Rural Eco-Model City Obihiro【Obihiro City, Hokkaido】

Overview of distinctive initiatives

Model project for recycling used cooking oil from households

By working together to create a setup for recycling and making use of used cooking oil for producing biodiesel fuel (BDF), the citizens, companies and government agencies of Obihiro are not only working to reduce the usage of fossil fuels and reduce the volume of waste products disposed of, but are also ensuring a distributed spread of energy sources in readiness for disasters and other times when the energy supply may be unstable.

■ How the BDF produced from the collected oil is sold

Obihiro City

City spreads the word about the project and asks for cooperation

Citizens/neighborhood associations

Used cooking oil is brought in

Supermarkets etc.

Collection points are managed

NPO

Used cooking oil is collected and sold

Refinery

BDF refinery/vendor

Sale to the general public (Gas stations)

Businesses (Businesses which are heavy users)

Citizens bring their used cooking oil to the collection points which have been set up with the cooperation of supermarkets and others (Volume collected from households: 62,000L/year)

The NPO takes used cooking oil from the collection points and sells it to the BDF manufacturer as a raw material.
After the BDF is manufactured, it is sold to the public at gas stations, supplied directly to businesses which are heavy users of fuel, and used as fuel for cars and fuel for heating appliances.

■ How BDF is used

Used as heating fuel and fuel for vehicles

B5 light oil, comprising light oil with a blend of 5% biodiesel fuel (BDF) is used in the motor graders used for snow clearance, for road patrol cars and for chemical fire trucks. B100, a pure biodiesel fuel containing no light oil is used as a heating fuel in some buses and in companies.

Reduces still further the impact on the environment of using public transport

Usage of public transport by elderly people is increasing as a result of the bus passes permitting free travel which have been distributed among citizens aged over 70. The use of B100 in some public buses has helped reduce the environmental impact when elderly people travel away from their homes.

For enabling continuous fuel supply to official car in case

Simple refueling devices for fueling with BDF have been installed at government agencies. This enables vehicles such as fire trucks (and chemical fire trucks), snow-clearing vehicles and road patrol cars to continue to be supplied with fuel even if the supply of fossil fuels is interrupted during disasters. Obihiro hopes that once BDF refueling devices have been set up at government facilities as an initial step, more and more BDF vehicles will be introduced and more BDF refueling devices will be set up by other local governments, with the objective not only of reducing environmental impact but also of distributing energy use over a wider spread of sources.

Overview of the city

- Population: 169,044 people
- Area: 618.94 km^2
- Land utilization rate: Agricultural land: 37.8%; residential area: 5.3%; mountain forest: 5.1%
- Main industries: Agriculture

Inquiries:

Environmental city Promotion Section, Citizens' Environmental Department, Obihiro City, Hokkaido
Officer in charge: Ishiyama
TEL: 0155-65-4135 FAX: 0155-23-0161
E-MAIL: environment@city.obihiro.hokkaido.jp

Eco-Model City Tsukuba: Tsukuba City, Ibaraki

Overview of distinctive initiatives

つくば環境スタイル SMILe TSUKUBA

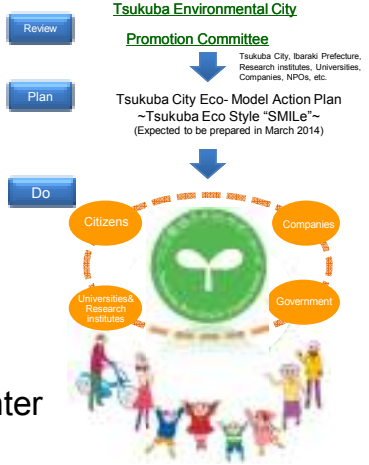
Learning & Education 環境教育、実践

In order to promote measures involved in reforming people's knowledge, awareness, and lifestyles, citizens, companies, universities/research institutes, and the municipality are coming together in a new collaborative style to implement "All Tsukuba," and aiming toward a low-carbon society that continues with the effective measures resulting from this collaboration, we are devoted to developing human resources through environmental education and the like for the children who will lead the next generation.

Tsukuba Environmental Style Supporters

↑From this year, we launched a point system aimed at individual members

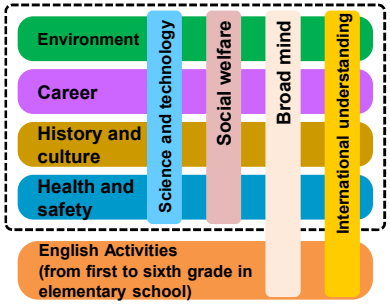
Established in March 2013 as an organization in which everyone can participate readily and freely.
With the motto of "Spontaneous, Fun, Eco Activities!!" we are implementing a variety of events and programs including exchanges on Facebook.
Number of members (as of September 30, 2014): 6,659 individuals/254 businesses



Tsukuba Style Study (next-generation environmental education curriculum)

It is a unique 9-year curriculum for the students in Tsukuba City.
It is designed to let the students go through project studies, which cover eight fields shown in the figure below.
It aims to foster students' next-generation skills.

Hookun Sencho



Tsukuba Environmental Style Center (tentative name)

We aim to establish a base for urban environmental education including submitting information on Tsukuba Environmental Style.
As a spot where people can gather and interact, this will be a place to form communities and promote regional cooperation.

Overview of the city

- Population: 221,139 people (as of October 1, 2014)
- Area: 284.07 km^2
- Land utilization rate: Farm land: 39.6%; residential area: 21.1%; mountain forest/ wilderness: 19.4%; hybrid land: 5.8%; other: 14.1%
- Main Industries: Research and development, service industry

Inquiries:

Smart City Promotion Division International Strategic Zone Promotion Department, Tsukuba City, Ibaraki Prefecture
TEL: 029-883-1111 (main)
E-MAIL : igp010@info.tsukuba.ibaraki.jp

Eco-Model City Chiyoda【Chiyoda City, Tokyo】

Overview of distinctive initiatives

Chiyoda City Community Cycle Project Demonstration Experiment —Promoting the transition to a low-carbon society in local transportation

In FY2014, Chiyoda City, working together with the Eco-Model City initiative, started a demonstration experiment for testing an environmentally-friendly bicycle-sharing project (Chiyoda City Community Cycle) with the aim of moving towards a full-scale launch of the project, looking ahead to the hosting of the Tokyo Olympic and Paralympic Games in 2020. (Period of demonstration experiment: October 1, 2014~ March 31, 2017 (Planned))

What is ちよくる ….?

Known generally as “Chiyoda City Community Cycle,” the decision to launch the initiative was based on a popular vote. A number of cycle ports (places where people can borrow and return bicycles) have been set up around the city, so that users can borrow a bicycle from any port, and then hand it back to any port when they are finished.

Chiyoda City hopes to see its citizens and businesses making use of bicycles as an environmentally-friendly transportation mode that emits no CO_2, leading to a higher level of awareness of the environment throughout the city as a whole.

As Tokyo’s only Eco-Model City, Chiyoda City has formulated an Action Plan on the environment, rolling out policies across a wide range of areas. Chiyoda City is taking a proactive stance on promoting the environment through the introduction of the “Chiyo-Kuru” initiative; the City also aims to develop its initiatives into full-fledged commercial businesses which look ahead to the Tokyo Olympic and Paralympic Games which will be held in 2020.

1. Environment-friendly

Switching from cars to bicycles reduces CO_2 emissions and helps raise awareness about the environment.

- **Reducing CO_2 emissions**
- **Raising awareness about the environment**

2. Smarter transport

The project helps people move around efficiently and healthily by using bikes for “short trips” and “promoting better health.” Popularizing bicycle-sharing will also help to reduce the numbers of bikes left on the roadside.

- **Saving time**
- **Promoting better health**
- **Countering the problem of bikes left on the roadside**

3. Enjoying Chiyoda City

The system allows people to tour the sightseeing spots of Chiyoda City efficiently, while creating opportunities to visit stores and other venues which are located at distances that might be challenging on foot.

- **Revitalizing tourism**
- **Revitalizing the community**

Overview of the city

- Population: 56,545 people (as of October 1, 2014)
- Area: 11. 64 km^2
- Land utilization rate: Residential area: 40%; commercial area: 60%
- Main industries: The main industries center on Japan’s legal, governmental and judicial institutions. The headquarters of many major companies are concentrated in this city, including financial and trading firms.

Inquiries:

Environment and Global Warming Countermeasures Section,
Environment and Safety Division, Chiyoda City, Tokyo
Officer in charge: Kubota, Horikita
TEL: 03-5211-4256 (Energy Countermeasures Group)
FAX: 03-3264-8956
MAIL: kankyou-ondanka@city.chiyoda.lg.jp

Eco-Model City Niigata: Niigata City, Niigata Prefecture

Overview of distinctive initiatives

Preservation and sustainable use of the rural environment

Niigata City is working to build a sustainable low-carbon city which is based on regionally-based recycling of the many different values (food, culture, greenery, natural bounty and energy) which are provided by the rural environment, based on the fundamental concept of preserving the "rural environment" which is a key part of Niigata City's identity.

