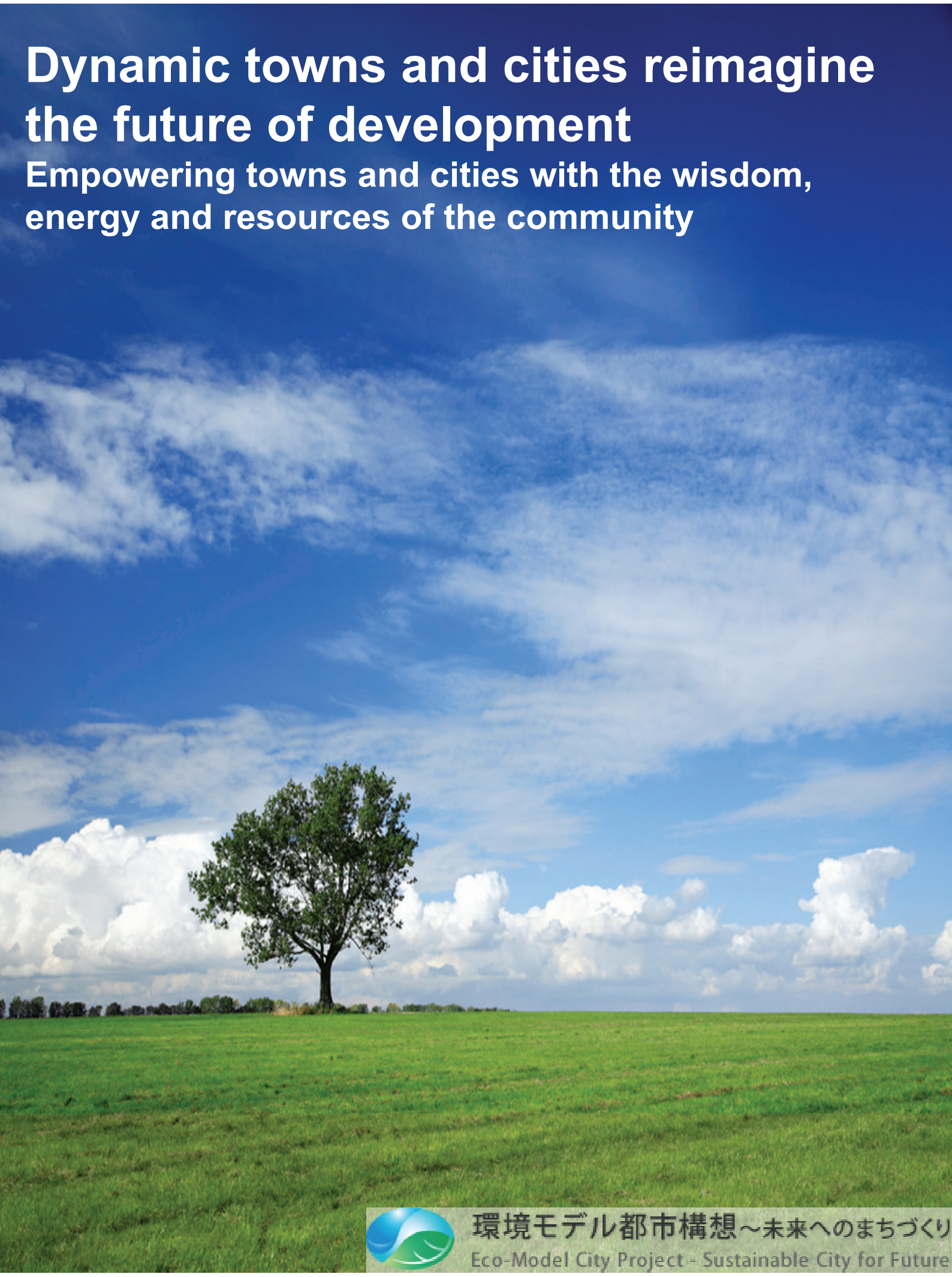
Dynamic towns and cities reimagine the future of development

Empowering towns and cities with the wisdom, energy and resources of the community



環境モデル都市構想～未来へのまちづくり

Eco-Model City Project - Sustainable City for Future

Eco-Model City(EMC)

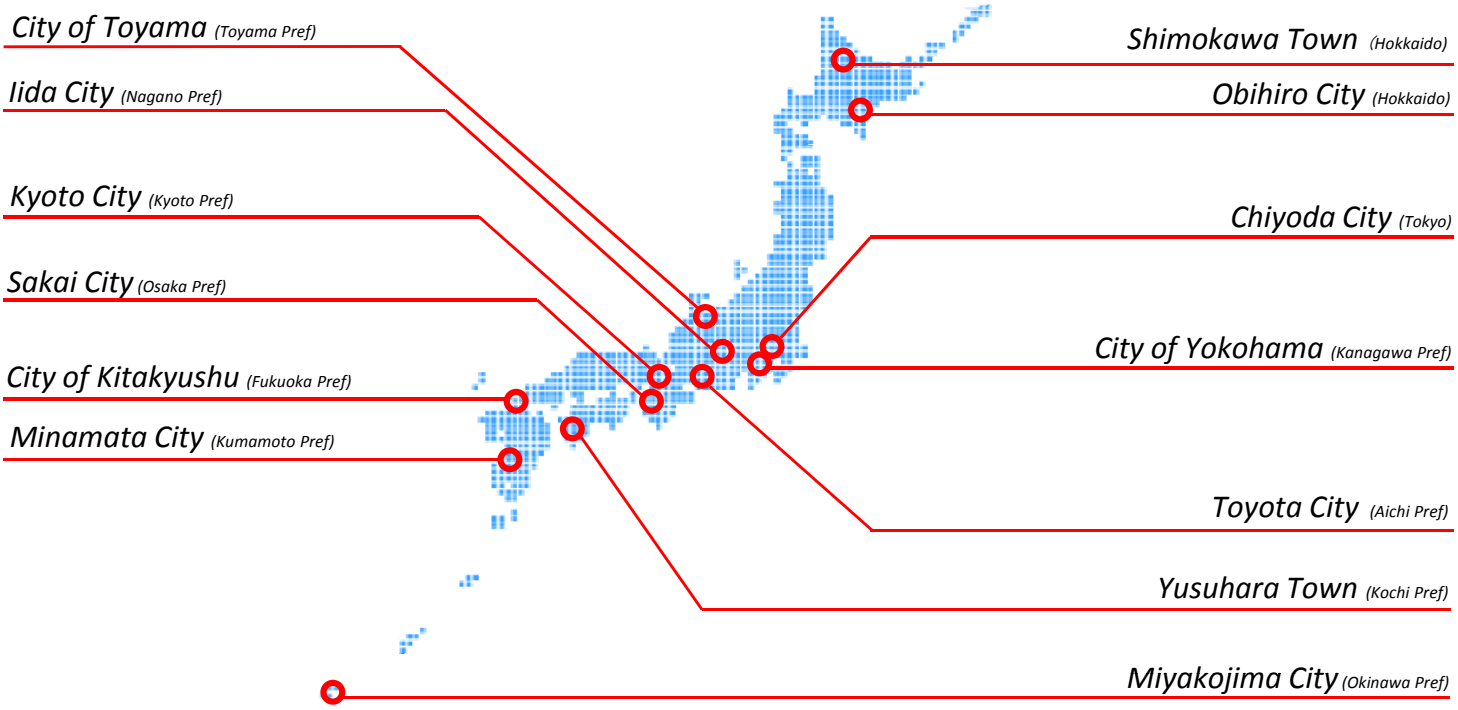
"Low-carbon society seems like out of touch with reality to me...!" Responding to this kind of requirement, EMCs demonstrate the concrete image of low-carbon society we should realize in future. Japanese government selected cities that challenge pioneering initiatives in pursuit of ambitious goals and provide support for their implementation.

In order to further Japan's conversion to a low-carbon society, cities that set high goals and undertake challenging and pioneering initiatives in the drastic reduction of greenhouse gases are to be designated and supported as Eco-Model Cities.

The selection process was opened to applications from April 11 to May 21, 2008, and 82 applications (from 89 bodies) were received representing a diverse range of cities and regions. The screening was undertaken by the members of the Sub-committee of Creating Environment Model Cities and Low-carbon Society, set up under the Council on the Global Warming Issue. The evaluations were based on the following five criteria: setting the goal of a significant reduction of greenhouse gases; appeals as pioneering efforts and model projects; regional adaptability; feasibility; and sustainability. As a result, six cites(City of Yokohama, City of Kitakyushu, Obihiro City, City of Toyama, Shimokawa Town, and Minamata City) were certified as EMC, and seven cities (Kyoto City, Sakai City, Iida City, Toyota City, Yusuhara Town, Miyakojima City and Chiyoda City) were certified as EMC candidate cities (that will resolve areas that do not yet fulfill criteria during the process of drawing up an action plan). Based on the examination status of action plans, 7 candidate cities were certified as EMC on 22 January 2009.

Overview of eco-model city actions for a low-carbon society are outlined in the following pages.

Location of eco-model cities



Overview of eco-model city actions

Municipality (Prefecture)	Overview of actions	Municipality (Prefecture)	Overview of actions
Shimokawa Town (Hokkaido)	Low-carbon Model Society in Symbiosis with the Northern Forest Shimokawa ・Carbon-fixing with fast-growing willow cultivation, utilizing as fuel ・Establishing a community heat supply facility using forest biomass	Kyoto City (Kyoto)	Developing an attractive city that puts people first, reducing emissions through "community power" ・Wider footpaths and public transport priority on Shijo Avenue ・Promoting "Heisei Kyomachiya houses" born from the combination of traditional wisdom and modern technology ・"Eco-learning zone" project harnessing the power of community
Obihiro City (Hokkaido)	Garden eco-model city Obihiro ・Recycling of used cooking oil from citizens into biodiesel fuel ・Improved self-sufficiency rate for livestock feed with ecofeed ・No-till farming	Sakai City (Osaka)	Low carbon city maintaining "comfortable living" and a "thriving town" ・10MW solar generating plant, the Sakai Solar Plant ・Operation of Sakai Eco College and establishment of Harumidai Eco-model town ・A community cycle system capitalizing on the local bicycle industry
Chiyoda City (Tokyo)	Energy aware urban development, better energy efficiency ・Making small and medium size building energy efficient ・Upgrading the community heating and cooling system, introducing raw green electricity	Yusuhara Town (Kochi)	Woody biomass community cycle model project ・Renewable forestry operations through production of wood pellets, etc. ・Installation of 40 wind turbines by FY2050
City of Yokohama (Kanagawa)	Yokohama Smart City Project rollout ・Establishment of local energy management system ・Large-scale use of EVs, introduction of energy management system using charging and discharging of EVs	City of Kitakyushu (Fukuoka)	Kitakyushu, Carbon Free City in Asia ・Next generation urban development, using energy wisely in "smart community" ・An environment hub combining the three elements of "low carbon", "harmony with nature" and "resource recycling". ・Transformation to low carbon Asian development region
City of Toyama (Toyama)	Planning to reduce CO_2 with Toyama City's compact city strategy ・Tram network ・Incentives to live near public transportation	Minamata City (Kumamoto)	Proposal for a sustainable small local government model harmonizing environment and the economy ・Eco-friendly town development through public-private cooperation ・High quality recycling -24 categories of collected waste ・Production of biofuels from bamboo, etc.
Iida City (Nagano)	Natural energy and low carbon development through citizen participation ・Promoting solar power generation through public-private cooperation ・Setting up a local energy grid	Miyakojima City (Okinawa)	Eco island Miyakojima: island-style low carbon society system ・Island-style smart community in Miyakojima pilot project ・Self-sufficient energy supply using sugar cane and other sources ・Eco Action harnessing energy of sun and Miyakojima people
Toyota City (Aichi)	Low carbon urban development harnessing next generation energy and mobility ・Optimization of energy and transport to suit citizens' lifestyles ・A "low carbon society model district" where people can experience a low carbon city and lifestyle		

Shimokawa Town

- Northern Hokkaido, population of around 3,700
- Implements “renewable forestry management” based on principles of not cutting faster than growth and replanting after cutting
- Taken initiatives on FSC forestry certification, forest biomass energy and carbon offsetting

Outline of Action Plan

- Name of Plan
  Shimokawa Eco-Model City Action Plan
  Project to create a next generation “Low-carbon Model Society in Symbiosis with the Northern Forest”〉
- Greenhouse Gas Reduction Target (compared to 1990)
  4.5 times more carbon removed, 66% lower emissions

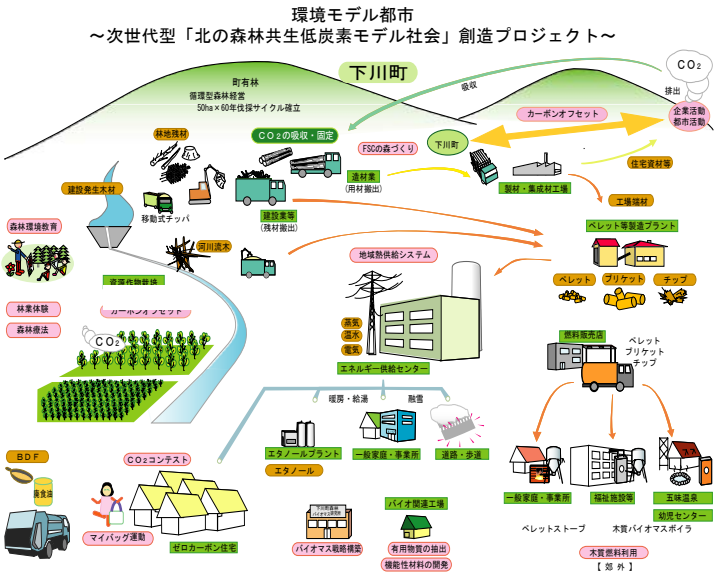
Aiming to create a next generation “Low-carbon Model Society in Symbiosis with the Northern Forest”

As some 90% of the municipality territory of Shimokawa Town (644.2km²) is forested, the town has conducted forestry operations in order to make it the economic base of the town for many years. Municipal forest holdings expanded in 1953, when Shimokawa Town acquired 1,221ha of national forest. Currently there is around 4,500ha of town forest (3,000ha planted, 1,500ha natural growth), and it has been building its “renewable management” forest with a 60 year-cutting cycle by 50ha a year.

Based on renewable management principles, Shimokawa Town attained the first FSC forest certification in Hokkaido and has undertaken diverse initiatives for the integrated use of forest biomass such as installing woody biomass boilers to heat public facilities.

The Kyoto Protocol acknowledged the absorption of CO_2 by forests to offset 3.8% of Japan’s total reduction target of 6.0% from 1990. This valuable aspect of forests as a source of CO_2 absorption is gaining attention.

By continuing the appropriate forestry processes for many years, the power of our forest to absorb carbon dioxide can be further increased, and we will seek to break our dependence on fossil fuels through effective use of our biomass resources. By linking these measures to stem global warming with local economic revitalization, we will aim to build a sustainable community.



〈Forest environment education〉

〈Eco-house〉

〈Cultivation of commodity crops〉

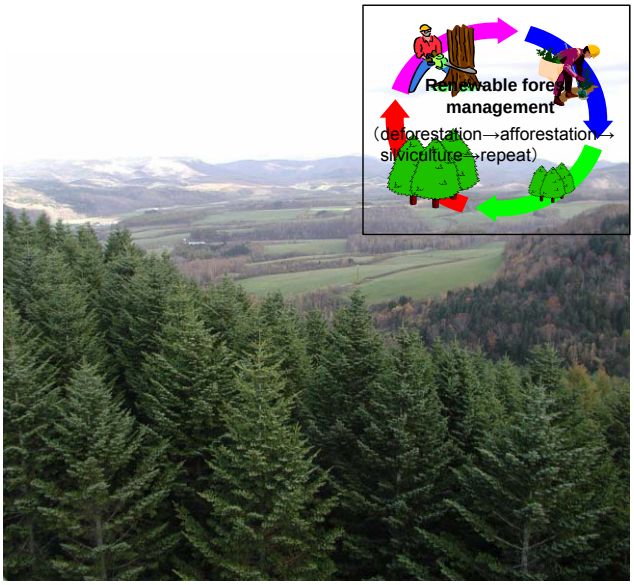
Renewable forest management

In 1953, Shimokawa Town acquired 1,221ha of national forest as a result of the Act on Temporary Measures concerning National Forest Consolidation.

As a result of the acquisition, 40-50ha were planted every year. Shimokawa Town entered logging profit sharing contracts with under-forested cities and continued its tree-planting program.

Today, the town holds 4,470ha of forest and has created a sustainable forestry operation by continuously maintaining forest and recycling resources, while at the same time providing stable employment and a steady supply of forestry products.

In a bid to promote environmentally-sound forest management, Shimokawa Town also gained FSC (Forest Stewardship Council) forest certification in 2003, the global recognition given to forest operations that balance environment, community and economic needs.



〈FSC Certified Town Forest〉

Forest biomass energy

In cold, snowy Hokkaido, there is a strong tendency to rely heavily on fossil fuels for heating. As a result, CO_2 emissions are high and the ratio of household sector emissions to the total is higher than elsewhere in Japan.

Against this backdrop, Shimokawa Town went ahead and installed boilers as part of its measures to fight climate change and built a woodchip plant to provide a regular supply of fuel.

Currently, wood-fired boilers are installed in the public hot spa, “Gomi Onsen”, a daycare center, plant nurseries, public facilities around the town hall, a multi-purpose facility for senior citizens and town-owned housing complexes. There are plans to supply around 42% of heating to public facilities by forest biomass energy.

〈Community heating system in area around town hall〉

Carbon offsetting

The Conference on Promoting Increase of CO_2 Removal via Forest Biomass was founded by the four municipalities of Shimokawa, Ashoro, Takigami and Bihoro in 2008. Based on the J-VER (offset-credit) scheme, reductions in carbon emissions through absorption by forests and use of forest biomass are certified and monetized for further investment in the forest, in cooperation with 11 companies with a strong interest in ecology and other relevant organizations.

The scheme is characterized not by transient transactional relationships but rather, a partnership accord has been reached in order to continue revitalization of the region over the long term. To support the development of the forest, “offset-credits” are received in place of necessary capital.

In October 2011 the Conference was granted legal status, and is seeking more partner firms.

“more trees”

Nippon Professional Baseball

JCB Co., Ltd.

