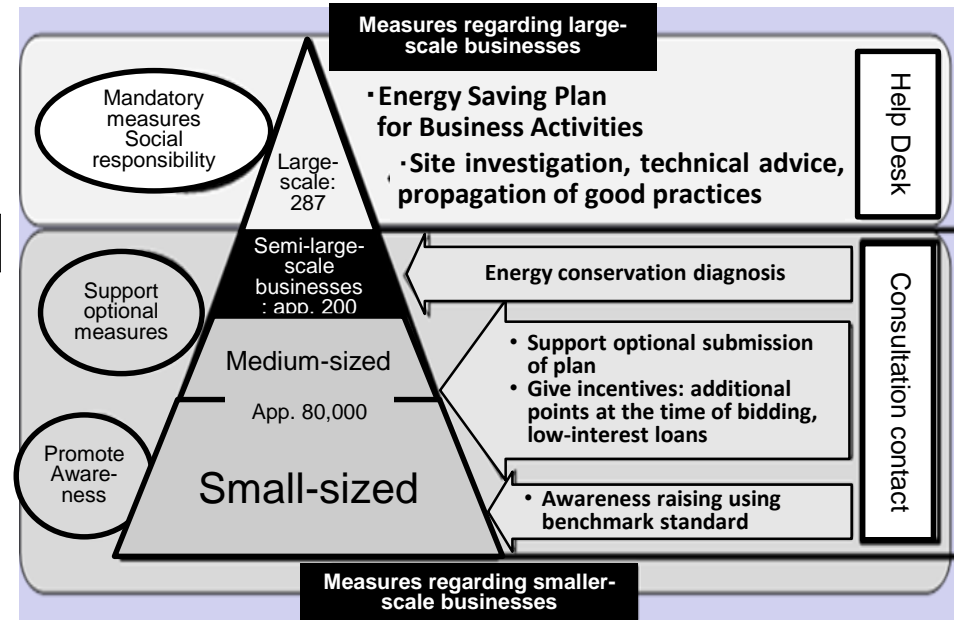
⇒ Administrative cost for reduction: 684 yen / t-CO₂

Highly efficient

○ Nagano Energy Management Support Project

- Promotes energy saving by smaller-scale businesses.
- Visualizes energy use by hotels, hospitals and other smaller-scale businesses with relatively large energy use using a simple diagnostic system, and gives them advice.
- Trains experts in energy reduction diagnosis.
- Constructs the benchmark standard of energy saving, spreads best practices.

< Project summary >



UNIQUE EFFORTS BY NAGANO PREFECTURE ② ENERGY CONSERVATION OF BUILDINGS

- Energy efficiency promotion system for building owners
- Renewable energy introduction promotion system for building owners

○ **Private resident and all other new building owners are required to consider energy efficiency and introduction of renewable energy facility when they build houses or buildings.**

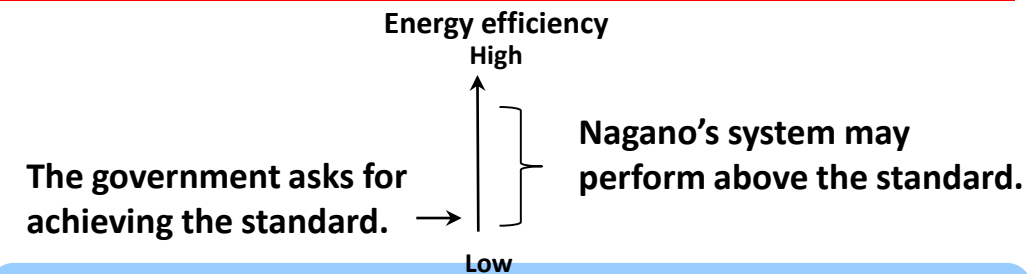
SDGs



Energy-efficient buildings prevent heat shock and create strong economy to local house builders.



Nagano is the only prefecture that requires house owners to consider introducing energy-saving and renewable energy when building a new home.