Growth industries

- ○Discovering potential in the food manufacturing industry
- ○Encouraging the development of agricultural corporations and the consolidation of farmlands
- ○Encouraging value-added agriculture, such as producing local specialties and functional foodstuffs

Energy

- ○Using biomass resources derived from agriculture
- ○Use of recycled leftover food to replenish agricultural land
- ○Creating connections between locally-produced biomass and agriculture

Opportunities for employment/activities

- ○Creating opportunities to employ elderly people and women
- ○Using agriculture as a way to support the independence of young unemployed people, who are at risk of becoming shut-ins
- ○Creating opportunities for people with disabilities to get practical experience in agriculture

Culture, tradition and community bonding

- ○Creating regional unity based on the shared goal of agricultural land reclamation
- ○Creating a tangible form of community bonding "Traditional arts and crafts, festivals and unique food culture"
- ○Ripple effect of culture and traditions on the city

How agriculture-derived biomass resources are used

Overview of the city

- Population: 805,000 people
- Area: 726.10 km^2
- Land utilization rate: Rice paddies: 39.8%; fields 7.7%, residential area: 15.7%; mountain forest: 5.7, other: 31.7%
- Main industries: Agricultural and food production industry, pulp/paper/processed paper production industry, chemical industry

Inquiries:

Environmental Policy Section, Environmental Division, Niigata City, Niigata Prefecture
Officer in charge: Kinjo, Koizumi
TEL: 025-226-1363 FAX: 025-230-0467
MAIL: kansei@city.niigata.lg.jp

Eco-Model City Iida: Iida City, Nagano

Overview of distinctive initiatives

Using city ordinances and community cooperation to produce power, returning profits to the community!

Implementing the Public Community Renewable Energy Utilization Project

Due to their community environmental rights, community residents and organizations, such as community development committees and residents' associations, can work together on the project with the Iida City.

Start of the project to sell power generated by the community, in service of the community

(1)Discussions with community members
・The community needs to reach a consensus.
・Decide on the objectives, challenges, and division of responsibilities.

(2) Petition the city
・After receiving advice from the city's review board, the project is approved as a city-supported project.

Project launched

(3) Fund procurement and construction
・Necessary funds can be more easily procured from credit unions and banks.
・Residents' funds are easier to utilize.
・These funding sources make it possible to start construction.

Finished

(4) Sustainable community building
・Secures unique community revenue.
・Project revenue makes it possible for the community to perform the community building it desires.

Key point
★The entire community needs to build a solid plan.
★Look for potential company and NGO partners.
Once a concrete plan has been developed, consult with the Model Environmental City Promotion Division!

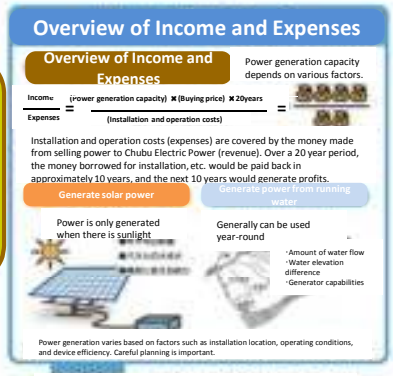
No need to worry
★Will it benefit everyone? (serving the public interest)
★Can the project be easily maintained and carried on? (project stability)
The review board's specialists can provide advice and consultation!

The approval of the project by the city improves awareness by the community and makes it easier to secure funding!

Use the revenue obtained from selling electricity!!
Use the revenue to benefit the community.
Participate in community development

When you borrow funds, you need money to pay back these loans, and money for repairs, too.

Overview of Income and Expenses



An ordinance was passed in April 2013 enabling joint community use of the community's natural resources.

Community Environmental Rights

Ordinance on Sustainable Community Building through the Use of Renewable Energy

What are community environmental rights?
・These are the rights of city residents to use energy produced from local resources, in harmony with the local environment, for the benefit of the community.
・They are the rights to receive support from the city for projects to accomplish this.

What kind of support is available?
・Projects can use buildings and land, etc., owned by the city.
・The review board can provide advice. (evaluation of project's public nature, feasibility, and funding procurement potential)
・Because projects are implemented in partnership with the city, they are trusted by society as projects for the benefit of the public.

What benefits does this trust provide?
・This trust makes it easier to procure funding from financial institutions and residents' funds.
・This trust makes it easier to gain the understanding and cooperation of members of the community.
・The city will provide an interest-free loan of up to 10 million yen (to be repaid, as a general rule, within 10 years) for survey expenses needed to place construction orders.

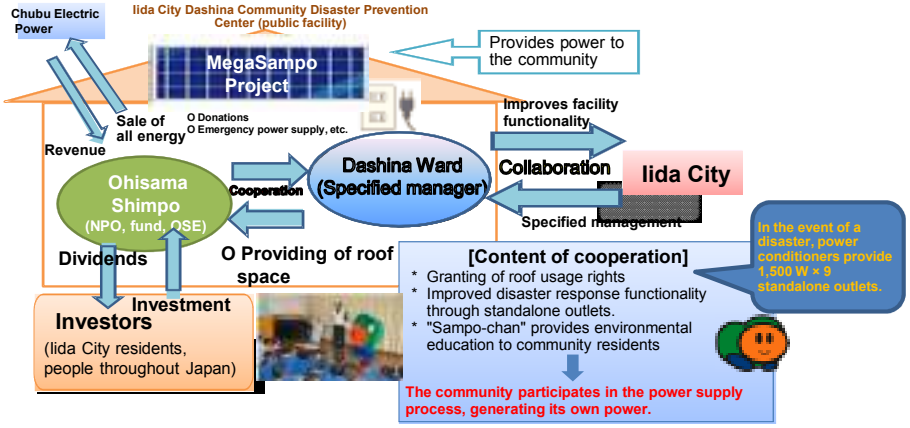
Example

Public Community Renewable Energy Utilization Project No. 1 Oct 30, 2013

Dashina Ward and Ohisama Grid 4, Inc. worked together to install solar panels on the roof of the Dashina Community Disaster Prevention Center. This is providing various benefits to the members of the community.

<Benefits>
* The community has not needed to pay any initial installation costs, plus it is paid a yearly roof usage fee.
* Standalone outlets are available for use in the event of a disaster.
* Partner companies provide environmental education, heightening the environmental awareness of the community. (Dashina Ward plans to invest in this project)
* The generated power is primarily used by the community.

Public Community Renewable Energy Utilization Project No. 1



Overview of the city

- Population: 104,950 people (as of September 2014)
- Area: 658.73 km^2
- Main industries: Manufacturing industry (electronics, machinery, precision machinery), tourism, agriculture. In recent years, the city has been focusing on the development of its aerospace industry.

Inquiries:

Eco-Model City Promotion Division, Global Warming Countermeasure Task Force, Iida City, Nagano Prefecture
Officer in charge: Ariyoshi
TEL: 0265-22-4511 FAX: 0265-22-4673
E-MAIL: ic3760@city.iida.nagano.jp

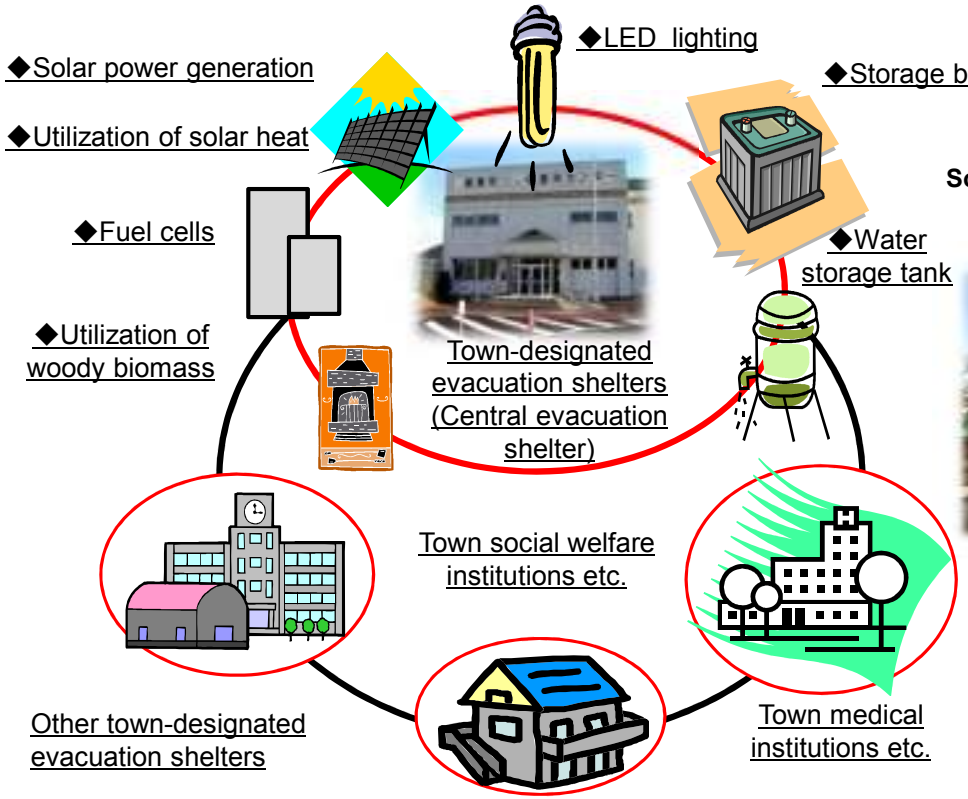
Eco-Model City Mitake【Mitake Town, Gifu】

Overview of distinctive initiatives

Introducing renewable energy into public facilities —Aiming to prepare for disasters, create a low-carbon society and secure the local energy supply

Abandoned lignite mines are scattered all over the fields surrounding the city, and major damage caused by the subsidence of the ground is anticipated in the event of earthquakes, along with disruption to energy supply infrastructure.
Mitake is therefore working to "build a disaster-proof, low-carbon local community" by promoting the establishment of "Self-Sustained Evacuation Shelters" as town-designated evacuation shelters which, by combining a full range of renewable energy forms, are capable of providing their own energy supply for a certain period of time in the event of disasters which disrupt the energy supply infrastructure.