Basic accord

Obihiro City

- A regional centre in eastern Hokkaido with a population of around 170,000
- Chief industry is agriculture, with a self-sufficiency rate of approx. 1,100%. This is a beacon of Japanese food security

Outline of Action Plan

- Name of Plan
  Obihiro Eco-Model City Action Plan
- Greenhouse Gas Reduction Target (compared to 2000)
  over 30% by 2030, over 50% by 2050

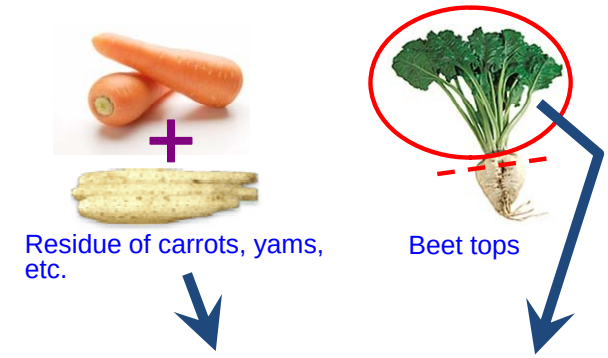
Improving self-sufficiency in livestock feed

Obihiro City strives to reduce greenhouse gas emissions by supplementing imported feed for livestock with unused local biomass, namely the residue of crops such as carrots and Chinese yams after the washing and sorting process. This is then mixed with grass for use at the Eco-feed TMR Center.

In 2010, 2,499 tons of eco-feed were used, resulting in an emissions saving of 7,602t of CO_2 .

A trial is also being run by a regional council based at the Obihiro University of Agriculture and Veterinary Medicine to convert beet tops (leafy top and stem) to livestock feed. These are normally cut off at harvest and plowed back into the soil.

Beet tops rot quickly due to their high water content, however mixed with the right microbes they can last longer with higher nutritional content. While there are many issues to overcome on the cost front, the city will continue to experiment with beet tops as they represent an untapped large-scale source of biomass.



Residue of carrots, yams, etc.

Beet tops

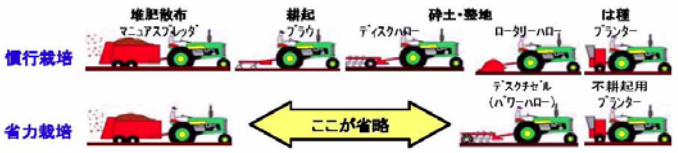
Eco-feed TMR Center

Promoting no-till farming

No-till farming is a cultivation technique without plowing the soil by a tractor, a process regarded as an indispensable part of farming. Obihiro City is promoting this practice as a way to reduce farmers' workload and fuel consumption by tractors and other farming machinery while promoting retention of carbon within the soil.

Currently, it is being applied to dent corn (a variety of corn) for livestock. In FY2011, 88ha were planted in this way, capturing a total of 289t of CO_2.

In the future, the technique will be extended from dent corn to wheat, soy and other crops.



An overview of no-till farming

A field of dent corn

Dent corn kernels

Challenge 25 Local Development Project (pilot)

This project aims to demonstrate in a commercial district with a variety of retail outlets that it is possible to cut energy use by 25% by applying a range of energy-saving techniques in a way that maximizes use of local advantages. In this demonstration project sponsored by the Ministry of Environment, Obihiro City has carried out energy efficiency upgrades at Dreamtown Shirakaba, a multi-use shipping mall. Included in the project are medical facilities, care facilities, senior health facilities, recreational facilities, a supermarket and a parking lot as well as a nearby hot spa and road lighting.

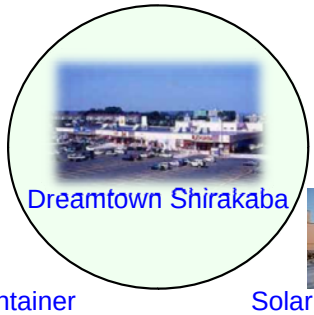
Many technologies have been introduced including energy-efficient lighting, geothermal heat pumps, an industrial EcoCute installation, solar water heating systems, a building energy management system (BEMS), inverter control pumps, heat recovery pumps and an ice box AC container, resulting in cuts in CO_2 of 389t in 2010.

BEMS monitor

Geothermal heat pump

Inverter controller

Heat recovery pump



Dreamtown Shirakaba

Industrial EcoCute

Icebox AC container

Solar concentrators

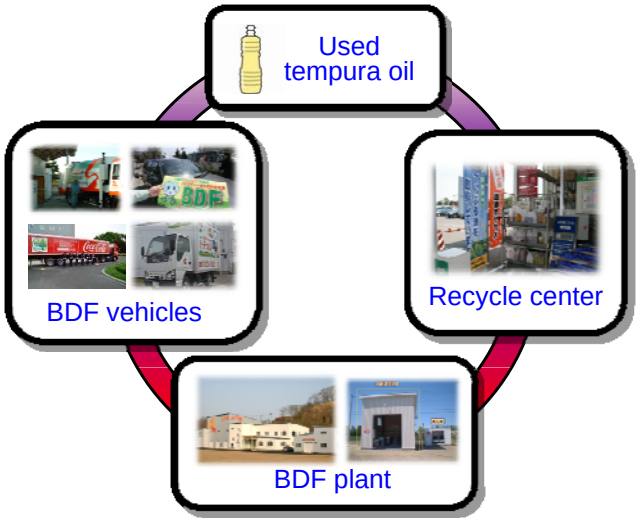
Various types of energy-efficient lighting

Obihiro BDF Project

Aiming to reduce waste volumes, put biomass to use and raise citizens' awareness, a Household Waste Cooking Oil Reuse Model Project began in FY2008 involving the collection of used cooking oil from households and conversion to biodiesel fuel (BDF).

Seeking mutual cooperation with stakeholders including citizens, Obihiro City has signed agreements with a fuel refiner and with supermarkets to serve as recycling centers, and each is carrying out their respective role.

In FY2010 the volume of used tempura oil collected from households was 83,919L, and from businesses 105,054L. It was used in city vehicles such as refuse trucks, road and cleaning patrol vehicles as well as private sector vehicles such as buses and supermarket delivery vans. Through these measures, the city so far has succeeded in reducing CO2 emissions by 487t.



Chiyoda City

- A part of the Special Wards of Tokyo at the center of Japan's capital with a population of around 48,000
- At the nexus of Japan's political and economic life, with a concentration of high-level offices
- A city blessed with a natural environment of green space and waterways centered around the Imperial Palace

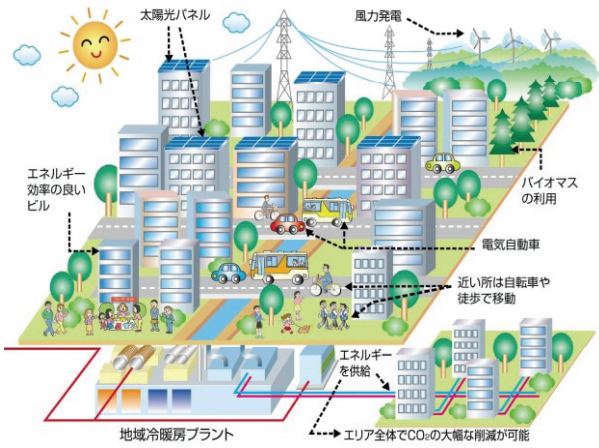
Outline of Action Plan

- Name of Plan
  Chiyoda Eco-Model City Action Plan
- Greenhouse Gas Reduction Target (compared to 1990)
  A 25% cut by 2020

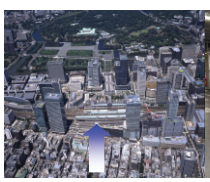
Fighting global climate change: a big city model

As a city with a large concentration of advanced urban functions and a dynamic private sector where building floor space continues to grow, Chiyoda City is aiming to cut its CO2 emissions by 25% from 1990 levels by 2020– to achieve harmony of economy and environment - with the following three pioneering actions:

1. Advanced energy saving measures for buildings
   The city aims for building-wide energy-saving measures by requesting submission of an environmental report whenever building, extension or reconstruction of a small to mid-size building is planned. For the 10,000-odd existing buildings in the city, it is promoting area-wide energy saving measures to be implemented by area or district under the aegis of the "Green Stop Strategy".
2. Area-wide strategies harnessing urban development opportunities
   The city will support medium to long-term measures against climate change by designating places scheduled for redevelopment as "Climate change action areas", in agreement with community leaders. It will also address the heat island effect by introducing centralized, district-based heating and cooling systems and taking appropriate measures on regional traffic along with creating a wind path between Tokyo Bay and the Imperial Palace.
3. Urban development and human resources development in cooperation with the community
   Chiyoda City will not only promote use of renewable energy in offices of the city, it will push for supply of "raw green power" from sources such as wind by pursuing inter-community cooperative projects with cities in other areas of Japan. In addition, people will be trained using the Chiyoda Eco System, an environmental management system unique to the city, popularizing eco-friendly behaviors and green education.



An impression of Chiyoda City is aiming for



Wind path

Electric car

Environment seminar

“Green Stock” Strategy (improving energy efficiency in existing buildings)

As part of its high-level building energy efficiency program, Chiyoda City is developing measures for new and existing buildings. In a nationwide first, it is trialing the “Green Stock” Strategy to improve energy efficiency in the more than 10,000 existing buildings in the city, area by area. Because it targets the enormous number of existing buildings, the unit for action is not just the individual building but the block, tackling issues for example by shopping arcade or neighborhood. Participating blocks are selected as “model zones” and offered surveys, energy efficiency assessments, and a menu of energy saving measures. The strategy therefore covers the process from energy efficiency assessment to equipment upgrades and operational improvements.

Continuing to build up these efforts steadily in conjunction with the community, the energy conservation initiative will be rolled out through the entire city.

The “Green Stock” Strategy

Reducing carbon emissions with centralized district-based cooling and heating

A centralized, district-based heating and cooling system is being developed as an area-wide emissions reduction measure capitalizing on urban development opportunities.

The area served by these centralized air-conditioning systems in Chiyoda is now equivalent to 148.7ha, or around 16% of the city’s total area (excluding the Imperial Palace).

By establishing centralized heating and cooling systems by district, energy use can be reduced 12-16% compared to individual sources. Installing the systems also contributes to reducing So_x, No_x and CO_2 and alleviates the heat island effect.

Chiyoda City is also making progress on decarbonization by improving its generation efficiency through building new plants and renovating old ones, expanding coverage of the heating system and expanding heat provision through the pipe network inside and outside the area of the system. The city is also examining ways to harness untapped energy sources such as waste heat from garbage disposal plants, and will strengthen its cooperation with building owners on ways to save energy in terms of both behavior and capital equipment.

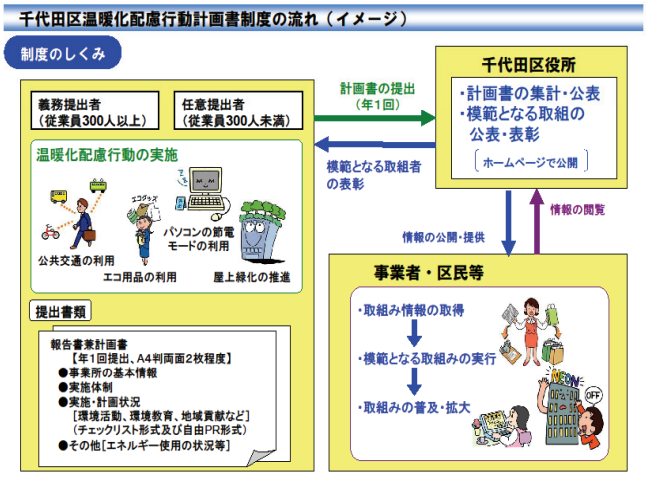
Areas served by centralized district-based heating and cooling systems in Chiyoda City

Climate-friendly action plan report system

In the business office zone that is Chiyoda City, measures to combat climate change must go beyond “hard” aspects such as the energy efficiency of buildings and equipment to “soft” measures, namely education to bring about climate-friendly behaviors. The climate-friendly action plan report system was created in 2011 to address this.

Specifically, businesses in Chiyoda City will report to the city on their environmental training for employees, eco activities and other climate-friendly actions, status and action plans.

To publicize and promote pro-climate actions and high-quality measures, submitted action plan reports will be posted on Chiyoda City website. Prizes will be awarded to businesses taking the best actions to fight climate change.



Climate-friendly action plan report system

City of Yokohama

- Second-biggest population in Japan after Tokyo (23 wards) at around 3.7 million
- A pioneer in the environmental field, uniting the technological power of companies and research organizations with the “people power” of 3.7 million residents on climate change, sewerage disposal, garbage reduction, recycling, tree planting and biodiversity conservation.

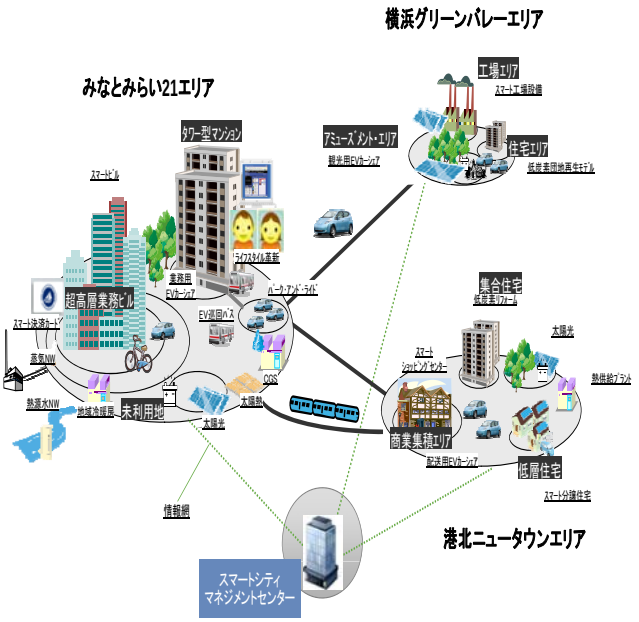
Outline of Action Plan

- Name of Plan
  City of Yokohama Climate Change Action Plan
- Greenhouse Gas Reduction Target (compared to 1990)
  25% reduction in 2020 in City of Yokohama area
  80% reduction in 2050 in City of Yokohama area

Yokohama Smart City Project (YSCP)

Yokohama Smart City Project is a pilot project between City of Yokohama and the private sector to achieve new urban development through a smart community for FY2010 through 2014. Its objective is a significant reduction in CO_2 and a dramatic uptake of renewable energy, and was selected by the Ministry of Economy, Trade and Industry in April 2010 as a Next Generation Energy Infrastructure and Social System Demonstration Area.

Yokohama Smart City Project harnesses the diverse geographies and expanse of the city, home to 3.7 million people, including central city zones such as Minato Mirai 21, one of the biggest port districts in Japan, large scale suburban developments like Kohoku New Town, and residential areas full of trees and waterways. It intends to create and roll out service packages addressing the needs and infrastructure development of the city by applying its systems to the existing residential districts where citizens live.



Future impression of **YSCP**

Yokohama Mobility Project Zero (YMPZ)

City of Yokohama and Nissan Motors Co., Ltd. are working together on a five-year project (2009-2014) on all aspects of vehicular transport to usher in a new era of low-carbon transportation. The measures for the project include popularizing electric cars and promoting fuel-efficient driving techniques.

This year, the Ministry of Land, Infrastructure and Transport and Tourism selected Yokohama as a pilot site for urban development using eco-cars, and the two-seat concept vehicle (Nissan New Mobility Concept) is being tested in City of Yokohama for the first time in Japan as part of Yokohama Mobility Project Zero. The testing fields are the Yamate and Motomachi districts in Naka Ward, whose geographical characteristics are being exploited to the fullest in order to test the effectiveness of the concept in terms of achieving community revitalization and carbon-free efficient mobility.

Prototype vehicle; under road testing

Yokohama Green Valley

Yokohama Green Valley is a concept that takes the Yokohama Rinkai waterfront area as its model. With the environment as the starting point, the aim is to achieve dramatic cuts in greenhouse gas emissions and actively promote economic revitalization of the area, collaborating with all citizens to foster environmentally-friendly industries and improve environmental education. Kanazawa Ward is the initial focus of the plan, as it is a district that possesses the classic aspects of “Yokohama” such as housing estates, industrial zones, public facilities, forests and sea, all in a compact area. Activities carried out so far include household and office energy monitoring, electric car sharing for business, and events to raise environmental awareness.

In future, the measures tested through Yokohama Green Valley will be implemented across the whole city, with the goal of making City of Yokohama a city that lives up to the title of Japan’s low-carbon eco-model city.

Energy monitoring
Electric car sharing/Environmental awareness event

Urban-rural collaborative projects

City of Yokohama is also running projects that reach across prefectural borders. The Low Carbon Cities Promotion Council Green Economy Working Group coordinated by City of Yokohama is combining the forest resources of rural areas with the human resources and technology of urban areas in a bid to increase the flow of people for revitalization of relevant communities and to fight climate change.

One such project this year is the carbon offset project, in collaboration with Oguni, Kumamoto Prefecture and Yokohama FC Sports Club. This year, all emissions associated with Yokohama FC matches are being offset by forest improvement in Oguni.

And in a collaboration between Shimokawa Town, Hokkaido and Kawakami-cho, Totsuka Ward, City of Yokohama, some of the carbon emissions associated with events held by Kawakami-cho are being offset by improving Shimokawa’s forest. The friendship accord between these two communities is developing beyond simply environmental activities to include aspects such as disaster prevention and education.

Accord of friendship signed with Shimokawa

City of Toyama

- A city in the middle of Toyama Prefecture, boasting diverse geology ranging from lands at sea levels to mountains over 3,000m and a population of around 420,000
- The lowest density of all prefectural capitals, enabled by its characteristic flat landscape and residents' strong preference for living in detached houses rather than apartment buildings
- Rising dependence on cars, decline of public transport

Outline of Action Plan

- Name of Plan
  Toyama Eco-Model City Action Plan
- Greenhouse Gas Reduction Target (compared to 2005)
  30% cut by 2030, 50% cut by 2050

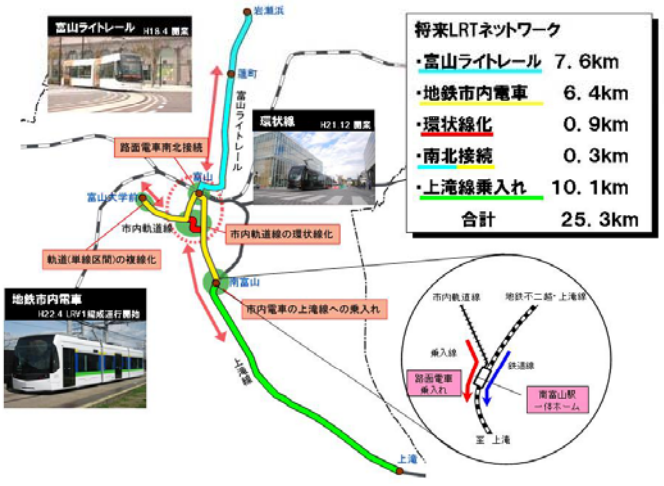
Building an LRT network

City of Toyama is aiming to expand its light rail transit (LRT) network to promote the concept of a "compact city based on public transport." It has converted the former JR Toyama Port Line to LRT and created a city loop rail line. The city is now planning to connect the tram lines currently running north and south from the center, and allow city trains access to the Toyama Chiho Tetsudo Kamidaki Line.