○ Results from questionnaire (Jan. 2016~ Dec. 2017)
 New homes (2,800 samples, sample ratio: 20%)
 Conformity ratio to energy saving standard: **83.7%**
 Introduction of renewable energy: **35.2%**
 [2015 national conformity ratio of new homes smaller than 300m² : 53% (Research by MLIT)]

- Supporting energy-saving renovation project for building owners

○ Promotes energy-saving renovation of existing buildings

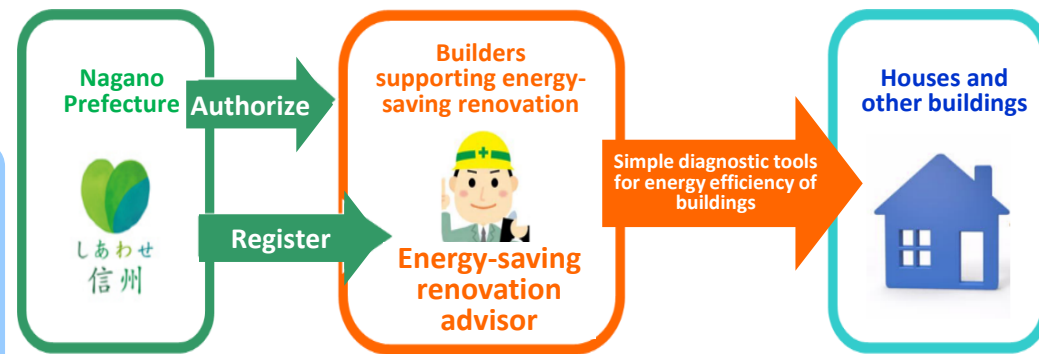


○ Builders supporting energy-saving renovation are recognized by the prefecture.

After midterm review

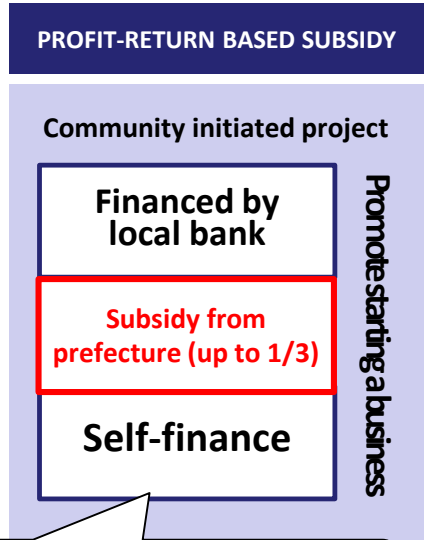


○ Builders supporting energy-saving renovation diagnose energy efficiency of buildings using simple diagnostic tools provided by the prefecture.



UNIQUE EFFORTS BY NAGANO PREFECTURE ③ PROFIT-RETURN BASED SUBSIDY SYSTEM

Provide **Profit-Return Based Subsidy** for Renewable Energy Power Companies Using FIT



Subsidies induce over 200% capital investment

Using the revenue of Public Enterprise Bureau from FIT, renewable energy local funds were created (500,000,000 yen).



Support example:
 Nagano Natural Electric Power Limited Liability Company (Obuse Town)
 The company signed a partnership agreement with Obuse Town, to plan a small-scale hydropower project that returns revenue back to the region. Aiming to complete the facility in 2017.

Support Info

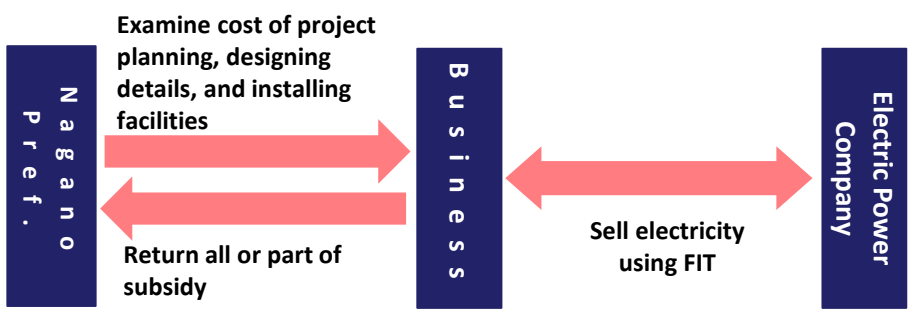
○ Subsidies and bank loans work together ⇒ Makes projects possible

<Effects>

- Supporting construction of facilities helped improve profitability.
- Examination of a business plan by experts raises credibility. ⇒ Better access to bank loans realizing projects of renewable energies.

Flow of Subsidy

○ Nagano Prefecture provides a subsidy to a business under the condition that all or part of the subsidy will be returned to the prefecture if the business makes a profit.