Image showing how Self-Sustained Evacuation Shelters are set up



Solar power generation system added to the Sansan Juku

Lignite mines in the Mitake area and damage caused by subsidence of the ground —An issue for the community

As a result of the mining of lignite (the lowest grade of coal) in Mitake in the past, abandoned mines are now found underground over a wide area surrounding the town, and land subsidence is now a serious problem facing Mitake.

(Photograph: Damage caused by massive ground subsidence which occurred in October 2010)

Overview of the city

- Population: Approximately 19,000 people
- Area: 56 km^2
- Land utilization rate: Forest occupies approximately 60% of the land area
- Main industries: Mitake is working to encourage companies, especially manufacturing companies, to locate in the town by improving access through the opening of the ring road system

Inquiries:

Eco-Model City Promotion Bureau, Mitake Town Hall, Kani District, Gifu Prefecture
Officer in charge: Kani
TEL: 0574-67-2111 FAX: 0574-67-1999
E-MAIL: eco@town.mitake.lg.jp

Eco-Model City Toyota【Toyota City, Aichi】

Overview of distinctive initiatives

Optimum Use of Energy

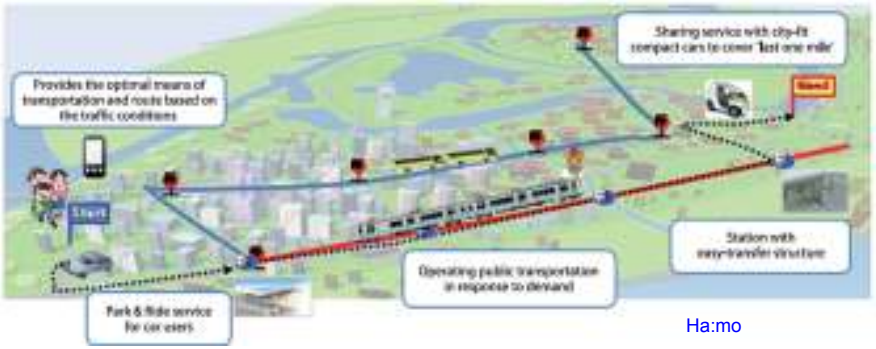
Toyota City aims to create a municipal-level type next-generation low-carbon society, in which energy use for the “physical space of a person’s daily existence on the whole” is optimized, with the respective energy use within the “home”, for “transit” and at the “destination” optimized at the same time.

For the case of the *home*, demonstration trials are in progress in 67 smart homes, where solar power generation, energy-saving home appliances and storage cells mounted in next-generation automobiles etc. are integrated and managed through the HEMS (Home Energy Management System). In addition to that, for the case of the “physical space of a person’s daily existence on the whole”, the initiative promotes energy “locally produced and locally consumed” by linking EDMS (Energy Data Management System) and HEMS. Specifically, by predicting the electric power generated from solar power (supply) as well as that required in the region (demand), and through reward points and advice for energy behaviors, concentrated electric power use will be avoided, thus keeping the carbon footprint of electric power generation for the whole region low.

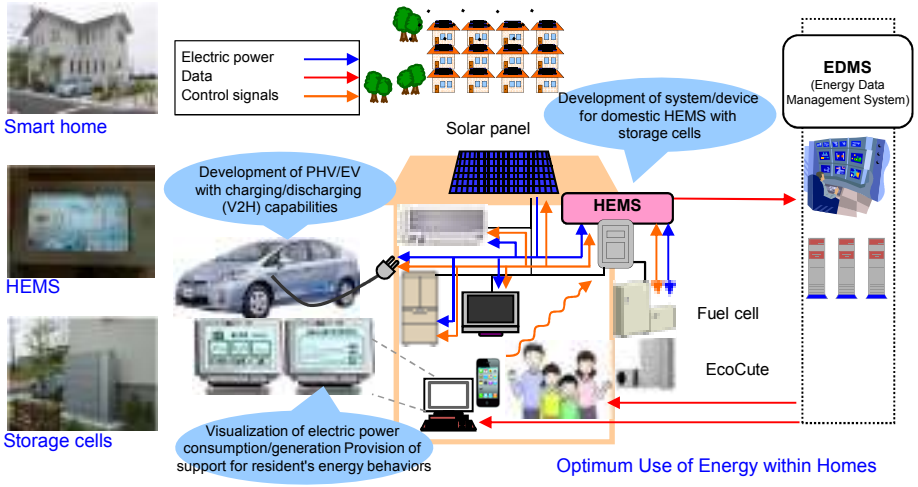
Create a low-carbon transport system

Having developed itself into an “automotive city”, Toyota City is leveraging on its strength as such, creating a low-carbon transport system by promoting, in an integrated manner, the deployment of a next-generation mobility system, improvements in public transportation and provision of new routing information using Intelligent Transport Systems (ITS).

Comprising a combination of a car-sharing system -- which utilizes ultra-compact electric vehicles to complement movement between basic public transport like trains and buses and the destination -- and a navigation system that supports low-carbon and seamless transit, “Ha:mo” has begun demonstration trials. As of September 2014, 32 locations in the city have been outfitted with rental points for the car-sharing system.

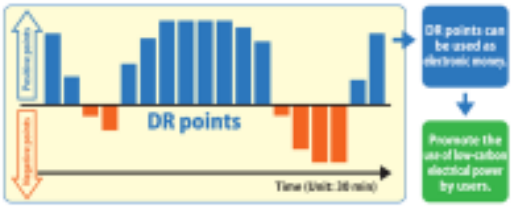


Ha:mo



Optimum Use of Energy within Homes

Optimum Use of Energy in the Physical Space of a Person’s Daily Existence on the Whole



Reward points

Sets points every 30 minutes

Advice for energy behaviors

Green when points are positive, red when points are negative

Overview of the city

- Population: 422,181 people (as of October 1, 2014)
- Area: 918.47 km^2
- Land utilization rate: Forest : 68%; agricultural land: 8%; residential area: 7%
- Main industries: automotive and agriculture

Inquiries:

Eco-Model City Promotion Section, Planning and Policies Division,
Toyota City, Aichi Prefecture
TEL: 0565-34-6982 FAX: 0565-34-6993
E-MAIL: hybrid-city@city.toyota.aichi.jp

Eco-Model City Kyoto【Kyoto City, Kyoto】

Overview of distinctive initiatives

Environmental Training Program “Eco-Life Challenge for Children”

Kyoto City is running the ”Eco-Life Challenge for Children” program in which children, who are bearers of the future, make use of the “Environmental Housekeeping Book for Children” to re-examine their lifestyles together with their family, learn about environmentally-conscious living (Eco-Life) and carry out in practice their learnings . The program began in 2005 under the cooperation of the Board of Education, volunteers and NPOs in the city. Since 2010, the program has been conducted in all municipal elementary schools.

Preparatory Lesson before Eco-Life Practice (before summer and winter vacations)

Eco-Life Practice with Family and Friends (during summer and winter vacations)

Integrated Lesson after Eco-Life Practice (after summer and winter vacations)

Courtesy call by children from Malaysia

With the cooperation of Kyoto City, the Iskandar Regional Development Authority in Malaysia has developed a training program modeled after “Eco-Life Challenge” since 2012. The program was introduced in 23 schools in 2013 and 80 schools in 2014. A contest was held in November 2014 to select the best-performing school out of the 80 schools. In 2015, the program will be extended to all 198 schools in the region.

Overview of the city

- Population: 1.469 million
- Area: 827.9 km^2
- Land utilization rate: mountains and forests (63.6%), residential (24.1%), agricultural (8.7%), others (3.6%)
- Main industries: tourism and conventions, traditional, manufacturing (machinery and tool etc.)