This is how it hopes to make City of Toyama a "walkable city", where an over-reliance on motor vehicles can be reversed and greenhouse gas emissions reduced. It will reduce the cost of running the city and build a sustainable, compact city layout.

Converting Toyama Port Line to LRT in particular has brought about a multifaceted revitalization of the city including a significant increase in ridership (2.6 fold), in housing starts along the line (1.6-fold), and in the number of visitors to tourist attractions on the line (3.5 times). It also provided new opportunities for senior citizens to go out.

In terms of reducing carbon emissions, converting Toyama Port Line to LRT will save 74t per year by luring people out of their cars, while a LRT network is expected to cut emissions by at least 131t per year.



Future map of LRT network

Transfer point between transport modes

Big increase in ridership among elderly

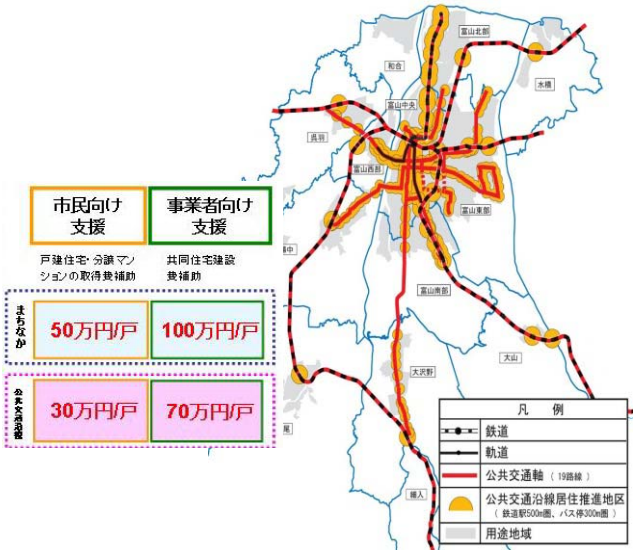
Centralizing the city's functions in the city center and along public transport nodes

To make City of Toyama a compact city and transform its spread out structure with sparely-populated downtown area to a more centralized urban structure, the city is striving to lure more residents to live in the city center and along the public transport lines.

All rail lines and bus lines over a certain level of frequency will be designated as public transport nodes, and areas along public transport axes designated as "public transport node residential development promotion zones" (comprising areas within 500m of train stations and 300m of bus stops).

Subsidies aid acquisition of houses and apartments in these zones and downtown, and are also used to encourage construction of shared housing.

As for fighting climate change, by encouraging more people to live in compact areas convenient to public transport, 8,000t of exhaust emissions from car use were saved between 2005 and 2009.



Districts proposed for housing development around public transport nodes

Renewable energy harnessing the local geography

City of Toyama is promoting renewable energy that harnesses its geography, including the prefecture's potential for hydropower that is second in Japan due to its many fast-flowing rivers, and woody biomass from forests that cover some 70% of the city's surface area.

Two small-scale hydroelectric power plants have been installed on reservoirs which supply water to farms, both situated within local recreational parks near public transport. They are not only a source of electricity but also used as centers for environmental education, eco tours and other kinds of training.

Wood pellets are being promoted as an energy source from the forest. Toyama is supporting its pellet industry by helping to build pellet factories in the city and to install specialist boilers, stoves and other heating equipment that use pellets. In this way, City of Toyama is advancing the cause of both revitalization of forestry and local renewable energy production and consumption.

The resultant reduction in carbon emissions is 439.3t per year for the small hydro and 1,832t per year for the wood pellets.

Small-scale hydropower

Wood pellets

The Team Toyama City Project

"Team Toyama City" is an initiative for citizens and businesses to team up to take specific action on stopping climate change. Its aim is for members of Team Toyama City to work together and expand the anti-global warming initiative to as many citizens as possible.

Because the emphasis is on the results of the initiative, all teams are required to submit to the city reports on their achievements every year. A meeting is held to publicize the achievements as widely as possible, and incentives will be given to businesses in particular to take action.

Its members include private companies, elementary and junior high schools, and residents associations (343 teams and 20,265 people). Many of the actions are easy and realistic such as saving energy in buildings and no-idling rules for work cars, yet from the beginning of the campaign in 2007 to 2010, a total of 13,067t of carbon emissions have been prevented.

Map of the Team Toyama City organization

Iida City

- A regional center in southern Nagano Prefecture with around 105,000 people
- Declared an Ecological Cultural City, residents, companies and government have come together to develop a sustainable community where the environment comes first

Outline of Action Plan

- Name of Plan
  Iida Eco-Model City Action Plan
- Greenhouse Gas Emission Target (compared to 2005)
  70% cut by 2050 in Iida City area

Promoting use of renewable energy through public-private partnership

To exploit the long sunshine hours and ample insolation of the local climate, Iida City is promoting uptake of solar power generation with a cooperative public-private sector scheme. It is developing a pioneering model aiming to deliver solar power to administrative buildings, offices and individual homes harnessing a fund established with donations from the citizens which requires no initial investment for the facility holder. A joint investment in Mega Solar Iida with Chubu Electric Power Company is another example of public and private cooperation to ramp up the city-wide solar energy usage. With solar panels now installed in around 1,500 places around the city through these efforts, some 2,600t of carbon emissions are avoided annually.

In addition, a woody biomass initiative to utilize the forest resource that covers over 80% of the area of Iida is underway, together with projects to increase usage of wood pellets and build a distribution system.

Surveys and research are also ongoing as to the feasibility of a public-private small hydro scheme to exploit the steep terrain of the Iida area. Aiming for sustainable local development through energy independence, Iida's private and public sector are working together to promote the use of renewable energy harnessing local resources.

Solar panels installed by citizens fund: Kanae Mitsubo Nursery School

Mega Solar Iida

Building a local clean energy network

Aiming for sustainable local development through energy independence, Iida City is carrying out surveys, research and pilot projects with a view to building a local clean energy network. In addition to taking advantage of the renewable energy sources existing in the region, the city will create a mechanism for the city-wide energy provision and to individual households with diverse lifestyle settings of mountains, villages and towns in a bid to strive for the best mix of energy produced internally and supplied from outside. It is an initiative to work toward low carbon society through local energy policy.

While endeavoring to assess the energy demand in the household sector, a particularly large source of greenhouse gas emissions, with locally-produced renewable energy from community energy suppliers, the city is working to establish an mechanism where the newly-created clean energy can achieve symbiosis with the exiting energy network.

Local survey by research group on woody biomass energy supply

“Eco-life coordinators” promote eco-friendly living

The city has appointed well-known advocates of eco-friendly living as its “eco-life coordinators”, and they run events and lectures for citizens. This year, expert staff working at the Apple Tree Eco House in the center of town were also appointed as eco-life coordinators to run eco-life promotion seminars and events on a regular basis out of the Eco House. These initiatives are raising awareness of the ease, convenience and beauty of the eco-lifestyle, and citizens have the eco-life coordinators as their navigators.

Eco life talk salon

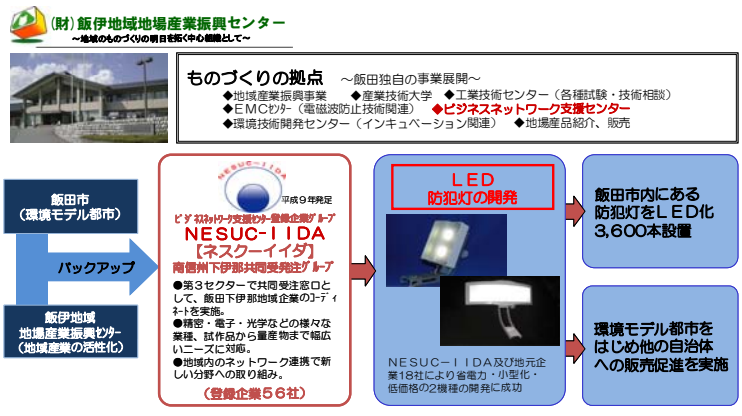
Aiming for a virtuous circle of environment and economy – promoting low carbon corporate activities

Capitalizing on the manufacturing know-how built up in Iida, local companies have developed an LED anti-crime light in conjunction with the city government and other relevant organizations. Not only were some 6,000 security lights replaced with the LED ones in Iida, but now the bulbs are being sold beyond the city.

Iida city is also considering a development and pilot project with local companies on electric motorcycles and small hydropower turbines.

Energy conservation is also being promoted at all workplaces with environmental management systems implemented.

These initiatives are receiving acclaim around the community as low carbon corporate initiatives that foster environmental industry and create a virtuous circle of environment and the economy.



LED crime prevention project scheme

Toyota City

- A regional center of central Aichi prefecture with a population of around 420,000
- Developed around the automotive industry and now the biggest inland manufacturing city in Japan
- Municipal area has expanded to 918.47km² since mergers with neighboring towns and villages
- With around 70% of the land area of the city forested, it has both urban and rural aspects

Outline of action plan

- Name of Plan
  Toyota Eco-Model City Action Plan (Hybrid City Toyota Plan)
- Emissions Reduction Goal (compared to 1990)
  A minimum of 30% by 2030, aiming for 50%
  A minimum of 50% by 2050, aiming for 70%

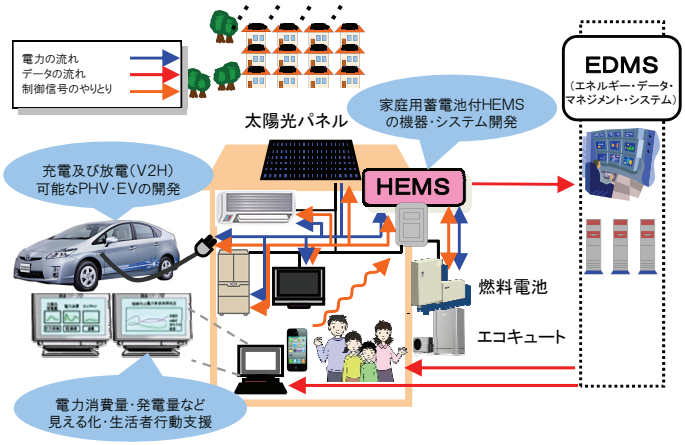
Optimizing energy use at home and throughout the community

Toyota City is aiming to build a next-generation low-carbon regional city that manages to optimize use of energy across the whole community. The goal is to optimize citizens' individual energy usage points according to where they are – at home, on the move or at their destination.

With regard to optimizing household energy use, a pilot of 67 smart homes built in two sites in the city is underway. In conjunction with private firms, solar panels and energy-efficient appliances installed in these households and battery cells in their next-generation cars are integrated and controlled by a Home Energy Management System (HEMS).

Another pilot project to take place in households is focused on the feasibility of returning electricity stored in plug-in hybrids (PHV) and electric vehicles (EV).

What is more, controlling energy over the whole community with the Energy Data Management System (EDMS) and HEMS means that local electricity supply and demand can be controlled, helping to meet the goal of generating and consuming energy locally.



Optimizing household energy use

Smart house HEMS Battery cells

Building a low carbon transport system

As a “car city”, Toyota City has been a pioneer in the field of transport with initiatives in ITS and more. Harnessing this strength, the whole transport system will be decarbonized with the introduction of every type of next-generation mobility, upgraded public transport infrastructure and by providing new ways of using transportation at once.

Specifically, 26 PHV/EV recharging stations at 16 locations around the city (of which 21 in 11 locations are solar-powered) have been installed, and the buses on rapid transit lines are running on fuel cells. In addition, personal mobility vehicles (for one person) are being tested in a demonstration project.

In addition, hydrogen filling stations for fuel cell vehicles and a Traffic Data Management System (TDMS) for optimizing transport supply and demand will be established.

Fuel cell bus (rapid transit)

Solar powered recharging station〉

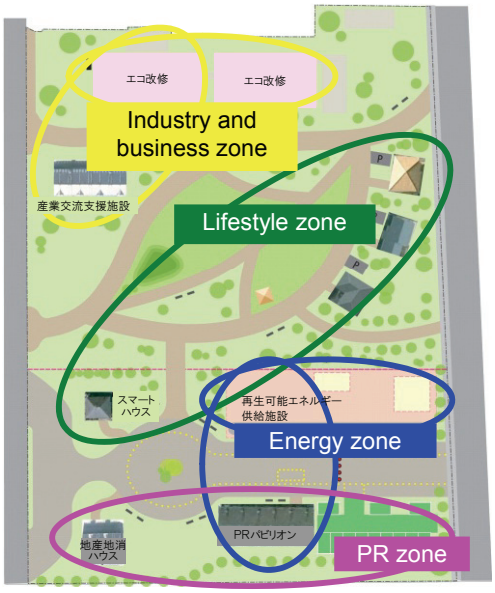
Personal mobility vehicle testing

Toward the Low Carbon Society Model District

Toyota City is developing a Low Carbon Society Model District on around 1.9ha of land in the downtown area. This model district will bring together actions for low carbon society in one place (now and in the future). The objective is for the district to become a thriving hub for raising citizen awareness, lifestyle change, and promotion of new technologies and businesses.

The district is made up of six zones: a PR zone, a transport zone, an energy zone, an industry and business zone, a greening zone and a lifestyle zone. It will serve as a showcase for experiencing a low carbon city and lifestyle, not only allowing people to see what it means for themselves and promoting industry but also extending the eco-model city into the fabric of Toyota’s urban development.

The major landmarks of the district include a PR pavilion, smart houses, renewable energy supply facilities, a center to support industry exchanges, and an energy self-sufficiency house.



Impression of the Low Carbon Society Model District

Forest conservation and use

In order to increase the public benefits of the forests that cover 70% of the municipal area in terms of carbon absorption, the city aims to improve the health of the planted forest by boosting thinning operations.

The Forest Development Council, made up of local forest owners, promotes streamlining of operations, as well as investing in upgrading forest roads and the network of forestry access roads to increase usage of lumber resulting from thinning.

It also aims to promote the use of stick and twig biomass from thinning and the use of local wood in construction of public buildings.

Finally, Toyota Forestry School is training forest thinners and boosting awareness among citizens of forests and forestry operations.

Forest maintenance using advanced machinery

Community meeting about forestry development

Toyota Forestry School

Kyoto City

- One of Japan's 12 major cities boasting 1,000 years of history as Japan's capital from the Heian Period and a current population of around 1.47 million
- With three quarters of the municipal area in forest, the city is surrounded by natural beauty
- The birthplace of the Kyoto Protocol, it is a leader in the fight against climate change
- A great tourist city, attracting 50 million domestic and international tourists every year

Outline of Action Plan

- Name of Plan
  Kyoto eco-model city action plan
- Emissions Reduction Goal
  (compared to 1990)
  40% by 2030, 60% by 2050

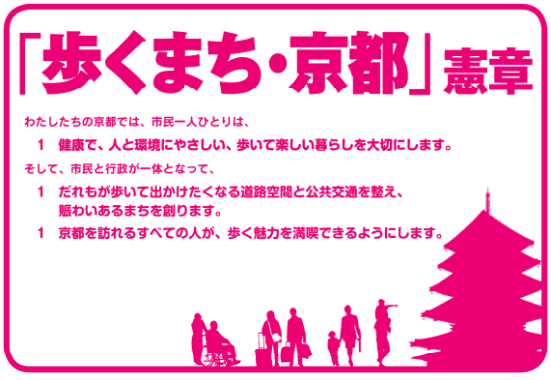
Walking Town Kyoto

To promote "development of an attractive city that puts people first" and in the aim of giving priority to people and public transportation in Kyoto City, January 2010 saw the establishment of the "Walking Town Kyoto" Charter. For the first time in Japan, a code of conduct was drawn up to enshrine walking as the mainstay of the city and its lifestyle. In addition, a comprehensive transport strategy – the Walking Town Kyoto Transportation Development Master Plan - was formulated.

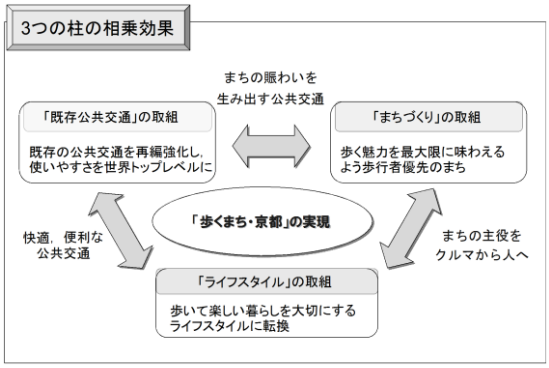
Currently, a structure has been created to push the strategy forward, and 88 specific action projects from the strategy are underway. Awareness of the Walking Town Kyoto Charter is also being promoted among citizens.

Landmark projects under the Walking Town Kyoto comprehensive transport strategy:

- Upgrading of Kyoto Station south exit plaza
- Park and ride available all year round
- Vehicle restrictions and wider footpaths on Higashi-Oji Avenue
- Wider footpaths and public transport priority on Shijo Avenue
- New bus system for Rakunan New City
- Kyoto Slow Life Week (Mobility Week)



Charter for Walking Town Kyoto



Three hallmarks of the Walking Town Kyoto strategy

Moving to an eco-friendly lifestyle

If we are to achieve a low carbon society, it is vital for each and every citizen to have strong awareness and make better environmental decisions in how they live their lives.

That is why Kyoto City is promoting the mantra, “Do you know Kyoto?” (What are you doing for the environment?) which brings together citizens, businesses and government in pro-ecology activities across the city.

Key activities

- Eco-school districts: Comprehensive all-inclusive energy conservation and environmental study initiative carried out by school districts
- The Do You Kyoto? Credit system: Kyoto’s own self-sufficiency CO_2 credit that enables certification and trading of saved carbon emissions as a result of conservation efforts by citizens and businesses
- Kyoto Early to Rise Style: Recommending an early bird Kyoto lifestyle that is healthy and easy on the environment, in tune with natural cycles of “waking up with the sun, sleeping after sundown”.