Stats & Results

- 【Support cases】
- FY 2014: 6 cases
 - FY 2015: 9 cases
 - FY 2016: 3 cases



【Expected project creation】

Solar power plant: 5, 1,890kW

Micro-hydro power plant: 7, 2,390kW

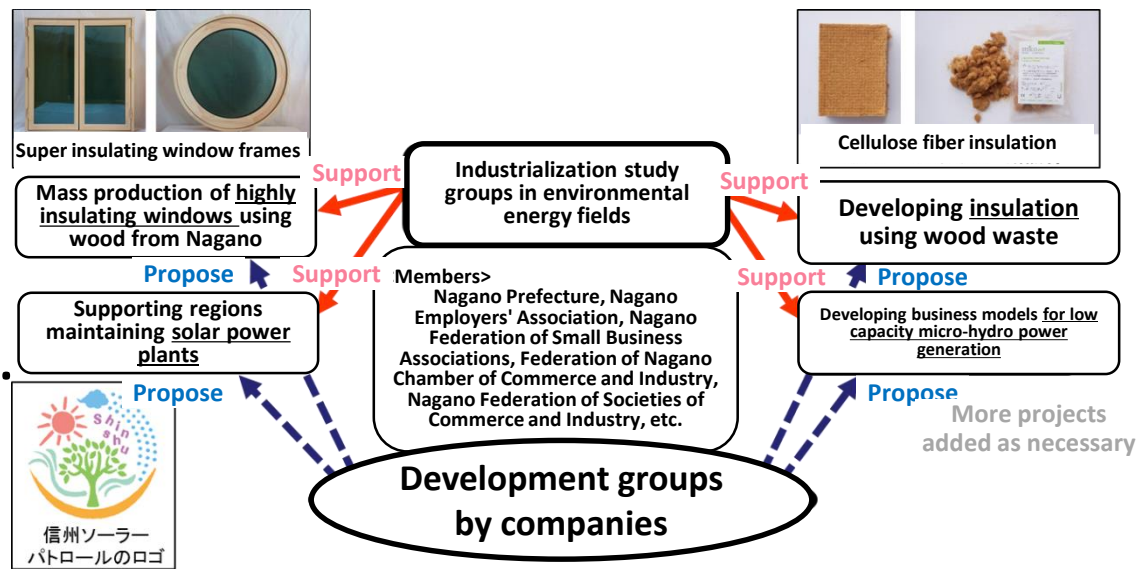
Total: 12 projects, 4,280kW

After
midterm
review

◆ Industrialization of Environmental Energy Field

To industrialize technology in renewable energy/energy saving fields, support has been provided to businesses in the industry/government/academia scheme.

【 Development Image 】

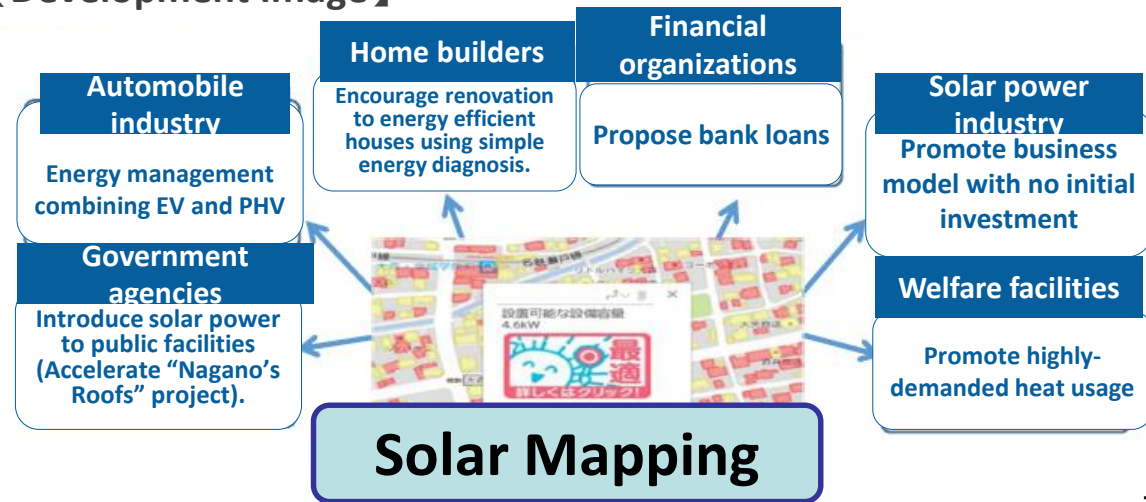


After
midterm
review

◆ Nagano's Roofs Solar Power Project

We publicize solar power and heat potential on the roof, and encourage owners to use roofs to generate solar power by the promotion scheme in collaboration with other fields including electric vehicles.