Inquiries:

Global Environment Policy Office, Environment Policy Bureau, City of Kyoto
Officer in charge for Project Promotion: 075-222-4555

Eco-Model City Sakai【Sakai City, Osaka】

Overview of distinctive initiatives

Harumidai Eco Model Town Project

■ Description of the project ■

The aim of the project is to build a model eco-town with superb environmental performance including "Net Zero Energy Houses (ZEHs)" through making efficient use of a vacant elementary school lot (public asset)

May 2011: City starts calling for applications from businesses
March 2013: Subdivision process starts

Fitting out all households with devices that enable a ZEH rate of over 100%
We have equipped all houses with solar power generation systems, lithium-ion storage batteries, high-efficiency water heaters/household fuel cells, HEMS, LED lighting and external power outlets for charging up electric vehicles.

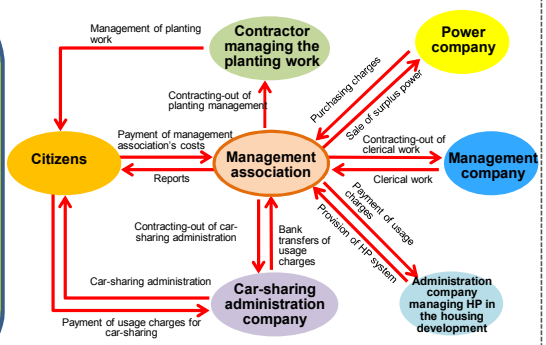
All houses have been awarded Rank S in the Comprehensive Assessment System for Building Environmental Efficiency (CASBEE) assessment tool.

■ Initiatives for building a sustainable city ■

Setting up management associations for the management of housing developments
Citizen-led, independent management of neighborhoods (housing developments) is helping to maintain a pleasant living environment and create a new kind of urban value in the city.

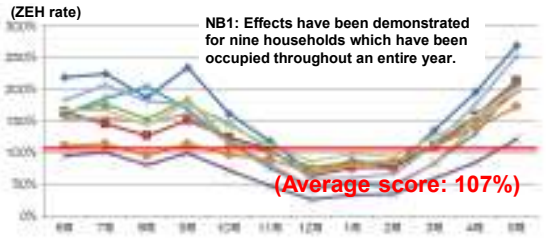
Solar power generation system (17.1 kW) above a regulation reservoir (in the communal space)

The money earned from selling surplus power generated by the solar power generation system in the communal space and from the car-sharing usage charges is used as the financial resources for running the scheme; the system therefore helps to create an independent, citizen-led local community, while the Assembly Hall also functions as a disaster prevention center. Through this setup, Sakai City has not only helped build a low-carbon city but has also created a new kind of value in the form of a sustainable city that is resilient in the face of disaster.



Schematic diagram showing how the independent, citizen-led city management process works

■ Demonstration of effects~ZEH rate month by month~



Although the ZEH rate for the houses varied according to the season and from household to household, it exceeded 100% for almost all houses throughout the year, with an average ZEH rate of 107% across all nine households when the effects were demonstrated.

■ Building a city that is resilient in the face of disaster ■

How the Assembly Hall functions as a disaster prevention center
Solar power generation, high-volume storage battery installation, V2H etc.
High-volume rainwater storage tank for ensuring a supply of water for daily use
Stockpile of emergency food supplies
Kamado bench/toilet bench installation

Overview of the city

- Population: 840,016 people (as of October 1, 2014)
- Area: 149.99 km²
- Land utilization rate: Residential area: 54.6%; Area for agricultural use: 10.6% Mountain forest: 3.0%; Other: 31.8%
- Main industries: Manufacturing industry

Inquiries:

Environmental Policy Division, Environmental City Promotion Department, Environment Bureau, Sakai City
Officer in charge: Hamada, Ida, Imayasu
TEL: 072-228-3982 FAX: 072-228-7063
E-mail: kansei@city.sakai.lg.jp

Eco-Model City Amagasaki【Amagasaki City, Hyogo】

Overview of distinctive initiatives

Environmental learning and activity hub

Amagasaki Open College of the Environment

Environment library with about 2,000 books

Aquatic biology survey (Mogawa river, Amagasaki)

What is Amagasaki Open College of the Environment?

It is a place for those who love Amagaski and think about the environment to meet up and learn how to create opportunities for implementation.

Educational activities concerning the environment are held there as the city's hub for environmental learning and activities.

The Amagasaki Open College of the Environment NPO comprised of public, private, academic and administrative bodies carries out office duties commissioned by the municipal government.

Main activities

Hold seminars and events related to the environment, support residents' environmental activities (e.g. provision of subsidies), lending of books from the environment library and environmental learning support items, publication of the environmental news magazine, "Amagasuki Tsushin," and others.

URL: http://www001.upp.so-net.ne.jp/aoce/

Amagasaki Open College of the Environment

Overview of the city

- Population: 447,466 people
- Area: 50.27 km^2
- Land utilization rate: Industrial area: 1/3; exclusive residential area 1/3; commercial area: 1/3
- Main industry: Manufacturing industry

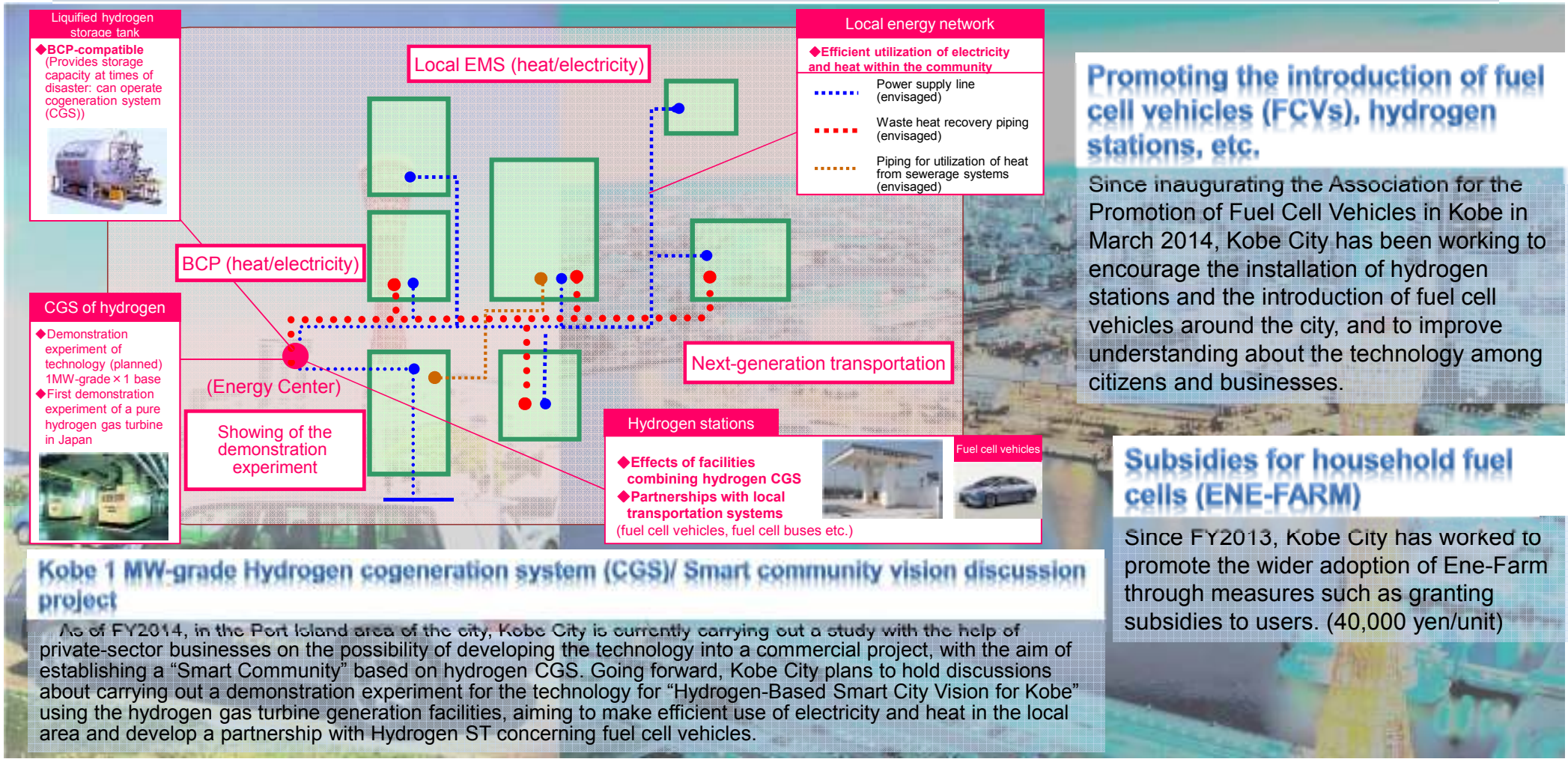
Inquiries:

Environment Planning Section, Environment department, Economy and environment bureau, Amagasaki city , Hyogo Prefecture
Officer in charge: Kitagawa
TEL: 06-6489-6301 FAX: 06-6489-6300
E-MAIL: ama-kankyo-sozo@city.amagasaki.lg.jp

Eco-Model City Kobe【Kobe City, Hyogo】

Overview of distinctive initiatives

Working to realize a hydrogen-based society, including the "hydrogen-based smart city vision for Kobe."