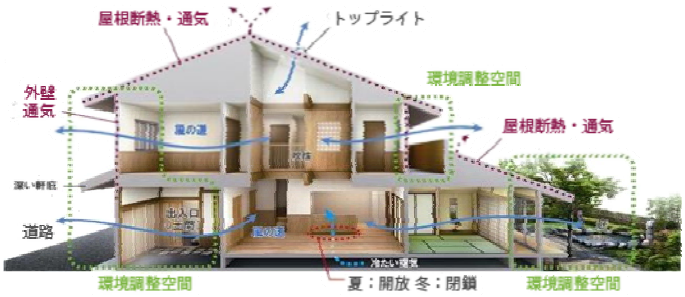
Low carbon model district “Eco-school district” project

A city that values “wood culture”

Based on a report submitted by the “Kyoto, a city that values its wood culture” Citizens Council in April 2010, the city is aiming to build a virtuous circle of sustainable timber use. Harnessing the locally-produced timber for various purposes, it will promote construction of new houses using the age-old knowledge of Kyomachiya -building, retaining the elegance of the old Kyoto cityscape.

Key activities

- Promoting use of local timber
- Establishment and promotion of CASBEE Kyoto eco-friendly building materials certification
- Promoting uptake of “Heisei Kyomachiya houses” born from the combination of traditional wisdom and modern technology to make a Kyoto model of eco-friendly housing.



Impression of Heisei (modern day) Kyomachiya house development model

Getting to a low carbon society based on a revised climate change ordinance

In December 2004, the Kyoto City Global Warming Countermeasures Ordinance was passed, the first in Japan.

Then, aiming to realize a low carbon society achieving greenhouse gas emission cuts of over 80%, the ordinance was revised to include new and improved specific actions and measures.

In March 2011 a specific action plan to achieve the emission reduction target was released, called the Kyoto City Global Warming Countermeasures Plan 2011-2020.

Now, bold measures truly made in Kyoto City are underway, based on the ordinance and action plan, together with citizens, businesses and everyone else.

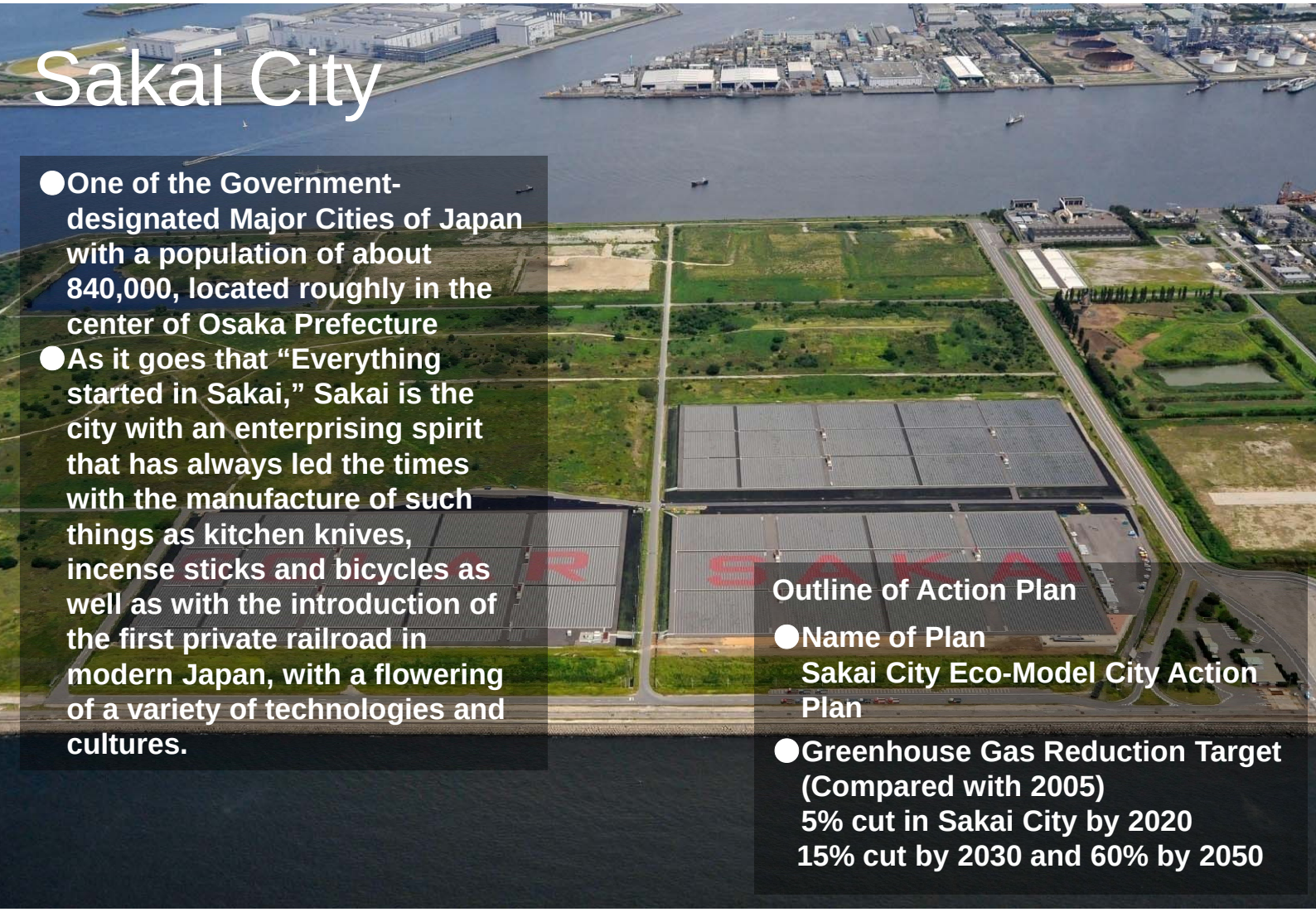
Special features of the ordinance

- Ambitious goals for emission cuts (compared to 1990): 25% by 2020 and 40% by 2030
- Establishment of distinctive obligations
- Agreement on emissions targets and major legal obligations by both city and prefecture

特定事業者※ （※ 温室効果ガスの排出量が相当程度多い事業者）
・環境マネジメントシステムの導入
・新車購入時の一定割合のエコカー導入
・事業者排出量削減計画書・報告書の提出 （市による総合評価、結果の公表）
特定建築物※の新増築等をする者 （※ 延床面積が2,000 m² 以上の建築物）
・地域産木材の一定量利用
・再生可能エネルギー利用設備の設置
・建築環境総合性能評価制度システムによる評価、工事現場・販売広告への表示
特定緑化建築物※への新築等をする者 （※ 緑化重点地区における一定面積以上の建築物）
建築物及びその敷地の緑化

Principle obligations of the ordinance

Sakai City



- One of the Government-designated Major Cities of Japan with a population of about 840,000, located roughly in the center of Osaka Prefecture
- As it goes that “Everything started in Sakai,” Sakai is the city with an enterprising spirit that has always led the times with the manufacture of such things as kitchen knives, incense sticks and bicycles as well as with the introduction of the first private railroad in modern Japan, with a flowering of a variety of technologies and cultures.

Outline of Action Plan

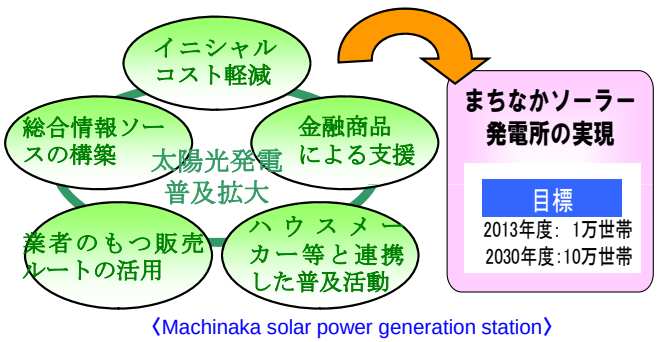
- Name of Plan
  Sakai City Eco-Model City Action Plan
- Greenhouse Gas Reduction Target
  (Compared with 2005)
  5% cut in Sakai City by 2020
  15% cut by 2030 and 60% by 2050

Promotion of the installation of solar power generation systems (mega solar/*machinaka* solar)

【Large-scale solar power generation plant (mega solar) project】
The Sakai Solar Power Generation Plant, a solar power plant with one of Japan’s largest power output capacities of 10MW, went into commercial operation in the Sakai No. 7-3 District industrial waste landfill site (about 21 hectares). Going forward, Sakai City will examine and evaluate the plant’s long-term durability and output stability as well as its impact on the power supply-demand and power supply systems and undertake public relations and awareness campaigns using it as an advanced case example. Through these efforts, the city hopes to enhance residents’ awareness of environmental community development and spread the installation of *“machinaka* (in-town) solar power generation stations.”

【*Machinaka* solar power generation station project】
Sakai City will encourage residents and businesses to install solar power generation systems and promote the use of renewable energy across the city through offering a variety of support measures, including subsidies for the installation of such systems of ¥70,000 per kilowatt (up to ¥280,000 for self-occupied houses and ¥700,000 for apartment complexes and business offices) and issuing financial instruments that support environment-friendly actions by residents and businesses through the Sakai Eco Finance Supporters Club, organized by financial institutions operating in the city.

〈Sakai solar power generation plant (10MW)〉



〈Machinaka solar power generation station〉

Operation of Sakai Eco College

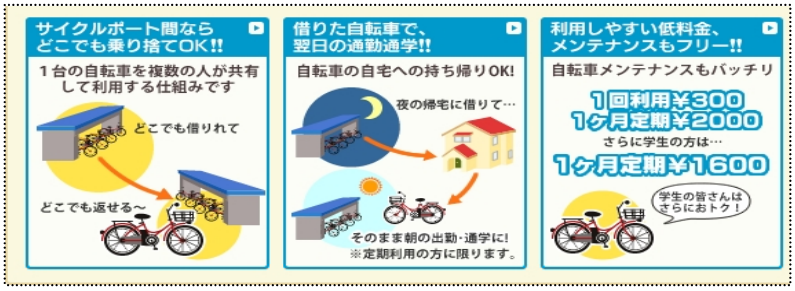
Sakai Eco College is a project to promote environmental education and learning where a variety of people and organizations of Sakai City, including residents, NPOs, corporations, schools/universities and administrations, based on their knowledge and experiences in environmental matters, offer a range of lecture courses, symposiums and field learning, etc. within the framework of “college,” using various places as the venues of learning.

The college, under collaboration by NPOs, corporations and administrations, etc., offers a variety of learning opportunities including action-learning projects organized by respective entities, environmental courses such as ad hoc lectures by the municipal government personnel, and advanced courses to deepen understanding of specific elements of the environment. Using the “college” format, the city aims to offer learning opportunities to a wide range of people from children to adults and encourage them to pursue environmental learning. Through these efforts, it will create new environmental activities for its citizens and develop human resources for NPOs and corporations willing to engage in environmental activities and contribute to the development of “Cool City Sakai.”

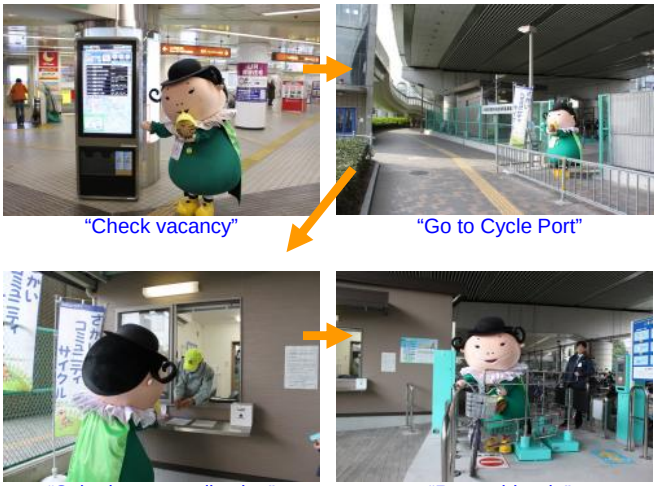
〈Scenes from Sakai Eco College courses〉

Operation of the Community Bicycle System

The Community Bicycle is a low-carbon transportation system utilizing an environment-friendly, zero-emission transportation mode, namely, bicycles. At present, the system lends a total of 450 bicycles (410 bicycles and 40 electric power-assisted bicycles) at four cycle ports (parking lots for bicycles). The city plans to increase the number of cycle ports depending on the utilization situation in a bid to put the brakes on the excessive use of automobiles.



〈How to use a community bicycle〉



“Check vacancy” “Go to Cycle Port”

“Submit your application” “Rent a bicycle”

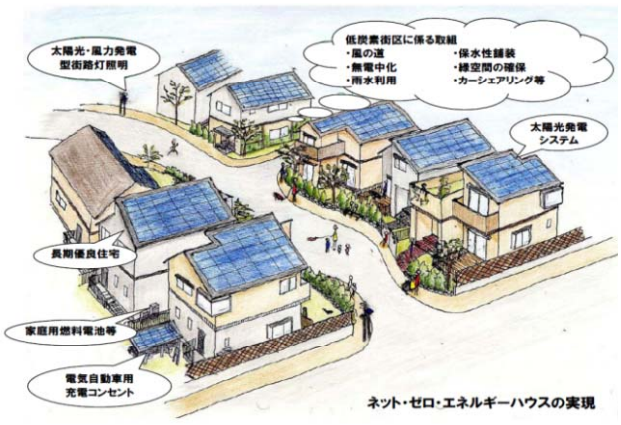
∗ The characters seen in the pictures are “Sakaeru & Misosakai” of Sakai Ward, Sakai City.」

Creation of the Harumidai Eco Model Town

The Eco Model Town is designed to realize next-generation model “net-zero-energy houses” with strong environmental performance, create housing and communities with an enhanced quality of life and establish environment-friendly lifestyles. It also aims to present an attractive new community that can serve as a model for renewal of the Senboku New Town while spreading the results of the project within and outside the city.

【Objectives of the project】

- Realize a “net-zero-energy” community by turning all houses in all the 65 lots into “net-zero-energy houses.”
- Install solar power generation systems, HEMS, home-use lithium-ion batteries and electric vehicle (EV) outlets in all the houses.
- Community assembly houses will have solar power generation systems and battery cells that can supply electricity to homes as part of efforts to build disaster-resistant infrastructure that include the installation of LED lighting for security lighting and the elimination of power poles for electric cables.



〈Image of the Eco Model Town〉

Yusuhara Town

- A mountain village with a population of some 4,000, located in the northwestern part of Kochi Prefecture, Shikoku, bordering on Ehime Prefecture
- 215.11km²of its total area of 236.51km² or 91% of the town is forested, making it one of the most forested towns in Kochi Prefecture.

Outline of the Eco-Model City Proposal

- Name of Plan
  Yusuhara-Originated “Development of a Low-Carbon Community Friendly to Living Things” with recycling of forest resources through public-private collaboration
- Greenhouse Gas Reduction Target (Compared with 2007)
  Reduce GHG by 100,000t- CO_2 in the entire Yusuhara Town by 2050, with the effect of 122% reduction combined with CO_2 absorption

The Yusuhara Declaration on “Development of a Low-Carbon Community Friendly to Living Things”

As a mountain village community, the amount of CO_2 absorption is expected to substantially exceed that of CO2 emissions by 2050. As such, the town has declared the following for “‘Development of a ‘Low-Carbon Community Friendly to Living Things’ with recycling of forest resources through public-private collaboration” and is striving to achieve that goal:

① The Eco-Model City Yasuhara Town aspires to become “a low-carbon society based on a resources-recycling lifestyle” that sustains a favorable environment for living things and keeps generating clean “air and water.”

② Yusuhara Town aims to become “a low-carbon society where resources recycling and sustained regional vitality coexist in balance,” never forgetting that “we are borrowing the earth from the future generations and whether they can live with a sense of security depends on our actions.”

③ Yusuhara Town aims to become “a low-carbon society that stands on its own” through structural change of its energy supply and use and pursuing greater energy self-sufficiency.

〈Utilization of new energy sources〉

〈Wind power generation〉 〈Solar power generation〉 〈Small hydroelectric generation〉

Community development making use of forests, water, wind and sunlight

Yusuhara Town is proceeding with the development of a low-carbon community friendly to living things by while making full use of its natural surroundings, such as forests, water, winds and sunlight and their energy.

○Forests…Promote development of forests, a valuable source of CO_2 absorption. Target absorption by 2050→83,000t-CO_2

○Water…Has built a 53kw small hydroelectric generation plant, making use of a 6m drop. GHG reduction effect→258t- CO_2 /year

○Wind…Has built two 600kw wind power generation plants. Plans to build 40 more by 2050. GHG reduction effect→12,798t-CO_2 /year

○Sunlight…Installed solar power generation systems at public facilities and homes. GHG reduction effect→60t- CO_2 /year

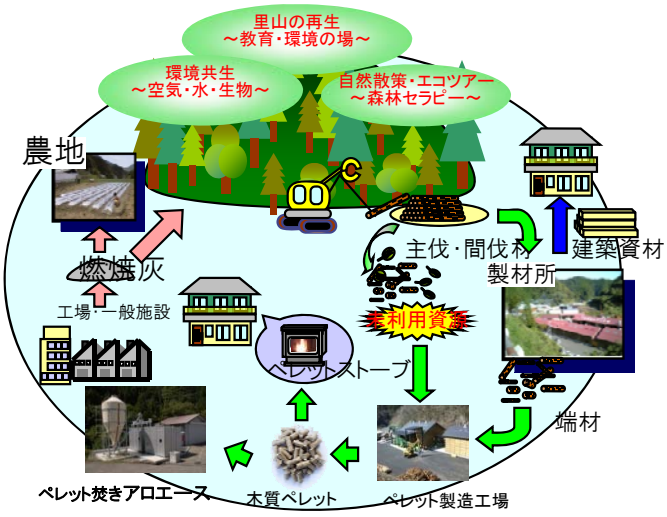
Our approach is characterized by the use of profits from wind (wind power generation) for forests (forest development) and sunlight (installation of solar power generation systems).

Woody biomass community-based recycling model project

The “woody biomass community-based recycling model project” that utilizes forests, the town’s biggest resource, aims to realize “a low-carbon society based on recycling within the community” by producing wood pellets from thinned trees, forest residues and timber waste and expanding the use of air-conditioning equipment, water heaters, stoves and fan heaters for greenhouses that use wood pellets as fuel to promote the town’s energy independence.

The “woody biomass community-based recycling model project” also represents an effort to utilize well-developed forest space for environmental education and training to help enhance the environmental awareness and to develop an attractive community and enhance its vitality through health- and tourism-related proposals, such as forest therapy ad eco-tours.