【 Development Image 】



UNIQUE EFFORTS BY NAGANO PREFECTURE ⑤ ELECTRICITY SALES CONNECTING NAGANO AND METROPOLIS (Public Enterprise Bureau)

- Sell electricity to metropolises from two new hydro power plants.
- A consumer chooses a plant as a supporter and buys electricity. 100 yen/month will be returned to the plant as a support fee.
- The support fee is used to provide plant/area tours and gifts of Nagano special products for supporters.

【Electricity Sale Scheme】

Public Enterprise Bureau, Nagano Prefecture



Takato Cherry Blossom Power Plant (Ina City)
(Capacity: 180kW, for about 350 households)



White Skunk Cabbage Power Plant (Nagano City)
(Capacity: 980kW, for about 1,400 households)

↓ Part of profit

Used for furtherance of prefectural policy

Electricity sale



Purchase rate



Support fee



Marubeni Power Retail Corporation



• 3rd largest in retail electricity suppliers

Collaborate

Social Energy Company MINDEN (Setagaya City, Tokyo)

ソーシャル・エネルギー・カンパニー



• Specialist company in natural energy

Electricity Sale



Purchase rate



Support fee



Consumers in metropolises

○ Corporate customer



Improved enterprise value by introducing renewable energy

○ Individual customers



Households in favor of renewable energy

Plant/area tours and gifts of Nagano special products

LOCAL RENEWABLES CONFERENCE 2017 IN NAGANO

- ◆ Nagano Prefecture hosted Asia's first Local Renewables Conference, which had been held only in Europe.
- ◆ Good practices from Japan and overseas were shared in six sessions. The Local Leaders' Summit was also held with leaders from Japan and Germany.
- ◆ Importance of cooperation among each organization was recognized. "The Nagano Declaration" was also presented to take new action and enhance cooperation.

【Conference Summary】

Name: Local Renewables Conference 2017

Creating and networking energy autonomous communities for a low carbon society

Date: September 7 ~ 8, 2017

Venue: Aqua Innovation Center, SASTec, Faculty of Engineering, Shinshu University, (Nagano City)

Participants: Total 765

Local governments from Japan and Germany, renewable energy-related companies and organizations, etc.

Content: Keynote speech, 6 sessions, reports from advanced local governments, Japanese and German Local Leaders' Summit to achieve 100% renewable energy cities and regions, "The Nagano Declaration"

Organizers:



Co-organizer:



THE NAGANO DECLARATION

LOCAL LEADERS WORKING TOGETHER TO ACHIEVE 100% RENEWABLE ENERGY CITIES AND REGIONS

We, the Mayors and Governors of Japanese cities and regions gathered at the Local Renewables Conference 2017 in Nagano on Friday 8 September 2017, are honored to hold the Local Renewables Conference in Japan for the first time.

We recognize that Japanese local governments are facing an era of population decline and slow economic growth. The social systems developed in the past that assume population growth and high economic growth no longer apply to modern needs, the consequence of which could have profound impacts on people's lives and local economies. With the Paris Agreement entering into force, the world has witnessed an important step towards the realization of a decarbonized society by the end of the century.

We are confident that, while population decline and slow growth may be tough challenges, people's lives and local economies can be improved with good local policies, citizen actions and new ideas. To make this a reality, local governments and citizens must work hand-in-hand towards a more sustainable future.

We believe that one of the key components to achieving this vision is renewable energy. Local economies will thrive by switching from imported, fossil fuel-based energy sources to more local sources of renewable energy. This will not only increase community income and local employment opportunities but will also improve quality of life by advancing a sustainable lifestyle that is rooted in the local environment and community.

Local Renewables Conference 2017, hosted by the Ministry of the Environment, Japan, Nagano Prefecture, and ICLEI – Local Governments for Sustainability, served as an important forum to share both domestic and international knowledge to make a switch towards this new path. In particular, the experiences and knowledge shared by cities and regions from abroad were extremely valuable. Local governments and local citizens that face similar challenges were able to share their experiences and hold a dialogue beyond national borders. We, participants from Japan, express our sincere gratitude to all participants from abroad.

We, the Mayors and Governors of Japanese cities and regions gathered today at the “Local Leaders’ Summit,” declare to take new action and enhance cooperation towards achieving 100% renewable energy cities and regions. With the support of the participants attending the Local Renewables Conference 2017, we commit to utilizing local renewable energy to overcome the challenges that we face, protect the livelihoods of our residents, and improve local economies. To reach these goals, we will enhance our cooperation with local governments and local communities, both at home and abroad.

Furthermore, we hope that more local leaders, not only from Japan but also from Asia and around the globe, will join us in this endeavor by supporting this declaration.

With hopes that today will be marked as a day and forum that paved a pathway towards a new, bright future.