Promoting the introduction of fuel cell vehicles (FCVs), hydrogen stations, etc.

Since inaugurating the Association for the Promotion of Fuel Cell Vehicles in Kobe in March 2014, Kobe City has been working to encourage the installation of hydrogen stations and the introduction of fuel cell vehicles around the city, and to improve understanding about the technology among citizens and businesses.

Subsidies for household fuel cells (ENE-FARM)

Since FY2013, Kobe City has worked to promote the wider adoption of Ene-Farm through measures such as granting subsidies to users. (40,000 yen/unit)

Kobe 1 MW-grade Hydrogen cogeneration system (CGS)/ Smart community vision discussion project

As of FY2014, in the Port Island area of the city, Kobe City is currently carrying out a study with the help of private-sector businesses on the possibility of developing the technology into a commercial project, with the aim of establishing a "Smart Community" based on hydrogen CGS. Going forward, Kobe City plans to hold discussions about carrying out a demonstration experiment for the technology for "Hydrogen-Based Smart City Vision for Kobe" using the hydrogen gas turbine generation facilities, aiming to make efficient use of electricity and heat in the local area and develop a partnership with Hydrogen ST concerning fuel cell vehicles.

Overview of the city

- Population: 1,538,000 people
- Area: 553.12 km^2
- Land utilization rate: Urbanization-designated area: 37%; urbanization-control area: 63%
- Main industries: Manufacturing industry, service industry, fashion industry etc.

Inquiries:

Environmentally Friendly City Promotion Office, Resource Recycling Department, Environment Bureau, Kobe City
Officer in charge: Kaneko, Yagi
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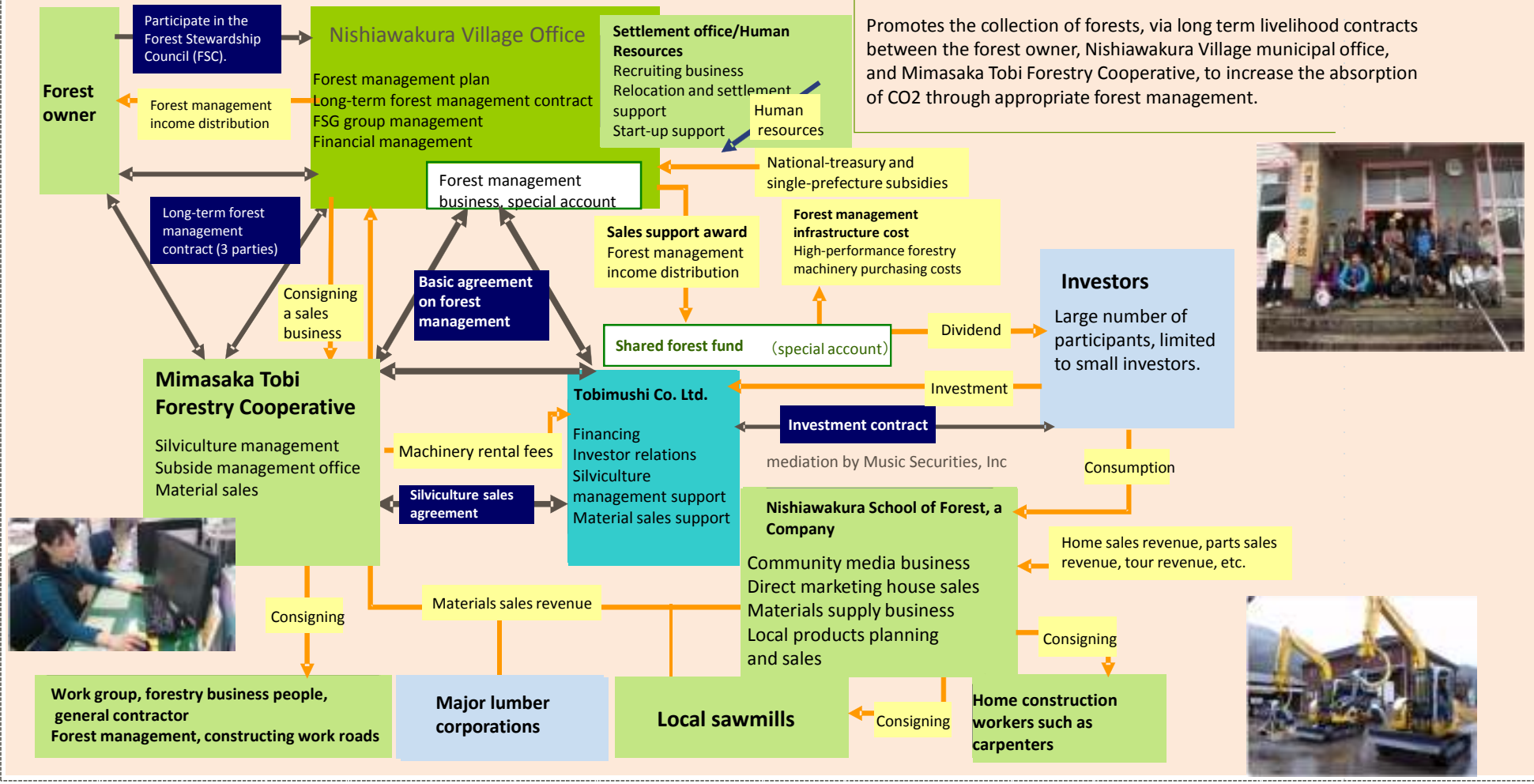
Eco-Model City Nishiawakura【Nishiawakura Village, Okayama】

Overview of Characteristic Efforts

Nishiawakura Village, 100 Years Forest Project



Promotes the collection of forests, via long term livelihood contracts between the forest owner, Nishiawakura Village municipal office, and Mimasaka Tobi Forestry Cooperative, to increase the absorption of CO2 through appropriate forest management.

Overview of the City

- Population: 1,538 people
- Area: 57.93 km^2
- Land utilization rate: Forest: 95% ; Agricultural land , Residential land and others: 5%
- Main industries: Forestry, Tourism

Contact

Eco-Model City Promotion Team, Industry and Tourism Section, Nishiawakura village
Officer in charge: Ueyama, Shirohata
TEL : 0868-79-2111
E-MAIL : ta-ueyama@vill.nishiawakura.lg.jp;

Eco-Model City Matsuyama: Matsuyama City, Ehime

Overview of distinctive initiatives

"World-Class Eco-Model City Matsuyama", Sustaining both the environment and the economy

Matsuyama Sunshine Project

Inspection of the solar power system installed on the elementary school rooftop

Signed agreement with NPO running the Freiburg environmental learning facilities

Reduce global warming, generate new industry

Smart Community

Diagram of commercialization feasibility survey

Formulation of a master plan

Energy management

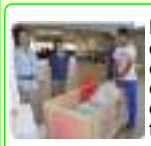
Create a compact city that is enjoyable to walk around

Field test development of comfortable walking space and good cycling environment

Promote development of low carbon city, e.g. with Land readjustment around Matsuyama station

Attract customers and residents, compact

Implement regional circulation system



Promote recycling, e.g. of used clothes and cooking oil ways (build a community that is kind to disabled individuals and the environment)

Sale of used furniture

Subsidize cost for purchasing raw waste treatment containers

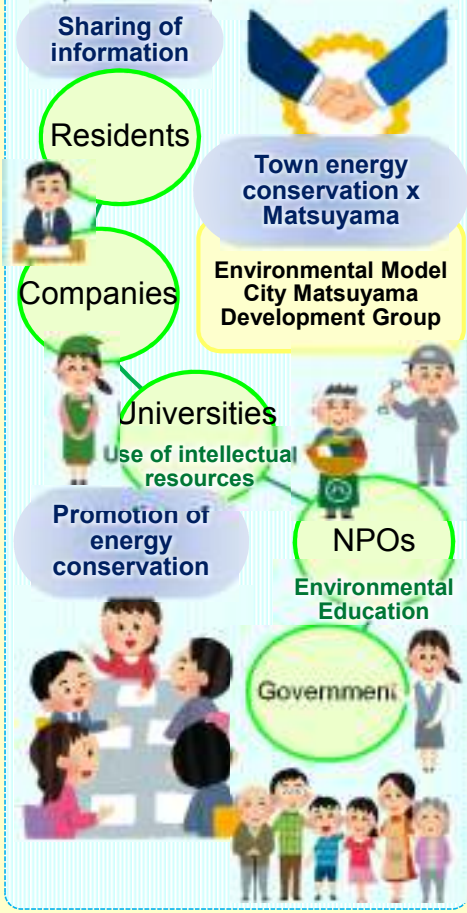
Use of biofuel-light fuel oil mix

Recycling society symbiotic with nature

Building a sustainable low carbon society

Framework

Aiming to sustain both the environment and the economy through government, public and corporate collaboration