GHG reduction effect →5,349t-CO_2/year



〈Woody biomass community-based recycling model project〉

Future outlook: Development of a community with no electricity bills

○Further efforts to utilize community resources

- Development of forest resources and continued use of woody biomass
- Installation of equipment for greater energy self-sufficiency and build more wind power generation facilities to that end

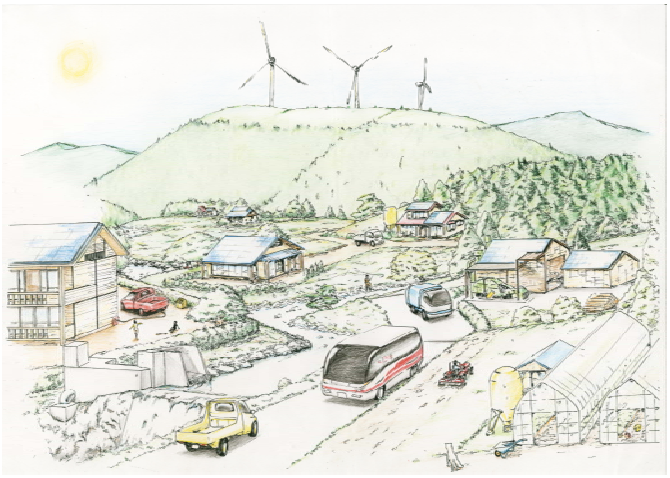
○Promotion of the Yusuhara Town Eco-Model City

- Promotion of proactive efforts by residents and reinforcement of support systems through industry/government/ academia collaboration

○Promotion of emissions trading

- Improve the multifaceted functions of forests and contribute to enhanced recycling use of resources by investing credits into forest development.

Through these efforts, Yusuhara Town aims for “a low-carbon society where resource recycling and community revitalization coexist in balance”.



〈A low-carbon community friendly to living things〉

City of Kitakyushu

- One of the Government-designated Major Cities of Japan with a population of some 975,000, located in the northernmost part of Kyushu.
- Drove Japan's modernization and high growth as one of the four largest industrial areas
- Has overcome severe pollution problems resulting from industrial development through integrated efforts by residents, corporations and municipalities.

Outline of Action Plan

- Name of Plan
  City of Kitakyushu Eco-Model City Action Plan
  (Kitakyushu Green Frontier Plan)
- Greenhouse Gas Reduction Target
  (Compared with 2005)
  50% cut in City of Kitakyushu,
  150% in Asia by 2050

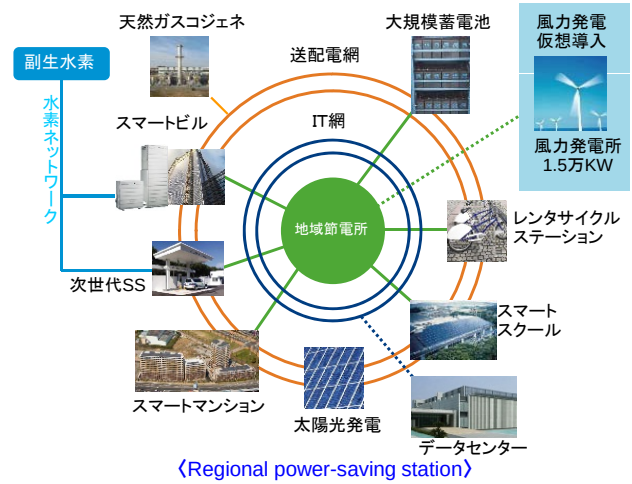
Building of the Kitakyushu version of the smart grid

City of Kitakyushu is promoting the "Kitakyushu Smart Community Creation Project" in the Yahata Higashida region in order to change "lifestyles," "business styles" and community development with the smart grid at the core.

Specifically, the project is designed to demonstrate a variety of technologies through introduction of renewable energy (solar power generation and wind power generation, etc.) and regional energy such as hydrogen to cover at least 10% of total power demand in the region, development of "regional power-saving stations" to manage energy for the entire region, development and introduction of energy-saving systems (BEMS and HEMS, etc.) that can communicate with and control "regional power-saving stations" and vise versa, and construction of a next-generation mobility network that corresponds to the electricity and hydrogen-based society.

The project is also designed to undertake the development and introduction of an "energy visualization" system, a mechanism to encourage actions by energy consumers as well as such social experiments as Japan's first "dynamic pricing" of electricity.

Through these actions, the project aims to build "an ideal low-carbon society" revolving around regional energy management.



〈Regional power-saving station〉


〈Smart housing〉 〈Smart office〉 〈Regional power-saving station〉

Promotion of low-carbon societies in Asia

Under the “City of Kitakyushu Eco-Model City Action Plan,” City of Kitakyushu aims to reduce CO_2 emissions in Asia by 150% compared with the city’s 2005 emission level. To that effect, the city established the “Kitakyushu Asian Centre for Low Carbon Society” as the key facility to seek to revitalize the regional economy by promoting low-carbon societies in Asia.

The center will promote decarbonization of Asia by leveraging environmental technologies generated in the process of overcoming pollution and of manufacturing as well as inter-city networks built through international cooperation in the past. Further, in exports of technologies, the center, making use of the city’s comprehensive strength as a forerunner of environmental cities, will promote “export of green cities” based on the made-to-order format so as to fulfill diverse needs of Asian cities and companies.

〈Kitakyushu Asian Centre for Low Carbon Society〉

Development of low-carbon communities

City of Kitakyushu will develop the “Jono Zero-Carbon Advanced District” as a leading project for district models under the concepts of “zero carbon”, “child and elderly-friendly” and “sustainability.”

In the Jono District (with an area of about 19 hectares), the city will promote the use of public transportation and curb the use of private vehicles by building backbone roads for bicycles and pedestrians and enhancing their connectivity with a Japan Railways (JR) station facing the district.

Furthermore, the city will strive to achieve “zero carbon emissions” by introducing a variety of low-carbon technologies and measures, including the installation of eco housing and energy-creating/energy-saving equipment and optimization of energy use through energy management.

Through these initiatives, the city will encourage residents to shift to low-carbon lifestyles and disseminate them within Japan and across Asia.

〈Low-carbon Advanced Model District〉

Hibikinada: Project to create a green corridor with birds singing

City of Kitakyushu is undertaking the development of “Green Corridor” and “Green Base” in the Hibikinada District to nurture nature and create places to enjoy nature through collaborative efforts of residents, NPOs, business corporations and the municipal government.

Residents, businesses, the municipal government and schools in collaborative efforts organized the “Hibiki Donguri Bank,” a system for raising seedlings from acorn seeds, engaging in a range of activities from picking up acorns to raising and planting seedlings (tree planting by residents) to develop the “Green Corridor.”

The city is also developing a former waste disposal site as the “Hibikinada Biotope” (Green Base), which will be one of the largest biotopes in Japan (scheduled to open in the autumn of 2012). Thus far, a total of 237 species of birds, 284 species of plants and 24 species of dragonflies and killifish, including such endangered species as eastern marsh harriers and Libellula Angelina, have been confirmed to be living in this biotope.

〈Green Corridor: Tree planting by residents〉

Minamata City

- A small city with a population of some 27,000, located in the southernmost part of Kumamoto Prefecture
- Promoting “Eco-Model City” development initiatives with collaborative efforts of residents, based on the experiences and lessons of Minamata disease
- Won the title of the “Eco-City Capital of Japan” in March 2011

Outline of Action Plan

- Name of Plan
  Minamata Eco-Model City Action Plan
- Greenhouse Gas Reduction Target (Compared with 2005)
  30% cut by 2020
  50% cut by 2050

“Eco-Model City Minamata” development initiatives with collaborative efforts of residents

Based on the experiences and lessons of Minamata disease in the process of economic growth, Minamata City adopted the following “Eco-Model City Development Declaration” in 1992, the first city to do so in Japan, and has been taken a variety of environment-friendly measures, including a stepped-up garbage sorting process, with collaborative efforts of residents.

1 Learn the lessons from Minamata disease and pass them down to posterity;
2 Seek the relief of Minamata disease victims and the reconciliation of citizens;
3 Promote a shift to industrial activities that give consideration to people and many other living things within the cycling natural ecosystem;
4 Carefully protect the sea, mountains and rivers that are the bases of life and hand them over the future generation; and
5 Promote the development of a social system based on recycling of finite resources by redefining the whole concept of civilized society.

Minamata will strive for a genuine achievement of the “Eco-Model City Development” it has been promoting over years and seek to realize a sustainable low-carbon society with harmony between the “environment” and “economy” that can serve as a model for the rest of the world.

〈Eco-Park Minamata〉
* Reclaimed area where mercury slime had been dredged
* It is now the place for prayers and reproduction of life.

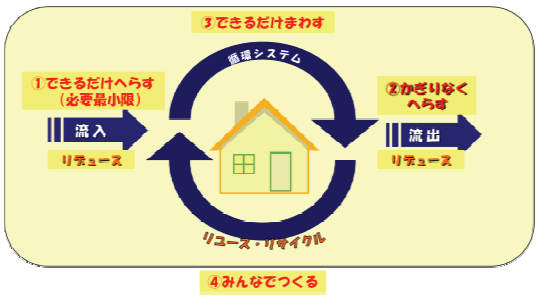
〈District environmental agreement system〉 〈Garbage sorted into 24 types〉 〈Environmental meister system〉

「Development of a community that cherishes life by taking good care of “water,” “trash” and “food”

Community development based on zero-waste policy

Based on the lessons from Minamata disease that the environment and health come before anything else, the city adopted “Minamata City’s Declaration for Community Development Based on Zero-Waste Policy” in 2009 in order not to contaminate nature of our hometown and threaten the life and health of all living things and to establish lifestyles and systems that do not waste limited resources and energy and use them with utmost efficiency.

Minamata City will further promote “3R’s” activities, including stepped-up garbage sorting and the reuse/recycle of bottles, the core business of the Minamata Eco Town, and promotion of simple packaging. Through these efforts, it aims to change people’s way of thinking from recycle to reuse and reduce through specific collaborative actions of residents, such as “cha-nomiba” tea refill stations, and work toward the realization of good life that does not generate garbage together with like-minded people in Japan and around the world.



〈Basic concept of zero-waste〉


〈Reuse/recycle of bottles〉


〈Promotion of simple packaging〉

〈Cha-nomiba〉

Development of an environmentally-sound city that lives in good harmony with nature

Minamata City is a community blessed with abundant water and nature, with an integral watershed ecosystem from the riverheads (mountains) to the river mouths (the sea) within the city.

The city is taking actions to nurture woodlands surrounding riverheads and seaweed forests in order to protect mountains and the sea surrounding the city and use resources it provides in sustainable ways.

Minamata City is also proposing new lifestyles by building traditional wooden houses suited to the local climate with locally produced materials and by local craftspeople, trying to save energy and resources through environmental ISO standards and other activities and moving ahead with the efficient introduction of renewable energy.

Through these activities, the city is promoting the development of an environmentally-sound city that lives in good harmony with nature.


〈Development of riverhead forests〉


〈Minamata Eco House〉


〈Development of seaweed forests〉

〈Environmental ISO〉


〈Photovoltaic power generation〉


〈Small hydroelectric generation〉

Development of an environmental learning city

Determined not to waste the sacrifice of Minamata disease and never allow such tragic environmental contamination to occur again, Minamata is promoting the development of an environmental learning city to spread the lessons from Minamata disease and the Eco-Model City development initiatives.

In addition to learning about Minamata disease at the Minamata Disease Municipal Museum, everything from garbage sorting in each community to the environmental industry and old-style village life provides learning materials. At the Whole Village Life Museum, where the way of life in a village itself is considered as a museum, and at the Minamata Environmental College, where people stay in Minamata City for a short period of time and learn about the city’s efforts on environment conservation, visitors interact with Minamata residents, which also helps to enhance environmental awareness among residents here and community development.

We also accept trainees from developing countries in the process of economic growth to let them learn from the experiences and initiatives of Minamata City.


〈A Minamata disease victim speaks about his experiences at the Minamata Disease Municipal Museum.〉


〈Whole Village Life Museum〉


〈Minamata Environmental College〉


〈Trainees from overseas〉

Miyakojima City

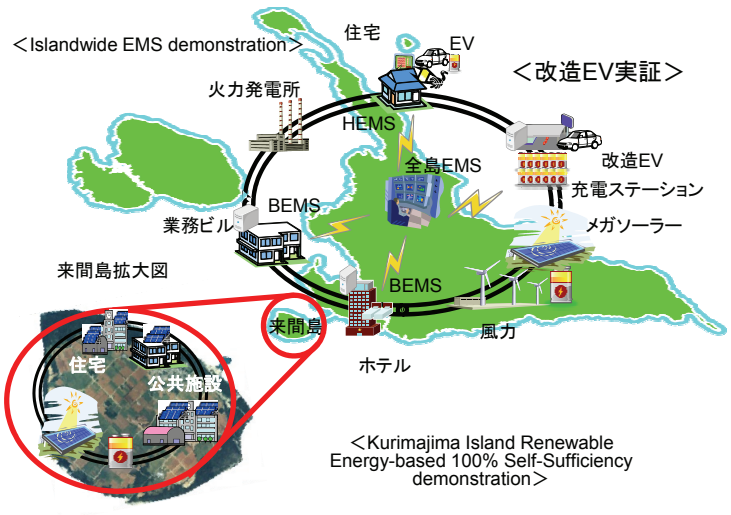
- A city of islands with a population of about 55,000, located southwest of the main island of Okinawa
- Each year, as many as 400,000 tourists visit these islands made of uplifted coral reefs.
- Being a city of islands, Miyakojima is highly dependent on outside resources and thus is seeking to become an island of local production for local consumption.

Outline of Action Plan

- Name of Plan
  Miyakojima City Eco-Model City Action Plan
- Greenhouse Gas Reduction Target (Compared with 2003)
  30% cut in Miyakojima City by 2030
  70% cut in Miyakojima City by 2050

Miyakojima Islands-Based Smart Community Demonstration Project

In order to build a smart community in Miyakojima City, the project is designed to promote its energy self-sufficiency through optimizing the supply and demand of electricity within the islands by introducing a massive quantity of renewable energy and harnessing information technology (IT), and also to help revitalize the local economy and create employment by developing new business models associated with the development of a new energy supply-demand system.



・EMS demonstration across all islands

Realize energy saving and the optimum consumption of renewable energy through the visualization of energy consumption by introducing the supply of renewable energy and the energy supply-demand system (EMS) for consumers, and build a commercialization model by considering service models.

・Kurimajima Island renewable energy-based 100% self-sufficiency demonstration

Install a large-scale solar power generation system and system stabilization equipment, etc. in Kurimajima Island and build a 100% renewable energy self-sufficiency model for a small remote island through renewable energy management within the island.

・Remodeled EV demonstration

Manufacture a remodeled electric vehicle (EV) suitable for island conditions and develop a business model conducive to the accumulation of EV technology and creation of related industry, assessment of business viability by using EV technology in taxis, and efficient use of renewable energy through secondary utilization of EV batteries.

Self-sufficient energy supply with sugarcanes

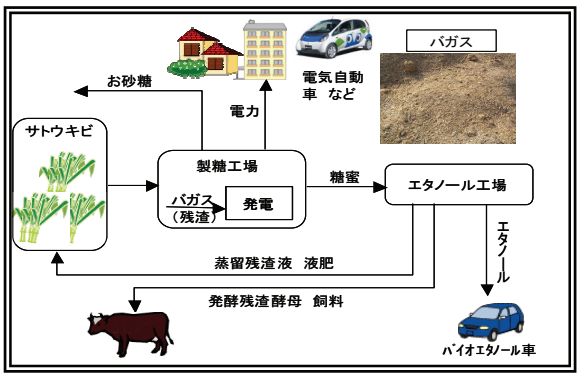
Miyakojima City is seeking to make its power generation and fuels for transportation less dependent on fossil fuels through effective utilization of residues from sugar production from sugarcanes, the island's key crop, while reducing the island's dependence on the supply of resources from outside.

・ Power generation by burning bagasse

Miyakojima City is seeking to reduce the consumption of fossil fuels through electricity generation by burning bagasse, the lees from sugarcanes, generated in the process of sugar production, and utilize bagasse as a major source of power through increased sugarcane production and integrated utilization of biomass resources.

・ Bioethanol as fuel for transportation

Miyakojima City is producing bioethanol from molasses generated after sugar production and using it as E3 or E10 fuels for a total of 1,690 vehicles, including municipal vehicles and rental cars. It is also considering the cascading use of residues (distillation residues and fermentation residue yeasts) generated in the process of bioethanol production as animal feed or soil fertilizers, thereby building a resource-recycling society and revitalizing the local industry by adding new values to sugarcanes.



〈Biomass Town Concept〉

〈Sugarcane farmer〉

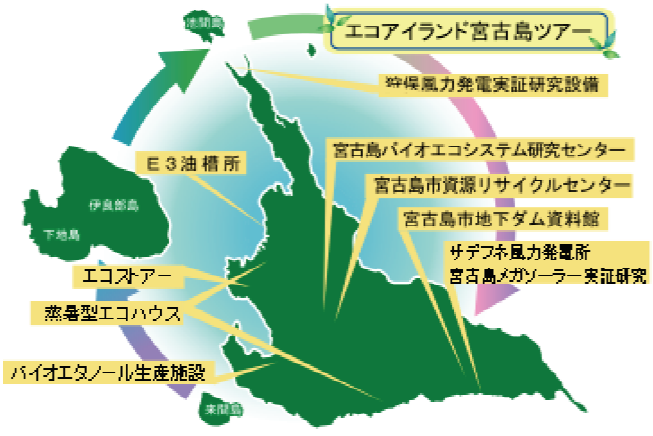
〈Bioethanol supply facility〉

〈Sugar plant〉

Eco actions that make the most of energy of the sun and residents

The tour of Eco Island Mijakojima combines aspects of learning about the island's environment and energy and sightseeing, taking visitors to see resources-recycling facilities, including power generation plants using renewable energy such as solar power and wind, bioethanol production facilities that make use of residues from sugarcanes, the island's key crop and farmyard manure production facilities (recycling centers), one of the world's largest underground dams, eco houses (energy-saving houses) utilizing solar heat and wind and to see Miyakojima's natural environment (mangrove afforestation, etc.) and culture, the basis of the island's industrial activities.

Miyakojima City is making use of the tour as a tool for guests to see and feel at first hand Eco Island Miyakojima (Eco-Model City), which the city describes as the "rich island where people never get tired of living". The tour helps disseminate information about Miyakojima to tourists, corporate trainees and foreign groups of observers from outside the island and to local children, students and residents as well.