Overview of the city

·Population: 516,280 people (as of September 1, 2014)
· Area: 429.06 km^2
· Land utilization rate: Mountain forest: 39%; farm land: 36%, residential area: 21%
· Main industries: Tertiary sector, e.g. wholesale/retail, service industry, restaurant/lodging

Inquiries:

Environmental Business Promotion Section, Environmental Department
Matsuyama City, Ehime Prefecture
Officer in charge: Tsuchitani
TEL: 089-948-6960 FAX: 089-934-1861
E-MAIL: kankyouj@city.matsuyama.ehime.jp
URL: http://www.city.matsuyama.ehime.jp/

Eco-Model City Yusuhara【Yusuhara Town, Kochi】

Overview of distinctive initiatives

Yusuhara Town, Kochi Prefecture - Initiatives of a Town at the Shimanto River Headstream

Low-carbon community development for a depopulated municipal among the mountains

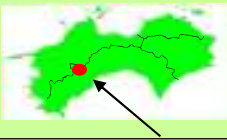
Amid growing interest in renewable energy in the wake of the nuclear accident, attention in now on the Yusuhara Eco-Model City in Kochi Prefecture.

- **Selected as "Eco-Model City" in January, 2009**

*Eco-Model City: In order to show in a straightforward manner what a low-carbon society should look like exactly – the kind of society Japan should be in the future – cities that will undertake the ambitious challenge of spearheading deep cutbacks in greenhouse gas are selected as "Eco-Model Cities," and will work towards this goal with the support of the relevant government ministries and agencies.

- **Efforts are underway to develop a low-carbon community that is safe to natural life forms, through initiatives utilizing environmentally-friendly energy from forests, water, wind and light etc.**

Targets
- 70% reduction in greenhouse gas emissions and 4.3 times increase in greenhouse gas uptake by 2050 (compared to 1990)
- Energy self-sufficiency rate exceeding 100% through the use of local resources



Yusuhara Town, Kochi Prefecture
Population 3,677 (end of October, 2014)
91% of the town is forest

Best combination of renewable energy sources and the 2 cycles

light	Solar-power generating facilities subsidy of JPY 200,000 per kilowatt	Revenue from sales of electric power	Domestic uptake rate about 7.6%
wind	Wind-power generating facilities 600 kW x 2 units		Revenue from sales of electric power JPY 58,500,000 per year (utilization rate of about 30%)
forests (biomass)	Grant of JPY 100,000 per ha to forest owners who had their forests thinned (ended in year 2010)	Revenue from sales of electric power	CO2 sinks: 6,900 ha (year 2001 to 2013 fiscal)
	Subsidy of 25% for installation of pellet stoves (capped at a maximum)		Pellet stoves x 10 units
geothermal	230 kW worth of energy to municipality-run heated pools by compressing and heating underground heat with heat pumps		70% reduction in energy costs to keep water temperatures at 30°C
water	Installation of 53 kW small scale hydropower		Electricity used for junior high schools in the day and street lights at night

Cycle I: Forest thinning → Local pelletizing plants

Cycle II: Local pelletizing plants → Pellet stoves

The 2 Cycles:

Cycle I. Utilize part of the revenue from sales of wind-generated electric power to promote the use of facilities and equipment for CO_2 emission reduction (solar power, pellet stoves), as well as to maintain CO_2 sinks (forest maintenance)

Cycle II. Manufacture pellets locally by using thinning wood from forests, which make up 90% of the town area. The pellets produced are used as fuel for pellet stoves etc.

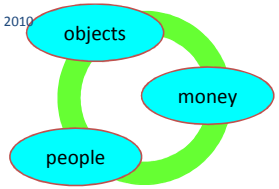
Progress

○ Making steady progress towards our goal.

	1990 (base year)	2010	2050 (target year)
CO2 emissions	23,634 tons	▲10%	▲70%
Wind-power generation	—	600 kW x 2 units	1,000 kW x 40
CO2 uptake	16,200 tons	67,500 tons	70,200 tons (4.3 times)
CO2 sinks	—	6,409 ha*	12,000 ha
Energy self-sufficiency rate	—	28.6%	100%

*Cumulative total from fiscal 2001 to 2010

Factors to Success – Yusuhara's Strengths



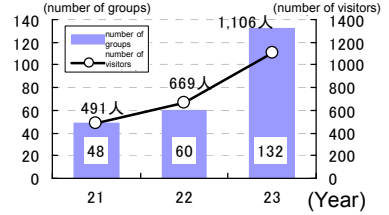
○ Proper use of local resources (rich in local resources).
○ System in place to tie revenue from sales of wind-generated electric power to the proliferation of solar and biomass energy.
○ Attitude and awareness to address the issue as a town (a high level of innate environmental awareness)

➡ **Residents and businesses encouraged to act on their own initiative.**

Changes Post-March 11 - Road to Yusuhara

○ Sharp increase in the number of study trips to the region; commercialization of study trip by Japan Tourist Bureau (JTB) and Association of Commerce and Industry.
○ While the town's initiatives themselves have not changed significantly, the increase in number of study trips and public attention have added to our confidence.
○ To develop and deploy the Yusuhara model in other regions, it is crucial to reconsider the local resources available as well as to transform residents' mindset and encourage resident involvement.

Changes in number of study trips to the region



Note: Number of visitors handled by Yusuhara Town (private and individual visitors are not included)

Overview of the city

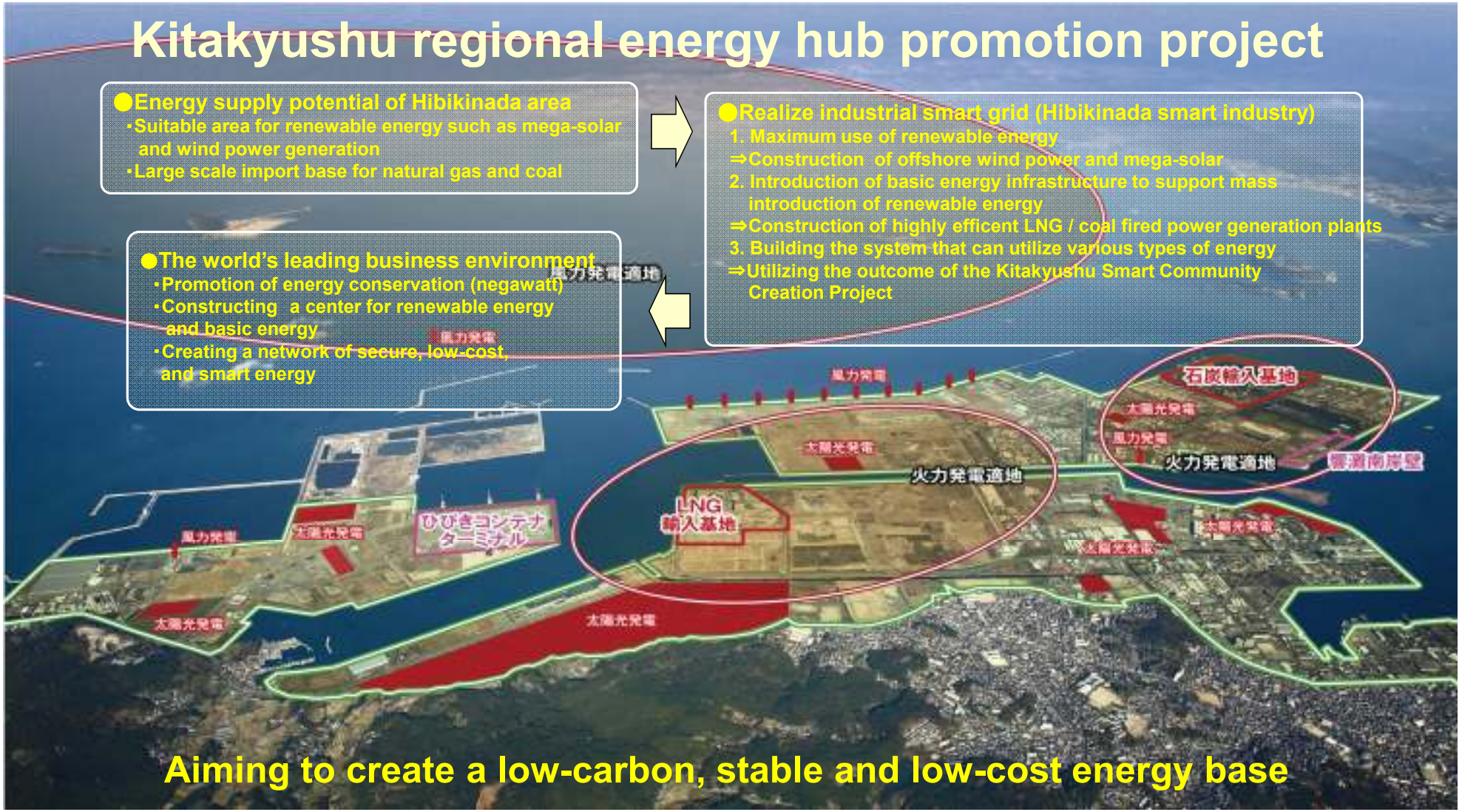
- Population: 3,977 people (as of October 31, 2014)
- Area: 236.51 km²
- Land utilization rate: Forest: 91%; rice paddies: 0.7%; fields: 0.6%
- Main industries: Forestry, construction industry

Inquiries:

Eco-Model City Promotion Office, Environment Section, Yusuhara Town, Kochi Prefecture
Officer in charge: Nasu
TEL: 0889-65-1251 FAX: 0889-40-2010
E-MAIL: t-nasu@town.yusuhara.kochi.jp

Eco-Model city Kitakyushu【City of Kitakyushu, Fukuoka】

Overview of a characteristic project



Overview of the city

・Population：963,259 as of October 2014.
・Area size：489.56㎢
・Land use：Forest（42.7%）, Residential land（14.0%）, Industrial land（7.0%）, Agricultural land（6.0%）, Commercial land（3.2%）, etc.
・Main industries：Manufacturing industry, Supporting industry, Automotive industry, Electronic components and devices industry, Environment and energy industry, etc.

Contact

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Tel.+81-93-582-2156 Fax.+81-93-582-2176
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Eco-Model City Minamata【Minamata City, Kumamoto】

Overview of distinctive initiatives

Moyai naoshi

About *Moyai naoshi*

With contamination unequaled throughout the world, Minamata City suffered Minamata disease. Fierce confrontations occur, as the perpetrators and victims live in the same area, and the discussion between the opposing sides has ceased for quite a while. In overcoming such mistakes, realizing that "confrontation doesn't produce anything," however, the government, citizens, and victims are gathering dialog and events, acting to rehabilitate Minamata.

* The *moyai* in *Moyai naoshi* refers to connecting ships, or working together to do something. The dialogue and collaborative efforts to face the challenges of the Minamata disease that ruptured relations among the people of Minamata and between the nature and the people are called *moyai naoshi*.

Fire Festival

The Fire Festival is a ceremony by citizens where the citizens pray for all who have fallen victim to the Minamata disease as they convey the importance of the environment to future generations in conjunction with *moyai naoshi* and regional revitalization.
The Festival started in 1994, obtaining and proceeding with the cooperation of numerous volunteers, from planning to managing implementation. As an event with fire symbolizing prayers for the victims of Minamata disease, this is a solemn ceremony in which many people pray for the victims. It is also environmentally friendly, with more than a thousand *nanohana akari* candles made with recycled glass from bottles sorted by citizens filled with reused cooking oil throughout the venue.

Collecting and sorting garbage

Minamata has implemented thorough sorting since 1993 - primarily by citizens - in order to achieve household recycling. Recycling stations are set up at some 300 locations for throughout the city for 50 to 100 households each, and residents sorted their recyclables one by one under the guidance of two to three citizen guides on recycling duty with the district Recycling Promotion Committee.
The sorting done once a month cooperatively by residents has revived the local community, and *Scrap Garbage Sessions* as well as *Talking Trash* has become popular.

Overview of the city

- Population: 26,428 people
- Area: 163 km^2
- Land utilization rate: Agricultural land: 6.09%, Forested land: 74.65%, Residential: 3.04%
- Main industries: manufacturing, health care and welfare, caregiving

Inquiries:

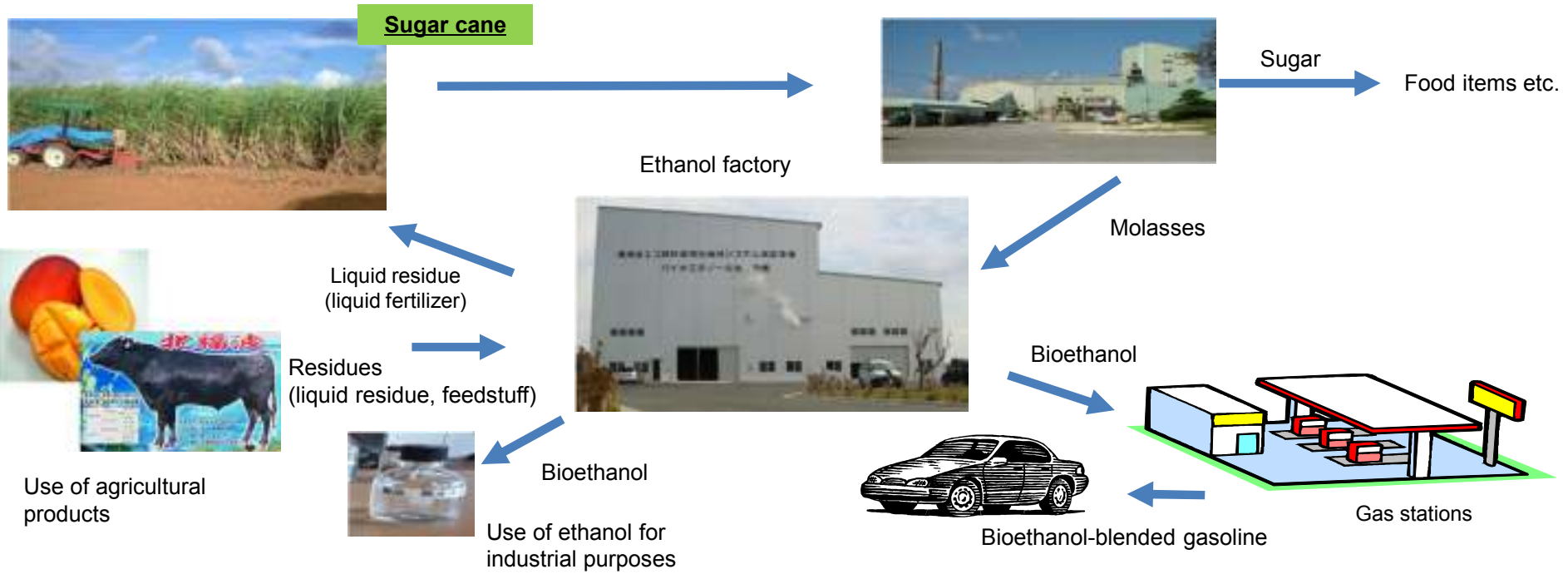
Eco-Model City Promotion Section, Welfare and Environment Department, Minamata city
TEL: 0966-61-1647　FAX: 0966-63-9044
E-mail: ecomodel@city.minamata.lg.jp

Eco-Model City Miyakojima【Miyakojima City, Okinawa】

Overview of distinctive initiatives

Miyakojima City is working to bring about a recycling-based society through the cascading use of sugar cane, a core commodity on the island; this process involves using bioethanol created using residues left from sugar production as a raw material, and using liquid residues created from ethanol production for replenishment of the soil.

Miyakojima Bioethanol Project



- Miyakojima City is creating systems which use sugar cane to realize a recycling-based low-carbon society
- The city is working to revitalize local industry through the development of value-added products based on sugar cane, which is the island's core industry