〈Bioethanol production facility〉

〈Mega-solar power generation demonstration plant〉

〈Eco-tour for children〉

〈Heat & Humidity resistant Eco-house〉

Promotion Council for the Low Carbon Cities

The Promotion Council for the Low-Carbon Cities (PCLCC) was established on December 14, 2008, with the participation of Eco-Model Cities as well as other local governments and related organizations ready to assume leading roles in working toward a low-carbon society (The PCLCC membership is a total of 204 organizations as of November 9, 2011).
In order to spread remarkable actions of Eco-Model Cities throughout Japan and disseminate prominent approaches in Japan across the world in collaboration with overseas cities that are making proactive efforts toward a low-carbon society, PCLCC members are taking respective actions toward a low-carbon society and have organized working groups (WGs) on a variety of themes to discuss solutions to existing problems.

The List of Members of the Promotion Council for the Low-Carbon Cities

Cities, Towns and Villages (89)

City of Kushiro, Hokkaido	Obihiro City, Hokkaido	Shimokawa Town, Hokkaido	Town of Toyako, Hokkaido	Aomori City, Aomori Prefecture	City of Sendai, Miyagi Prefecture
Tsuchiura City, Ibaraki Prefecture	Tsukuba City , Ibaraki Prefecture	Utsunomiya City, Tochigi Prefecture	Oyama City, Tochigi Prefecture	Tatebayashi City, Gunma Prefecture	Minakami Town, Gunma Prefecture
Saitama City, Saitama Prefecture	Kawagoe City, Saitama Prefecture	Kumagaya City, Saitama Prefecture	Kawaguchi City, Saitama Prefecture	Higashimatsuyama City, Saitama Prefecture	Kasukabe City, Saitama Prefecture
Toda City, Saitama Prefecture	Nagareyama City, Chiba Prefecture	Chiyoda City, Tokyo	Chuo City, Tokyo	Koto City, Tokyo	Toshima City, Tokyo
Arakawa City, Tokyo	Itabashi City, Tokyo	Musashino-city, Tokyo	Chofu City, Tokyo	City of Yokohama, Kanagawa Prefecture	Nagaoka City, Niigata Prefecture
Kashiwazaki City, Niigata Prefecture	Mitsuke City, Niigata Prefecture	Joetsu City, Niigata Prefecture	City of Toyama, Toyama Prefecture	Kaga City, Ishikawa Prefecture	Hakui City, Ishikawa Prefecture
Yamanashi City, Yamanashi Prefecture	City of Hokuto, Yamanashi Prefecture	Nagano City, Nagano Prefecture	Iida City, Nagano Prefecture	Gifu City, Gifu Prefecture	Ogaki City, Gifu Prefecture
Takayama City, Gifu Prefecture	Nakatsugawa City, Gifu Prefecture	Kakamigahara City, Gifu Prefecture	Shirakawa Town, Gifu Prefecture	Mitake Town, Gifu Prefecture	City of Nagoya, Aichi Prefecture
Toyohashi City, Aichi Prefecture	Kariya City, Aichi Prefecture	Toyota City, Aichi Prefecture	Anjo City, Aichi Prefecture	Shinshiro City, Aichi Prefecture	Hikone City, Shiga Prefecture
Omihachiman City, Shiga Prefecture	Higashiomi City, Shiga Prefecture	Town of Aisho , Shiga Prefecture	Kyoto City, Kyoto Prefecture	City of Miyazu, Kyoto Prefecture	Kyotango City, Kyoto Prefecture
City of Osaka, Osaka Prefecture	Sakai City, Osaka Prefecture	Toyonaka City, Osaka Prefecture	Suita City, Osaka Prefecture	Izumiotsu City, Osaka Prefecture	Hirakata City, Osaka Prefecture
Kadoma City, Osaka Prefecture	Kobe City, Hyogo Prefecture	Kasai City, Hyogo Prefecture	City of Izumo, Shimane Prefecture	Okayama City, Okayama Prefecture	Kurashiki City, Okayama Prefecture
Hiroshima City, Hiroshima Prefecture	Ube City, Yamaguchi Prefecture	Kamikatsu Town, Tokushima Prefecture	Naka Town, Tokushima Prefecture	Takamatsu City, Kagawa Prefecture	Kochi City, Kochi Prefecture
Yusuhara Town, Kochi Prefecture	City of Kitakyushu, Fukuoka Prefecture	Fukuoka City, Fukuoka Prefecture	Okagaki Town, Fukuoka Prefecture	Nagasaki City, Nagasaki Prefecture	Kumamoto City, Kumamoto Prefecture
Minamata City, Kumamoto Prefecture	Oguni Town, Kumamoto Prefecture	Kagoshima City, Kagoshima Prefecture	Naha City, Okinawa Prefecture	Miyakojima City, Okinawa Prefecture	

Prefectures (46)

Hokkaido	Aomori Pref.	Iwate Pref.	Miyagi Pref.	Akita Pref.	Yamagata Pref.	Fukushima Pref.	Niigata Pref.	Ibaraki Pref.	Tochigi Pref.
Gunma Pref.	Saitama Pref.	Chiba Pref.	Kanagawa Pref.	Yamanashi Pref.	Toyama Pref.	Ishikawa Pref.	Fukui Pref.	Nagano Pref.	Gifu Pref.
Shizuoka Pref.	Aichi Pref.	Mie Pref.	Shiga Pref.	Kyoto Pref.	Osaka Pref.	Hyogo Pref.	Nara Pref.	Wakayama Pref.	Tottori Pref.
Shimane Pref.	Okayama Pref.	Hiroshima Pref.	Yamaguchi Pref.	Tokushima Pref.	Kagawa Pref.	Ehime Pref.	Kochi Pref.	Fukuoka Pref.	Saga Pref.
Nagasaki Pref.	Kumamoto Pref.	Oita Pref.	Miyazaki Pref.	Kagoshima Pref.	Okinawa Pref.				

Related Ministries and Agencies (12)

Cabinet Secretariat	Cabinet Office	National Police Agency	Ministry of Internal Affairs and Communications	Ministry of Foreign Affairs	Ministry of Finance	Ministry of Education, Culture, Sports, Science and Technology	Ministry of Health, Labour and Welfare
Ministry of Agriculture, Forestry and Fisheries	Ministry of Economy, Trade and Industry	Ministry of Land, Infrastructure, Transport and Tourism	Ministry of the Environment				

Related Governmental and Other Agencies (29)

Japan Science and Technology Agency	Building Research Institute	National Institute for Environmental Studies	National Institute of Advanced Industrial Science and Technology
New Energy and Industrial Technology Development Organization	Urban Renaissance Agency	Japan Sewage Works Agency	Institution for Transport Policy Studies
Osaka Science & Technology Center	Japan Institute of Wastewater Engineering Technology	Institute for Building Environment and Energy Conservation	Waterfront Vitalization and Environment Research Foundation
Japan Center for Regional Development	Institute for Global Environmental Strategies	Organization for Urban-Rural Interchange Revitalization	Institute for Future Urban Development
Organization for Landscape and Urban Green Infrastructure	Institute for Energy Economics, Japan	Japan Environment Association	Heat Pump & Thermal Storage Technology Center of Japan
Organization for Promoting Urban Development	Urban Energy Association	Japan District Heating & Cooling Association	Japan Gas Association
Japan Machinery Federation	Parks & Open Space Association of Japan	Japan Transportation Planning Association	Japan Boiler Association
Foundation for Personal Mobility and Ecological Transportation			

Private-Sector Organizations (28)

Informex, Inc.	Econos Co., Ltd.	EX Research Institute Ltd.	NTT Data Institute of Management Consulting, Inc.
Osaka Gas Co., Ltd.	Omron Corp.	JCB Co., Ltd.	JTB Tokyo Metropolitan Corp.
JTB Business World Tokyo Corp.	Sinfonia Technology Co., Ltd.	SuperSoftware Co., Ltd.	Sekisui House, Ltd.
Taisei Corp.	Daiwa House Industry Co., Ltd.	Tokyo Gas Co., Ltd.	Nikkei Business Publications, Inc.
Nikken Sekkei Research Institute	NHK Sales Co., Ltd.	IBM Japan, Ltd.	Nihon Unisys, Ltd.
NPO Biomass Industry Organization	Pacific Consultants Co., Ltd.	Fuji Taxi Group	Fulltime System Co., Ltd.
Sumitomo Mitsui Banking Corp.	Mitsui Global Strategic Studies Institute	Mitsubishi Motors Corp.	Mitsubishi Research Institute, Inc.

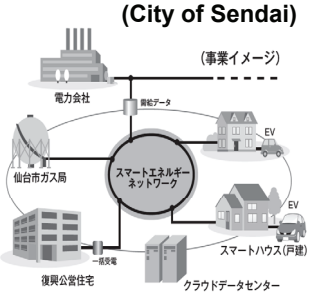
Actions of PCLCC members and working groups are outlined in the following pages.

Cities, Wards, Towns and Villages

Development of Disaster-Resistant Low-Carbon City

(City of Sendai)

In the wake of the disastrous Great East Japan Earthquake, City of Sendai aims to transform itself into a disaster-resistant low-carbon city through such efforts as the formation of eco-model towns in areas designated for new urban development that make use of renewable energy and the smart grid and the establishment of next-generation energy R&D bases for large-scale solar power generation and biomass power generation projects.



〈Business image of the Eco-Model Town〉

Eco-Commuting Experiment Using the Segway

(Tsukuba City)

Tsukuba City is promoting the development of a low-carbon society that can serve as a model for other areas based on the Tsukuba Environmental Style concept.

The city launched an eco-commuting experiment using the Segway from October 3 as part of its low-carbon town scheme.

【CO_2 reduction effect per year】

・A person commuting 10km one way (A car with fuel efficiency of 10km/L→railway + Segway)
Reduction by some 80% (about 800kg)

〈A scene of the eco commuting experiment〉

Environmental City Development with “Spirit of Mottainai”

(Utsunomiya City)

Utsunomiya City is striving to realize a sustainable “Environmental City Utsunomiya” that emits less environmental load based on the “spirit of *mottainai*,” which is to respect and thank everything on the earth and care about people and things. Residents, businesses, other organizations and the municipal government have come together toward that goal.

Promotion of the Oyama Field Mustard/Bio Project

(Oyama City)

In Oyama City, the second biggest city in Tochigi Prefecture, oil extracted from rapeseeds grown in the city’s idle farmland is sold for school food service and to ordinary households. The city is also promoting resources-recycling in communities by collecting waste edible oil from restaurant kitchens and at collection centers and using it to produce biodiesel fuel to power vehicles and agricultural machines.

This effort has so far contributed to reducing CO_2 emissions by about 100 tons.

〈Rapeseed oil produced in Oyama City〉

Utilization of Solar Energy

(Kawagoe City)

Kawagoe City has longer hours of daylight than the national average, a condition favorable for utilization of solar energy.

The city provides subsidies for households to install solar power generation systems (since FY1997) and solar heating devices (since FY2009) in their homes. By FY2010, solar power generation systems for 8,056kW and a total of 58 solar heating devices have been installed.

〈Resources-Recycling Center 166.9kW〉

Solar power generation systems installed at the city’s 80 public facilities for a total output of 886.3kW

Get Wise and Manage Summer Heat in Kumagaya Way!

(Kumagaya City)

After recording the highest temperature of 49.5 degrees centigrade in Japan in 2007, Kumagaya City, located in the northern part of Saitama Prefecture, launched the “Get Wise and Manage Summer Heat in Kumagaya Way!” project for promoting measures to fight global warming, enhance community health and stimulate regional revitalization by pursuing regional low-carbon initiatives, including promotion of green curtains and energy-saving equipment.

〈Kumagaya Station Front Exit Cooling Mist〉

Stop Global Warming！

(Kawaguchi City)

The “Eco-Life DAY” initiative that was born in Kawaguchi City is now being promoted across Japan.

Kawaguchi City will pursue energy-saving efforts with the strong environmental awareness cultivated by the Eco-Life DAY initiative, and seek to become a “low-carbon community” with less greenhouse gas emissions.

〈Official use of electric vehicles, electric motorcycles, etc. launched〉

Green Activities You Can Do at Home

(Kasukabe City)

Realization of a low-carbon city requires residents, businesses and municipalities to join hands to promote the project. Kasukabe City will promote the development of a low-carbon city for children who will be the driving force of future Japan. To that end, the city encourages each of its residents to continue doing what they can do for the environment by holding events such as "Home-Use Electricity Diet Competition" and "Green Curtain Contest."

〈FY2011 Green Curtain Contest (Mayor Award)〉

Low-Carbon Community Development through Partnerships

(Toda City)

Toda City is making collaborative efforts with residents and businesses, including composting of domestic food waste (projects to exchange manure for flower seedlings; producing 80,000 pots of flower seedlings a year) and cooperation with "Eco-Life DAY" (eco-life day awareness campaign). In recognition of these activities, the Saitama prefectural government in March 2010 provided Toda City with the Environmental Future City accreditation.

〈Recycle Flower Center〉

Solar Car Challenge Program

(Koto City)

The "Solar Car Challenge Program" was a three-year project undertaken from FY2009 at the Ecokkuru Koto, an environmental learning and information center run by the Koto City office. A team of ward residents, mostly junior high school students, built a solar car with the cooperation of universities and corporations based in Koto City, and joined the "Solar Car Race Suzuka 2011 (International Formula)" held at the Suzuka Circuit (Mie Prefecture) in August 2011.

〈The solar car and Team Koto members〉

Local Consumption of Locally Produced CO2 Emission Quotas

(Toshima City)

Toshima City, which includes the Ikebukuro, a subcenter of Tokyo, is one of the most densely-populated areas in Japan, with over 260,000 people living in a space of around 13km². The city office subsidizes small and medium-sized enterprises for the introduction of energy-saving equipment provided that they participate in the CO2 emissions trading system of the Tokyo Metropolitan Government. Toshima City is working for the "local consumption of locally produced CO_2 emission quotas where large corporations in the area make use of CO_2 emission reductions generated under the trading system.

〈Local consumption of locally produced CO_2 emission quotas, using the emissions trading system〉

Green Curtain Initiative

(Itabashi City)

Itabashi City began promoting green curtains in FY2006, and has been installing them at public facilities, private homes, shopping districts and town meeting centers, etc.

The city office, in cooperation with residents and businesses, is striving to share information and encourage more people to participate in the initiative. To that end, it has created the registration system while sponsoring workshops, observation tours, contests and networking events.

It also made a presentation on the green curtain initiative overseas and sponsored a national forum in collaboration with NPOs.

〈Installation of green curtains at public facilities〉

Let's Aim for an Eco City!

(Musashino-city)

Musashino-city is a city that exists in harmony with nature. The city is home to the Tamagawa Josui Channel waterside and numerous parts, offering habitats for a variety of animals and plants. Its residents, many of them highly conscious of environmental issues, are collaborating closely with the municipal government in building sustainable communities across the city.

★Greenhouse gas reduction target in Musashino-city=Long-term: Reduce 60-80% by FY2050, Medium-term: Reduce 25% by FY2020, Short-term: Reduce 11% by FY2015 (all compared with the FY1990 level) ★Main initiatives: Subsidization of installment of solar power generation systems for housing; systematic installation of solar power generation systems at public facilities

Kashiwazaki City ECO_2 Project

(Kashiwazaki City)

Kashiwazaki City in FY2011 launched the Kashiwazaki City ECO_2 Project to achieve harmony between the environment and the economy.

As the project's key initiative, the city is operating the ECO_2 point system to grant points for environment-friendly actions by businesses in the city and, depending on the points earned, provide financial support for the installation of new energy and energy-saving equipment.

〈The logo of ECO_2〉

Low Carbon by All Residents

(Mitsuke City)

Mitsuke City is promoting the collection of used tempura oil and the use of biodiesel fuel (BDF) in official vehicles as part of efforts toward a low-carbon city by all citizens. For the diffusion of solar power generation, the city has also installed solar panels at all the 12 elementary and junior high schools in the city. These panels not only generate electricity but also serve as teaching materials for environmental learning.

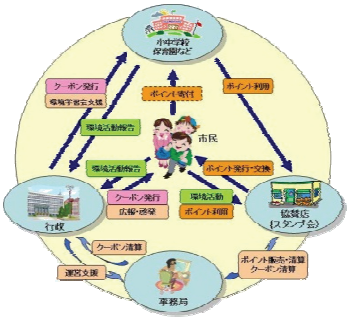
Going forward, the city is testing "waste treatment where kitchen wastes disappear themselves" using certain type of bacteria instead of fuel-burning incinerators.

〈Awareness campaign and a tour to learn about waste treatment〉

Eco Point Project in Collaboration with Local Shopping Districts

(Kaga City)

Kaga City has been undertaking the Eco Point project since 2009 toward the goal of reducing CO_2 emissions by 50%. The city issues eco coupons for environmental activities of residents. These coupons can be used at shops in a local shopping district. The shops also issue eco points to customers who come to shop with “my bags.” Through these efforts, the project aims not only to promote eco-friendly actions but also to revitalize local shopping districts.



〈Image of the Eco Point project〉

Biomass (Waste Edible Oil) Recycling Model Project

(Yamanashi City)

Yamanashi City is undertaking an initiative that regards the whole city area as a next-generation energy park.

One of key efforts under the initiative is a project to turn waste edible oil into biodiesel fuel in which residents play a major role. As families, the municipal government and elementary schools get involved in this collaborative project, spillover effects such as environmental education for children and garbage reductions can be expected.

Development of City with Reduced CO_2 (*Genkotsu*)

(Gifu City)

Gifu City is operating the “Gifu Reduced CO_2 Point System” where everyday energy-saving actions earn points that can be exchanged for energy-saving goods.

Driven by residents’ environmental awareness and actions enhanced by the system, the city is aiming to reduce CO_2 emissions by 25% by FY2020 by skillfully combining a variety of tools such as solar power generation, geo-heat utilization, electric vehicles, BRT and bicycle rentals.

〈Image of Gifu as a city with reduced CO_2〉

City Development with Utilization of Natural Energy

(Takayama City)

Takayama City is striving to become Japan’s No.1 city in utilization of natural energy sources including solar power, to protect its beautiful and rich nature, develop comfortable living conditions and realize a low-carbon society.

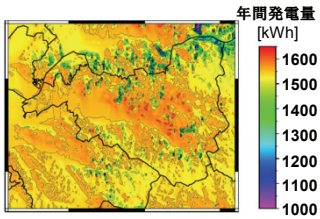
Residents, businesses and the municipal government are taking collaborative actions to achieve the goal of reducing greenhouse gas emissions by 25% by FY2020.

〈Solar power generation system installed at Hanaoka Municipal Parking Lot〉

Mitake Town Solar Power Output Map

(Mitake Town)

Mitake Town is a town nestled in the mountains that still keeps a history and culture of Nakasendo, one of the Edo period’s main trunk roads. It has many sunny days for an intermountain area and can expect solar power generation output about 10% more than the national average. The town is trying to expand the use of solar energy by making the solar power output map and the website showing solar power output forecasts so as to provide useful information to households interested in installing solar power generation systems.