Overview of the city

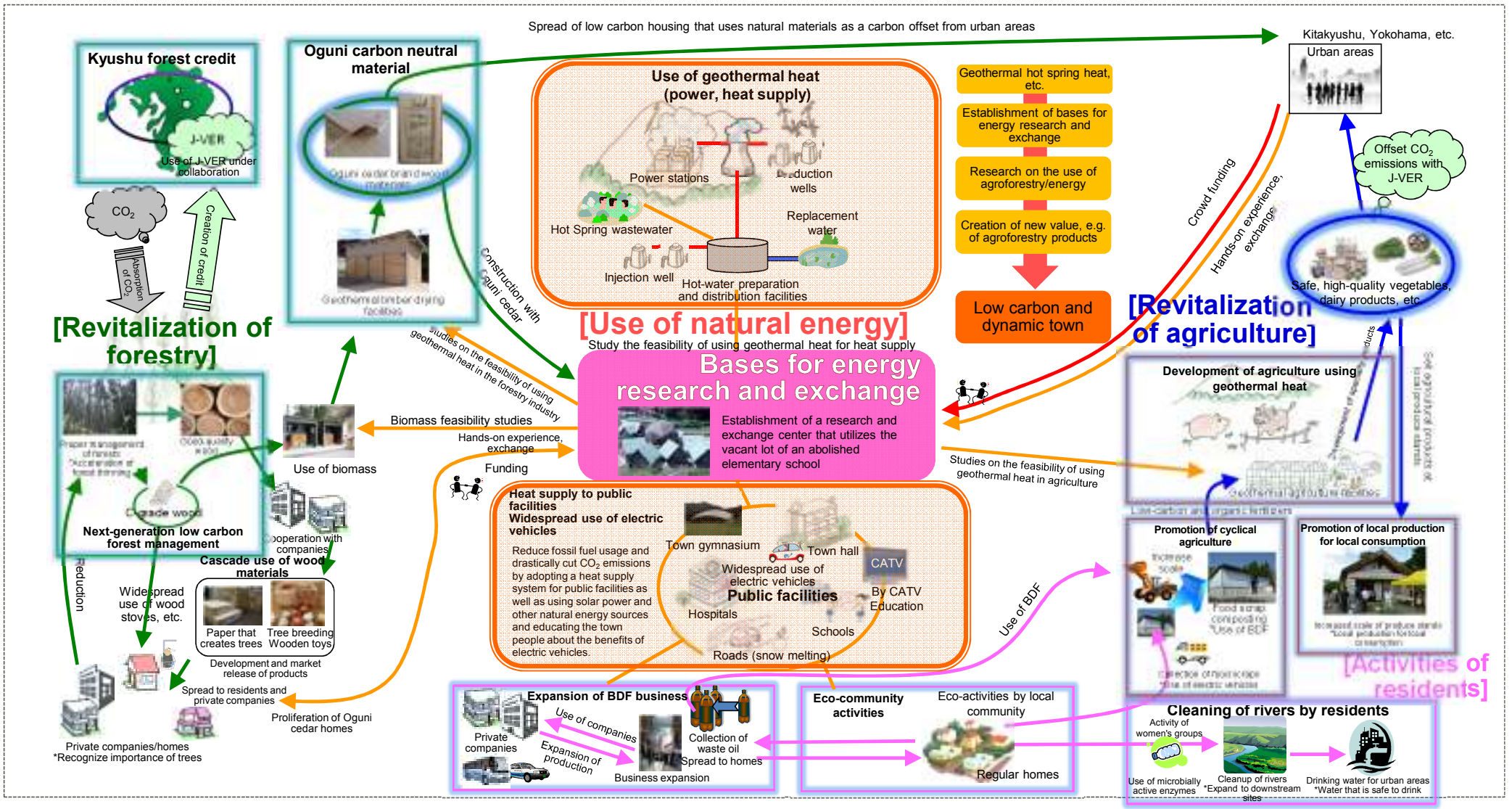
- Population: 55,000 people
- Area: 205 km^2
- Land utilization rate: Agricultural area: Forest: Other: 53% 16%: 31%
- Main industries: Agriculture, forestry and fishing; tourism etc.

Inquiries:

Eco-Island Group , Eco-Island Promotion Division, Policy Planning Department, Miyakojima City, Okinawa Prefecture
Officer in charge : Yonamine
TEL: 0980-72-3751 FAX: 0980-72-3795
E-MAIL: ts.ecotown@city.miyakojima.lg.jp

Eco-Model City Oguni: Oguni Town, Kumamoto

Vision for agroforestry town that uses geothermal heat and biomass



Overview of the city

- Population: 7,737 people
- Area: 136.72 km^2
- Land utilization rate: Mountain forest: 78%; farmland: 12%; residential area: 2%
- Main industries: Agriculture and forestry, tourism

Inquiries:

Eco-Model Development Department, Information Section, Oguni Town, Aso District, Kumamoto Prefecture
Officer in charge: Matsumoto
TEL: 0967-46-2213(751)
FAX: 0967-46-4980

Eco-Model City Niseko【Niseko Town, Hokkaido】

Overview of the Main Initiatives

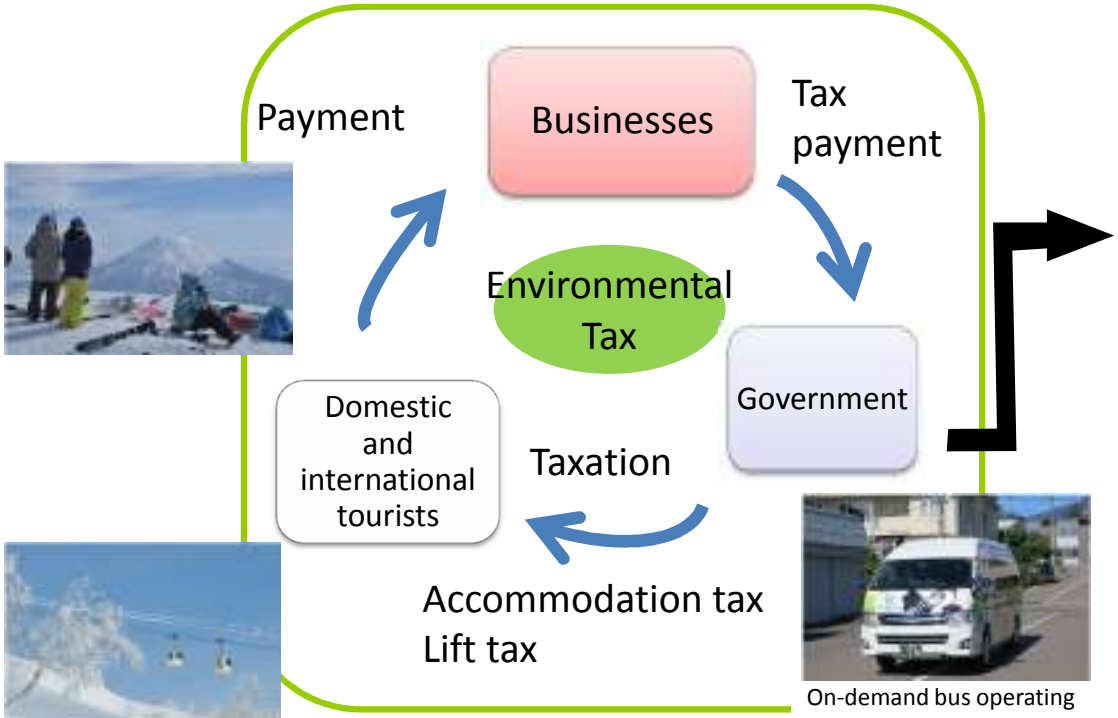
Niseko is pursuing initiatives that target tourism businesses and tourists in the aim to reduce CO_2 emissions. The tourism sector in Niseko Town accounts for about 40% of Niseko's emissions.
To create **"sustainable tourism"**, the Town is developing footpaths, cycle tourism, and enhancing eco-tours.
"Cross-sectoral initiatives between tourism and the environment" include considering special taxes for tourists, support for tourism business initiatives to cut CO_2 emissions, providing information for tourists using an environmental quality system that ranks tourism companies based on their green initiatives, and an eco-point system for tourists in collaboration with the Chamber of Commerce.

Niseko eco-tour where visitors learn about the compost center and other environmental facilities in Niseko Town

On-demand bus operating within Niseko Town

Quick chargers for electric vehicles at the Kiranoyu hot springs

Eco-point system for tourists and town residents in collaboration with the Chamber of Commerce



Overview of the city

- Population: 4,861 people (end of August, 2014)
- Area: 197.13 km^2
- Land utilization rate: mountains and forests: 46.8%; uncultivated plains: 20.2%; farmland: 14.4%; residential area: 1.2%
- Main industries: tourism, agriculture

Inquiries:

Eco-Model City Promotion Office, Planning & Environment Division, Niseko Town, Hokkaido
Officer in charge: Ono
TEL: 0136-44-2121 FAX: 0136-44-3500
E-MAIL: kankyo-e@town.niseko.lg.jp
URL: http://www.town.niseko.lg.jp/

Eco-Model City Ikoma 【Ikoma City, Nara】

Overview of distinctive initiatives

Promotion of Smart Community

To respond to the coming era of an aging population, development of infrastructure that enriches the lives of the elderlies is planned to be done. Also, to accelerate the inflow of younger generation from outside the city, it is promoted to build a strong base for the richer and the higher quality community which matches the life-stages and the life styles of all the residents. City structure will be redesigned by developing smart communities and renovating existing housings in suburbs, and by concentrating all the urban functions around the train station area starting with building apartments..

Low Carbon Urban Development Project Plan in Kitayamato Sports Ground

*This image path is in the planning stage.

Developing a smart community that private companies can respond in the event of disaster.

- Equip each houses with solar power, fuel cells, storage batteries and HEMS as standard features
- Visualize the energy use throughout the city with TEMS (Town Energy Management System)
- Develop a park in the center of the community with wide range of equipment to respond to disaster, such as an assembly hall with solar power and storage batteries, rainwater harvesting tanks, and the benches which can transform to cooking ovens in the case of emergency.

Overview of the city

- Population: 121,057 people
- Area: 53.18 km^2
- Land utilization rate: Mountain forest: 33.1%; residential area: 34.3%; farmland: 24.0%; other: 8.6%
- Main industries: Tertiary sector

Inquiries:

Eco-Model City Promotion Section, Environment and Economy Division, Ikoma City, Nara Prefecture
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TEL: 0743-74-1111 (ext. 375) FAX: 0743-75-8125
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