〈Solar Power Output Map〉

Anjo Diet 30 Challenge

(Anjo City)

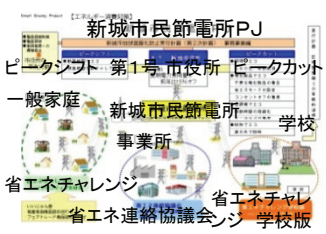
Anjo City, as part of efforts to achieve the goal of reducing greenhouse gas emissions by 30%, carried out the visualization of household energy consumption and energy-saving analysis. The city lent out energy-saving navigation devices to monitor households for one year to help them grasp their energy use patterns, and in the Home Eco Diagnosis, experts provided residents with energy-saving tips. The city is promoting energy-saving through disseminating power-saving knowledge and recommending to replace home electric appliances with energy-saving models.

〈A scene of Home Eco Diagnosis〉

Shinshiro Civic Power-Saving Station

(Shinshiro City)

Shinshiro City established the “Shinshiro City Energy Measures Headquarters” to deal with the shortage of electricity resulting from the suspension of operations of the Hamaoka nuclear power plant of Chubu Electric Co. as well as for the prevention of global warming. In the summer of 2011, the municipal office sought to reduce power consumption by 15% as the first citizen’s power-saving station. These efforts enabled 27% reduction in the city’s electric consumption.



〈Image of the Civil Power-Saving Station〉

City Development for a Resources-Recycling Economic Society

(City of Miyazu)

City of Miyazu is aiming to become a resources-recycling and low-carbon city by effectively utilizing the regional biomass resources that exist in abundance in the city as energy and material.

At present, the city is focusing on technological demonstration of biogas power generation by waste methane fermentation, utilization of methane fermentation digestive juice, bamboo gasification/power generation and biomethanol production.

〈Biomethanol production and power generation facility〉

Realization of the Environmental Cycling City

(Kyotango City)

Kyotango City is promoting the utilization of renewable energy sources most suitable for the city and the recycling of resources.

With the Kyotango City Eco-Energy Center (biogas power generation facility) as the core facility, the city is promoting power generation from food residue as well as recycling-based agriculture that uses methane fermentation digestive juice as liquid fertilizer, and is also striving to spread small-scale wind power generation by utilizing the natural resource of sea wind.

〈Eco-Energy Center〉

Shift to a Low-Carbon Society That Can Use Energy Properly

(Suita City)

In order to promote the shift to a low-carbon pattern of behaviors by all entities, including residents, businesses and the municipal government, Suita City will promote specific actions in line with the seven basic principles (energy conservation, energy saving, low-carbon energy, responsibilities of respective entities, Suita ways, continuity into the future, and collaborative participation) set forth in the "Suita City's New Action Plan on Fighting Global Warming."

〈7 Basic Principles〉

City with "Collabo Mega Solar" by Working Together with Residents

(Hirakata City)

Hirakata City is providing households with subsidies to cover part of the installation cost for solar power generation systems in order to expand the use of solar power generation across the city.

By subsidizing a total of 1,600 installations between November 2011 and the end of FY2014, the city is aiming to seek cooperation from more residents and make the "Collabo-Mega Solar" concept into reality. The total output expected of this project equals to the combined power output of ten 1,000kW mega solar facilities.

〈Collabo-Mega Solar (Image)〉

Promoting the Use of New Energy Sources

(City of Izumo)

City of Izumo, with a population of some 176,000, has a diversity of geographical features, including the sea, mountains, lakes and plains. The city is putting its efforts into the introduction of new energy sources by leveraging its rich natural conditions. The two wind power generation plants with a combined output capacity of 79,700kW are producing some 140 million kWh of electricity and reducing CO_2 emissions by 86,000 tons each year.

〈*Kirara Tourimaki* Wind Power Generation Plant〉

Encouraging Citizens to Participate in Co-Power Generation

(Okayama City)

Okayama City is promoting the introduction of solar power generation systems in collaboration with residents and businesses, taking advantage of its regional characteristic of being blessed with abundant sunlight and envisaging the entire city area as the "solar power generation plant."

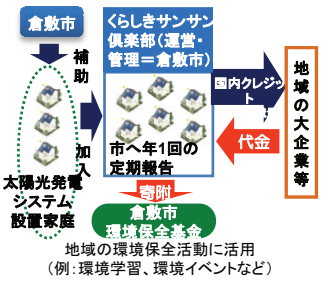
In the citizens' co-power generation project, an incorporated nonprofit organization (NPO) uses donations from residents, etc. to install solar panels at municipal facilities and makes use of the project's results for awareness-raising activities and environmental education.

〈A post-lighting ceremony scene at the Fukuwatari Ohisama power plant〉

City Development with Solar Energy Utilization

(Kurashiki City)

Taking advantage of its favorable sunshine conditions, Kurashiki City is subsidizing the installation of solar power generation facilities and proactively install such systems at municipal facilities. The city is also promoting the development of a low-carbon city by leveraging the domestic carbon emission credit system, bundling CO_2 emissions reduced by residents through solar power generations for trading with business corporations within the city and using its profits to fund environmental conservation activities.



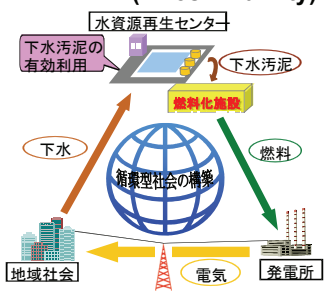
＜Utilization of the domestic carbon credit system＞

Fuel Production from Sewage Sludge

(Hiroshima City)

Hiroshima City is undertaking a project to produce fuel from sewage sludge in a bid to decarbonize its sewage sludge disposal process. This new process is pursued as a new measure to replace incineration that has been used for sludge disposal.

The project, if successful, can realize 100% effective utilization of sewage sludge while reducing greenhouse gas emissions.



〈Project to produce fuel from sewage sludge〉

Carbon Offset Promotion Project

(Ube City)

Ube City is promoting measures to fight global warming in partnership among industry, the public sector, academia and the private sector based on the spirit of "Ube Method".

The city launched the carbon offset promotion project in FY2010, and has been publicizing the project's manual it has put together while conducting awareness-raising activities at municipal events using real-life examples such as offsetting CO_2 emissions at the events by developing forests as carbon sinks.

〈A scene of a tree-planting ceremony〉

Development of ECO Shopping District (Kochi *ECO NICO* Shopping District)

(Kochi City)

Kochi City launched the "Kochi *ECO NICO* (Eco & Happy) Shopping District Certification Program" in October 2010 in a bid to develop environment-friendly "ECO shopping districts." In the Ohashi-Dori shopping arcade, the first to be certified the city set up banners reading "Let's start Environmental Rights Movement from Kochi" as well as signboards to introduce eco activities being undertaken by each store.

〈Banner〉

〈PR board〉

Island City/Development of "Zero CO_2 Emission" Town

(Fukuoka City)

In Island City, Fukuoka City will develop a model district, "Zero CO_2 Emission Town" (about 180 detached houses on a lot of some 6 hectares). The project will utilize cutting-edge technologies for energy-creating (solar power generation/home-use fuel batteries) and energy-saving in order to reduce CO_2 emissions to zero for the entire town while promoting "visualization" of energy consumption and CO_2 emissions in each house and the entire town.


〈Image of Completed "Zero CO_2 Emission" Town〉

Low-Carbon City Development with Utilization of Water/Greenery

(Kumamoto City)

Kumamoto City, a city with a population of some 730,000 located at the center of the Kyushu region, is a good place to live in, blessed with abundant water resources and greenery, as often referred to as "Japan's finest groundwater city" and the "City of Woods."

Kumamoto City will strive to turn itself into a low-carbon city befitting its status as one of the government designated major cities of Japan. To that end, it will promote global warming countermeasures that take advantage of its abundant water and greeneries.

〈Image of the City of Water and Forest〉

Carbon Offsetting by Forest Development

(Oguni Town)

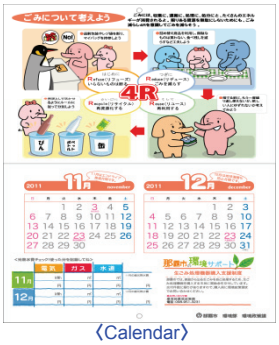
Oguni Town has a total area of 13,700 hectares, 78% of which are forested. It is a town blessed with lush greenery and clean water and surrounded by majestic mountains. With an average temperature of 13 degrees centigrade, annual precipitation as high as 2,500mm, and its unique geographical features, the town provides a perfect home to "Oguni sugi", a species of Japanese cedar tree native to the town. The town is undertaking environmental activities focusing on sustainable forestry operations by promoting adequate tree thinning at the proper timing.


〈A panoramic view of Oguni Town〉

"ON-DOWN" Family Campaign to Fight Global Warming

(Naha City)

Naha City has made an original calendar as a medium for promoting energy-saving at home. Using the calendar, the municipal government invites households to record amounts of electricity, gas and water consumed in a three-month period and report the results to the government and declare themselves as "eco families." Then, it presents households that reported their six-month heating, lighting and water charges with eco family certificates and LED light bulbs at the city's Environment Fair.



〈Calendar〉

Prefectures

Aomori Environmental Finance Project

(Aomori Pref.)

Aomori Prefecture in November 2011 concluded an agreement with five regional financial institutions to launch the “Aomori Environmental Finance Project” aimed at developing a low-carbon society in partnership with these institutions.

Going forward, the prefectural government will promote collaborative actions based on the agreement, including consideration of financial support and undertaking of promotional and awareness-raising activities.

〈A scene of an agreement signing ceremony〉

Response to Urgent Environmental Problems with the Miyagi Environmental Tax

(Miyagi Pref.)

The Miyagi Environmental Tax was introduced in April 2011 as a fiscal resource to finance policy measures to address the prefecture’s pressing environmental issues in order to preserve its rich environment and hand it over to the next generation.

Projects to be financed by the tax revenues are detailed in the Miyagi Green Strategy Plan.

Diffusion of the Niigata Prefecture Carbon Offset System

(Niigata Pref.)

Niigata Prefecture is promoting the “Niigata Prefecture Carbon Offset System” that harnesses a market mechanism as a way to fight global warming. Under the system, the prefectural government confirms the amount of CO_2 absorption enabled by forest development and, based on the amount, issues offset credits. These credits are used by corporations across Japan for various carbon-offsetting efforts and revenues from the sale of credits are used to fund forest development.

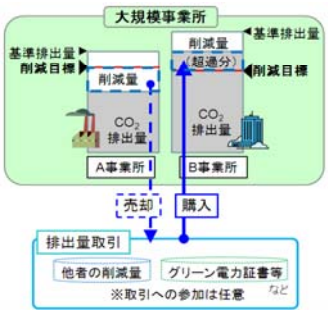
〈Logo〉

Target-Based Emissions Trading System

(Saitama Pref.)

The emissions trading system, inaugurated in FY2011, is designed to facilitate systematic reduction of CO_2 emissions by businesses based on the targets set by the prefectural government.

Businesses that fail to achieve the targets are required to purchase from others, including small and medium sized enterprises, emission reduction credits and environmental values of renewable energy, etc. With the trading system at its core, Saitama Prefecture aims to reduce greenhouse gas emissions for the entire prefecture by 25% by 2020 from the 2005 level.



〈Image of emissions trading〉

Decarbonization of Businesses and Houses

(Chiba Pref.)

Chiba Prefecture is promoting energy-saving and low-carbon initiatives by subsidizing the installation of solar power generation systems by small and medium-sized enterprises and residents in the prefecture.

In FY2011, the prefectural government is expected to provide such subsidies to about 50 small and medium-sized enterprises and about 1,700 houses.

〈Solar power generation system〉

Promotion of Ishikawa-Style Environmental ISO

(Ishikawa Pref.)

Ishikawa Prefecture is addressing the reduction in greenhouse gas emissions by promoting Ishikawa-style environmental ISO as an introduction to the environment management system.

In order to allow all the residents to engage in environmental conservation activities, the prefectural government is issuing four types of certification based on the Ishikawa-style environmental ISO, including those for households, schools, regions and businesses.

①家庭版（H16～） 8,452家庭登録 家庭への普及促進	②学校版（H14～） 161校認定 生徒・教職員への普及促進
③地域版（H16～） 63地域認定 公民館や町内会、商店街等への普及促進	④事業者版（H19～） 557事業所登録 中小企業等への普及促進

（認定・登録数はH23.９現在）

〈4 Ishikawa-style environmental ISO〉

Spread of Next-Generation Energy Infrastructure

(Gifu Pref.)

Gifu Prefecture is striving to spread “Next-Generation Energy Infrastructure” as a model of the future infrastructure based on the “best mix” of multiple energy sources and technologies, including solar and fuel cells.

The prefecture is currently operating five models, on public facilities, commercial facilities, households, cities and intermediate intermountain regions to let the residents experience the respective types of energy infrastructure.

〈Next-generation energy infrastructure〉
GREENY Gifu
(household model)

CO_2 Emission Reductions through Corporate Partnership

(Mie Pref.)

A group of 21 corporations located in the Kasumi District of Yokkaichi City and the Yokkaichi Port Authority have established the council to promote the Kasumi Island Environment Plans (KIEP'S) to undertake such initiatives as eco-commuting through mobility management and community bus services, and down lighting. A group of six companies located in Asahi Town and the municipal government have also established a similar network (AKE7) to promote eco-commuting and other activities.

〈Eco-commuting scenes〉

Roadmap toward Realization of a Low-Carbon Society

(Shiga Pref.)

Realization of a low-carbon society requires the implementation of a variety of measures over the medium to long term.

Shiga Prefecture believes that, in order to implement such measures effectively, it is important to share information about the course of actions to be taken among everyone involved. These information include the contents, timing, and the scale of the actions. To that end. It has put together the Roadmap toward Realization of a Low-Carbon Society."

Promotion of Energy Shift

(Tottori Pref.)

Tottori Prefecture has been pushing ahead with Japan's pace-setting environmental practice, Tottori Environmental Initiative, in partnership and collaboration with NPOs, municipalities and businesses. As one of priority measures under the initiative, the prefectural government, in cooperation with the private sector, will develop and promote a plan for the "energy shift" toward renewable energy.

〈Mega solar candidate site〉

〈Image of a floating wind power generation plant〉

New Energy in the Fair Weather Country

(Okayama Pref.)

Okayama Prefecture, often referred to as the "country of sunshine," formulated the Okayama New Energy Vision in March 2011 to spread the utilization of new energy sources, aiming to use this initiative not only to fight global warming but also promote industrial development and revitalization of the local communities. To that end, it is promoting various measures focusing on the four priority areas of solar power generation, small hydroelectric generation, utilization of woody biomass, and the diffusion and technological development of electric vehicles.

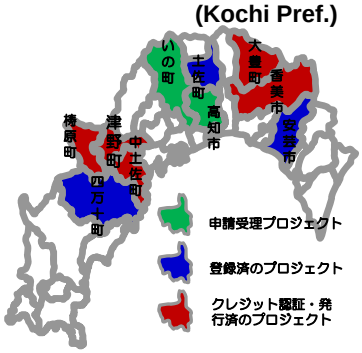
〈The solar power generation system installed at the Tsuru-Shinden water treatment plant (Kigyoukyoku (Bureau of Business Affairs) of Okayama Prefecture)〉

Promotion of Forest Development Harnessing Forest Absorption Credits

(Kochi Pref.)

Kochi Prefecture has been promoting the establishment of the "Kochi Prefecture Carbon Offsetting Credit Scheme" for forest management activities of cities, towns and villages of the prefecture. This scheme won the accreditation of the Ministry of the Environment in February 2010.

The scheme is expected to help expand the absorption of CO_2 through forest development (tree thinning).



〈Current coverage of Kochi Prefecture's J-VER (verified emission reduction) scheme〉

For the "Kingdom of Sunlight ☼ Saga"

(Saga Pref.)

Saga Prefecture has ranked first in Japan in the diffusion of solar power generation for housing for the ninth consecutive year to FY2010.

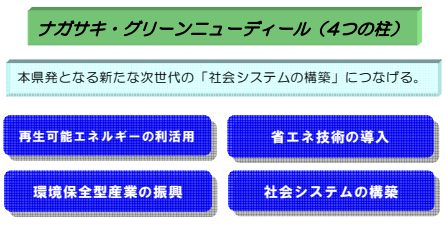
At this juncture for a transition to a new era, Saga Prefecture, together with its residents who have supported the prefecture's No. 1 position to date, will seek to become the "Kingdom of Sunlight and Solar Power" by accelerating the installation of distributed generation systems, such as mega solar plants and commercial solar power generation systems, in addition to solar power generation for housing.

Saga Prefecture ranked No.1 for 9 consecutive years (Diffusion rate of solar power generation for housing)

Promotion of the Nagasaki Green Deal

(Nagasaki Pref.)

Nagasaki Prefecture will simultaneously seek "industrial development and employment creation" and "realization of a low-carbon and green society," 、while taking advantage of the rich natural environment that has supported the prefecture's industrial and technology bases as well as the creation of new energy.



Yakushima's CO_2 Free Island Development

(Kagoshima Pref.)

In Yakushima Island, the world natural heritage, Kagoshima Prefecture is undertaking the "CO_2 - free island development" initiative to promote the development of an advanced community where CO_2 emissions are effectively contained by focusing on the regional characteristic of Yakushima Island where almost all electricity consumed is supplied by hydroelectric power generation. The prefectural government has provided subsidies to the island for the purchase of five electric vehicles for official use, installation of rapid chargers and introduction of electric vehicles.

〈An electric vehicle for official use〉

Government Related Organizations

Utilizing PV systems

National Institute of Advanced Industrial Science and Technology (AIST)

The National Institute of Advanced Industrial Science and Technology (AIST) has installed photovoltaic (PV) power generation systems at its research facilities in Tsukuba, Tohoku, Rinkai Fukutoshin (Tokyo Waterfront), Chubu, Kansei, Chugoku, Shikoku and Kyushu. In 2010, AIST produced some 1.233 million kWh from its PV systems, or equivalent to the annual electricity used by 343 homes, which resulted in a 599 ton reduction in its CO_2 emissions.

PV Panel

Developing CASBEE-City

Institute for Building Environment and Energy Conservation (IBEC)

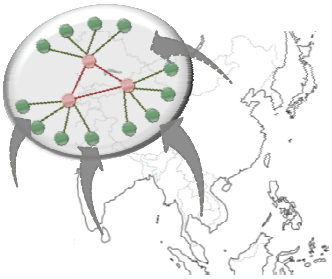
CASBEE-City is a system used to comprehensively assess the environmental performance of a city from social, economic and environmental perspectives. The assessment covers the quality of the environment across the entire city, the breadth of environmental activities and the quantitative reduction of greenhouse gases resulting from urban activities. The system can ascertain the effectiveness of environmental policy by extrapolating environmental policy initiatives enacted by local governments now and in the future.

CASBEE-City Assessment Manual

Conducting Policy Research on Sustainable Cities

Institute for Global Environmental Strategies (IGES) Kitakyushu Urban Center

The Institute for Global Environmental Strategies (IGES) Kitakyushu Urban Center performs interdisciplinary research on sustainable urban development as well as handles important urban issues such as waste management, pollution regulations and transportation. Using close relationships with local governments, the central government and ASEAN, IGES researches urban-centric development and works to improve the functionality and management of its inter-city network .



Strengthening collaboration in its network of Asian cities and promoting the shift to low-carbon policies

Promoting New Urban-Rural Exchange to Help Realize a Low-carbon Society

The Organization for Urban-Rural Interchange Revitalization

The Organization for Urban-Rural Interchange Revitalization is promoting rural revitalization and urbanite lifestyle changes through green tourism programs held in rural areas that include nature experiences, work experiences in agriculture, forestry and fishing, and experiences living in a rural community. Through information collection and sharing involving new urban-rural partnerships, such as carbon offsetting, the organization is seeking to help realize the vision of a low-carbon society.

Planting seedlings in a terraced rice paddy

Promoting Low-carbon Urban Planning

Institute for Future Urban Development (IFUD)

The Institute for Future Urban Development (IFUD) is working to encourage urban planning that utilizes its Low-carbon Urban Planning Guidelines through UIT Promotion Meetings in which local governments and companies engaged in urban infrastructure and technology development take part. In addition, IFUD has recently begun independent research on low-carbon urban planning that utilizes geothermal heat pumps.

Research results presentation

Working to Realize Low-carbon, Energy Efficient Cities

Japan District Heating & Cooling Association

The Japan District Heating & Cooling Association was established in order to promote district-wide urban development and district energy usage that incorporates the latest energy-related technologies. The organization performs various research, and through technical seminars, symposiums and information sharing events on urban planning with local governments, makes active efforts toward the realization of low-carbon and more energy efficient cities.

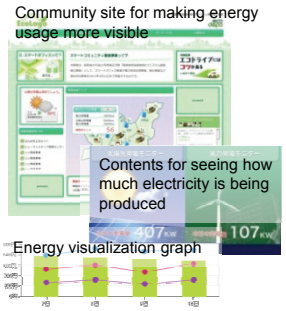
Technical seminar held in 2010

Private Sector Organizations

Developing Visualization Contents

Infomex Inc.

Infomex Inc. is promoting the greater use of IT solutions based on its track record in planning and creating contents that help make energy usage more visible. Data is accumulated, processed and released to the public through a portal site and digital signage, and through data publications for general consumers on the iPhone and Android, the company is actively working to promote as well as raise awareness toward the more efficient use of energy.

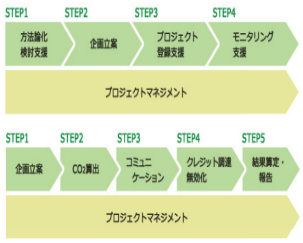


Making energy usage more visible

Helping Companies Create Emissions Credits and Providing Carbon Offsetting Services

ECONOS Co., Ltd.

ECONOS Co., Ltd. is a carbon offset provider that supports companies from upstream to downstream in a wide range of areas, including the creation of emissions credits and the provision of carbon offsetting services. The company has developed a track record in creating domestic J-VER emissions credits. It also partners with myclimate of Switzerland to provide services.



Steps involved in creating emissions credits and providing carbon offsetting services

Experimental Housing Project NEXT21

Osaka Gas Co., Ltd.

Using its 18-unit experimental housing project NEXT21, Osaka Gas Co., Ltd. is working to test and validate high-efficiency systems used in multi-unit apartment buildings, such as advanced next generation fuel cell systems, or distribution systems for electricity and heat within the complex, as well as monitor the modern lifestyles of actual tenants, with the ultimate goal of creating the sustainable home and energy systems of the future.

NEXT 21

Environmental Policy utilizing a Point Program

JCB Co., Ltd.

Since 2008, the Ministry of the Environment of Japan has been promoting the Eco Action Point Program that helps consumers see firsthand their CO_2 reductions and awards points to consumers that take action by purchasing or using a wide range of products and services that benefit the environment.

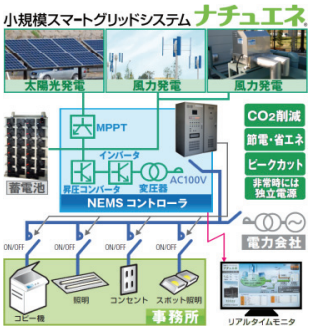
Through its involvement in this point program, JCB is supporting the environmental activities of both companies and local governments in Japan. The Eco Action Point Program website can be found at http://eco-ap.jp/.

JCB

Compact Smart Grid Development

Sinfonia Technology Co., Ltd.

Sinfonia Technology Co., Ltd. is conducting demonstration experiments on its compact smart grid system “Natuene,” which can cover the electricity needs of a small business location using renewable energy sources, such as wind, hydroelectric or solar power, at its manufacturing site in Toyohashi. The company is aiming to build a system that contributes to energy conservation through not only energy creation but also via environmental load control functions and storage cells.



Developing System Tools that Help Make Sustainability Initiatives a Reality

SuperSoftware Co., Ltd.

SuperSoftware Co., Ltd. was established in 1983 as a developer of advanced software solutions. The company has made far-reaching contributions to the conveniences and safety of modern society through its projects that have involved mobile phones, digital appliances, bank ATMs, aviation systems and railway systems. Leveraging these experiences, the company is working to create a variety of solutions make sustainable initiatives for a low-carbon society a reality.

Promoting GreenFirst Eco-friendly Homes

Sekisui House, Ltd.

Sekisui House, Ltd. is promoting its GreenFirst brand of eco-friendly homes that are comfortable, economical and considerate toward the environment. In its detached home division, the company achieved a 49.4% reduction in its CO_2 emissions in 2010 compared to 1990. Currently, GreenFirst, which employs energy efficiency measures as well as energy creating facilities such as photovoltaic power generation systems and fuel cell systems, accounts for more than 70% of the company’s new home orders.

Three benefits for homeowners

Working to Achieve Carbon Neutral Construction

Taisei Corporation

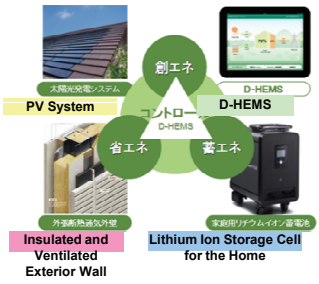
Taisei Corporation is aspiring to construct a carbon neutral building by the year 2020. In 2009, the company already achieved a 50% reduction (compared to the benchmark of Japan's Energy Saving Act) in CO_2 emissions at the Taisei Sapporo Building. Going forward, the company will promote further energy efficiency and lower carbon emissions in its buildings by utilizing newly developed cooling and lighting control systems as well as smart grid applied technologies.

The Taisei Sapporo Building, which achieved a 52% reduction in CO_2 emissions

Commercializing the SMA X Eco Original Smart Home

Daiwa House Industry Co., Ltd.

Utilizing the expertise gained from demonstration experiments at its display home with Japan's first lithium ion storage cell for residential use, Daiwa House Industry Co., Ltd. launched the SMA X Eco Original smart home brand which combines its proprietary xevo photovoltaic power generation system with the industry's first-ever home energy management system that can control lithium ion storage cells. This brand of homes cuts CO2 emissions by more than 70% compared to a conventional home.

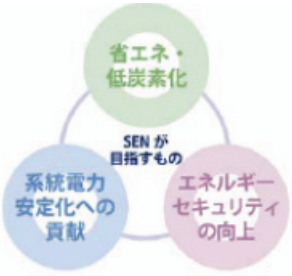


SMA X Eco Original smart home

Smart Energy Network Development

Tokyo Gas Co., Ltd.

Tokyo Gas Co., Ltd. is working to promote the development and use of smart energy networks (SEN) that optimize electricity and heat usage across a network of different buildings and communities by utilizing information communication technologies (ICT). At its Senju site in Arakawa City, Tokyo, the company is running a demonstration testing program for SEN and it expects this type of system will be able to reduce CO_2 emissions by about 30%.



The goals of SEN

Promoting KIRUCOAT – A High Performance Paint that Keeps Homes Cool in the Summer and Warm in the Winter

NHK Sales Co., Ltd.

NHK Sales Co., Ltd. is making contributions to the realization of a low-carbon society by promoting the use of its eco-friendly water-based paint KIRUCOAT, which uses a blend of microscopic air-borne beads that provide insulating qualities so that building interior temperatures do not rise during the summer and stay warm in the winter, helping to reduce cooling and heating costs. In this regard, the paint helps buildings to conserve energy year round.

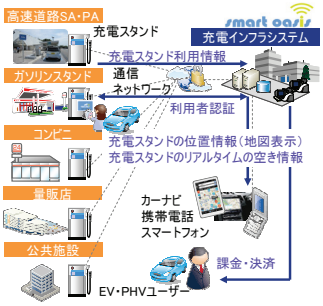
Comfortable interior spaces both in winter and summer

KRC キルコート KIRUCOAT

Developing a Recharging Station Network for EV and PHV

Nihon Unisys, Ltd.

A recharging station network is essential to the spread of electric vehicles (EV) and plug-in hybrid vehicles (PHV). Nihon Unisys, Ltd. is aiming to develop a more convenient recharging station network for EV and PHV users by working to provide user authentication, charging and payment services at recharging stations using its ICT solutions



Recharging station infrastructure network

Ensuring a Sound Environment for Japan's Urban and Rural Areas

Pacific Consultants Co., Ltd.

Pacific Consultants Co., Ltd. is providing support to businesses that help regionally propagate environmental energy under the goal of building a low-carbon society. Specifically, this entails research, planning, design and oversight of individual projects that counter global warming and implement renewable energy sources, as well as commercialization and operational support for regional environmental energy projects.

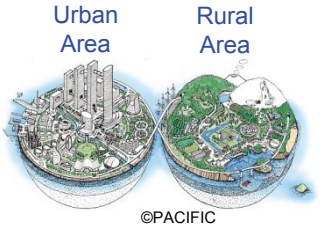


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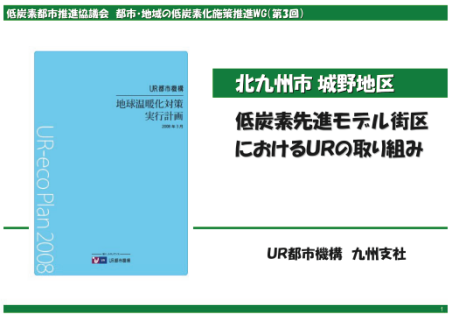
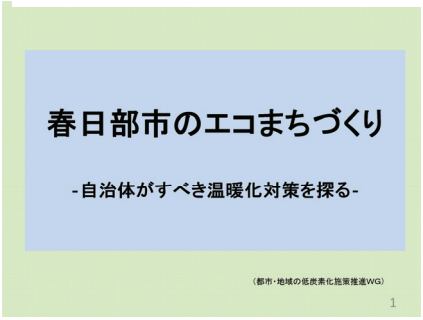
Image of a low-carbon society





Working Group on the Promotion of Measures for Low-carbon Cities and Regions

○Coordinator
City of Kitakyushu

○Participating Organizations
41 (22 municipalities, 3 prefectural governments, 4 related ministries and agencies, 8 government-related organizations, and 4 private sector organizations)

○Purpose
The necessary urban infrastructure, facilities, cooperation among residents and its support mechanisms as well as assessment methods are required in order to promote low-carbon cities or regions.
Therefore, municipalities sharing the same awareness have teamed up to conduct research to solve challenges posed by the realization of a low-carbon society.

○Results of Activities and Future Plans
(Status of Activities)
・ Established in FY2009. Three meetings were held in FY2009 and four in FY2010 (activities ended as of FY2010)
(Nature of Activities)
- **Activities related to the realization of low-carbon model districts or regions**
  The Working Group examined the challenges and effectiveness of example initiatives as well as shared information among participating organizations regarding low-carbon urban planning and homebuilding. The Working Group then organized this information into a compilation.
- **Activities related to the review of environmental performance evaluation methods for urban areas**
  The Working Group reviewed case studies, provided data and recommended improvements for CASBEE-City, an environmental performance evaluation tool for urban areas currently under development. Based on this, the Working Group examined ways to improve this tool.
- **Activities related to the compilation of low-carbon urban planning guidelines**
  The Working Group reviewed case studies as part of its efforts to work on low-carbon urban planning guidelines currently being formulated by the national government.

FY2009 1st Green Economy WG Meeting held on May 29, 2009 at the Yokohama Training Center

FY2010 3rd Green Economy WG Meeting held on November 25, 2010 at the Sakai City Industrial Promotion Center

FY2011 1st Green Economy WG Meeting site visit held on July 1, 2011 at *Kankan Kyo* at Minato Mirai in Yokohama

FY2011 2nd Green Economy WG Meeting site visit held on September 30, 2011 at Mega Solar Iida in Iida City, Nagano Prefecture

Green Economy Working Group

○Coordinator
City of Yokohama

○Participating Organizations
75 (36 municipalities, 7 prefectural governments, 6 related ministries and agencies, 5 government-related organizations, and 21 private sector organizations)

○Purpose
Global warming measures and regional revitalization must be balanced in order to sustainably implement low-carbon urban planning. The Green Economy Working Group aims to create and popularize a model for regional revitalization through the creation of mechanisms and projects that promote low-carbon approaches by having participating local governments, including environmental model cities, and other organizations work together with various entities in and outside the region to establish new business models.

○Results of Activities and Future Plans
(Status of Activities)
- Established in FY2009. Meetings held around four times each fiscal year.

[Meeting Locations] FY2009: Yokohama, Kyoto, Yusuhara Town, Shimokawa Town *Two meetings held in Yokohama
FY2010: Yokohama, Toyama, Sakai, Kyoto
FY2011: Yokohama, Iida *Two additional meetings are schedule to be held before the end of the fiscal year

(Nature of Activities)
- Create a compilation of Green Economy projects.
- Share good initiatives implemented by members and exchange views on the creation of a model for regional revitalization led by cooperation involving cities, rural municipalities and private sector companies. Create model projects initiated by members.

FY2011 1st Working Group for Sharing Challenges and Finding Solutions to Low-carbon Urban Planning meeting held on July 29, 2011 at Toshi Center Hotel in Tokyo

Working Group for Sharing Challenges and Finding Solutions to Low-carbon Urban Planning

○Coordinator
Pacific Consultants Co., Ltd.

○Participating Organizations
44 (21 municipalities, 5 prefectural governments, 4 related ministries and agencies, 5 government-related organizations and 9 private sector organizations)

○Purpose
As specific low-carbon urban planning measures are evolving a number of policy, technical and capital challenges and barriers have been found. In addition, information exchange and sharing among members of the Promotion Council for the Low Carbon Cities regarding these challenges and barriers as well as solutions have not been sufficient, meaning that requests and recommendations to related organizations and the promotion of further measures to facilitate action have yet to take place.
As a result, the Working Group for Sharing Challenges and Finding Solutions to Low-carbon Urban Planning will increase dialogue among members after organizing these challenges and barriers faced by local governments that have been among the first to initiate low-carbon urban planning measures, and will examine applicable solutions.

○Results of Activities and Future Plans
(Status of Activities)
- Established in FY2011. Three meetings held during FY2011.

(Nature of Activities)
- **Activities to identify and share challenges and barriers to low-carbon urban planning**
  Identify, organize and share policy, technical, capital and other challenges and barriers based on information from members with practical working level experience in low-carbon urban planning measures at the local government level.
- **Activities to organize and share expertise and ideas on solutions for low-carbon urban planning**
  Organize ideas regarding solutions and the direction of challenges and barriers and compile these into a how-to report for information provision to working level professionals in the field.

Best Practices Expansion Working Group

『低炭素都市づくりベストプラクティス』表彰式
Award ceremony for Low Carbon City Best Practices at the International Conference on Promoting the Low-Carbon Cities in Kyoto held on February 2, 2011 at the Kyoto International Conference Center in Kyoto Prefecture

○Coordinator
Regional Revitalization Bureau, Cabinet Secretariat

○Participating Organizations
26
(14 municipalities, 3 prefectural governments, 4 related ministries and agencies, 2 government-related organizations, and 3 private sector organizations)

○Purpose
The Best Practices Expansion Working Group was established with the purpose of popularizing best practices implemented by members of Promotion Council for Low Carbon Cities across all local governments in Japan, where possible, by sharing the lessons learned and the challenges discovered by members with working level experience in the field.

○Results of Activities and Future Plans
(Status of Activities)
- Established in FY2010. Three meetings held within the fiscal year. (*activities ended as of FY2010)

(Nature of Activities)
- Case studies and relevant information were shared on best practices initiated by members of the Promotion Council for Low Carbon Cities so that these could be transferred and adopted by other local governments and organizations across Japan.

Working Group on Examining Uniform Criteria for Greenhouse Gas Emission Calculation Methods


FY2011 2nd Working Group on Examining Uniform Criteria for Greenhouse Gas Emission Measurement Methods meeting held on November 9, 2011 at the Cabinet Secretariat's office in Tokyo

○Coordinator
Regional Revitalization Bureau, Cabinet Secretariat

○Participating Organizations
34
(17 municipalities, 1 prefectural government, 4 related ministries and agencies, 4 government-related organizations, and 8 private sector organizations)

○Purpose
The Working Group on Examining Uniform Criteria for Greenhouse Gas Emission Measurement Methods was established in order to find uniform criteria for the calculation of greenhouse gas emissions in environmental model cities by examining calculation methods for initiatives where it is difficult to quantify greenhouse gas reduction amounts as well as sharing information on calculation methods and necessary data collection methods for the early calculation of greenhouse gas emission and absorption amounts.

○Results of Activities and Future Plans
(Status of Activities)
- Established in FY2011. Three meetings held during the fiscal year.

(Nature of Activities)
- Examine uniform criteria and share challenges relating to the early calculation of emissions amounts. Calculate emissions based on this uniform criteria.

Direct inquiries to:

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Tel: +81-3-5510-2199 / E-mail: g.eco_model@cas.go.jp

環境モデル都市構想～未来へのまちづくり

Eco-Model City Project - Sustainable City for Future