

# Best Practice in Low-Carbon City Development 2010



## ● Purpose

Best practices are forward-thinking arrangements recognized to contribute to the huge reduction of greenhouse gas on an intermediate- and long-term basis while making the most of local resources. Such arrangements are some of the activities of the working groups<sup>2</sup> of the Promotion Council of the Low Carbon Cities (PCLCC<sup>\*1</sup>). The working groups were established to make a surge of social changes, such as lifestyle and business style changes, toward the creation of low-carbon cities.

Best practices are awarded in the aim of disseminating such forward-thinking arrangements widely among local governments participating in the PCLCC and promoting low-carbon cities to be global models.

### \*1. Promotion Council of the Low Carbon Cities (PCLCC)

Municipalities, prefectures, ministries, and organizations highly concerned about the reduction of greenhouse gas emissions established the PCLCC in December 2008 for the purpose of expanding the excellent arrangements of environmental model cities to all areas throughout Japan and the transmission of the ideas of the arrangements worldwide. There are 193 organizations participating in the PCLCC as of December 1, 2010.

### \*2. Working Groups

Working groups (WGs) belong to the PCLCC. Three WGs were established in 2010, i.e., the WG for Urban and Regional Low-carbon Promotion, the Green Economy WG, and the WG for Nationwide-type Best Practice Dissemination.

## ● Criteria (for each best practice)

- Its effect on a social change is conspicuous (worth contributing to a lifestyle or business style change).
- Its effect on a reduction of greenhouse gas is conspicuous (on an intermediate- and long-term basis).
- It has a leadership or model nature (and the dissemination of its arrangements to other cities is expected).
- Its sustainability is ensured (e.g., its implementation system has been established and economic self-sufficiency is expected)
- It is promoting regional cooperation (i.e., the region-wide participants are expected).
- Its effect on regional activation is conspicuous.

## ● Selection method

The PCLCC grants a “grand prize” to a best practice if the Executive Committee of the PCLCC considers that the best practice meets with the above six criteria, provided that the best practice passes preliminary screening under a scoring system and secondary screening by the voting of four experts.

The PCLCC grants a “special award” to a best practice if the Executive Committee considers that the best practice is highly useful in a particular field, provided that the best practice passes preliminary screening under a selection system and secondary screening under the scrutiny of four experts.

## ● Course of screening

### Preliminary screening

A total of 26 applications were submitted and screened to select a grand prize and special award separately.

Six applications as grand prize candidates were preliminarily selected under the scoring system.

Nine applications as special prize candidates were selected with consideration of the following viewpoints presented during the screening session.

### [Viewpoints presented]

- a. Cooperation within the same sector or enterprise or between different sectors or enterprises (e.g., within the same municipality or between municipalities, municipalities and enterprises, enterprises and other enterprises).
- b. Arrangements leading to the next generation or in which residents play major roles.
- c. Arrangements utilizing existing facilities, infrastructures, or accumulations (in particular, accumulations that were negatively accepted in the past).

□ Secondary screening

The four experts scrutinized the six candidates for the grand prize and unanimously voted for Toyama's *LRT Network Formation* as the best candidate.

Various opinions were given during the secondary screening of the nine special prize candidates preliminarily selected, based on the opinions, the experts voted for eight of them (excluding Toyama's *LRT Network Formation*) as the best candidates.

These candidates were approved by the Executive Committee of the PCLCC and officially determined to be the grand prizewinner and special prizewinners.

● Judges

○ Preliminary Screening Committee Members

Administrative organizations of PCLCC

Municipalities: Shimokawa, Aomori, Yokohama, Toyama, Mitake, Nagoya, Kyoto, Hiroshima, Kochi, and Miyakojima (cities except for Shimokawa and Mitake, which are towns)

Prefectures: Hokkaido, Saitama, Gifu, Aichi, and Osaka

Ministries concerned: Cabinet Secretariat, Ministry of Agriculture, Forestry and Fisheries, Ministry of Economy, Trade and Industry, Ministry of Land, Infrastructure Transport and Tourism, and Ministry of the Environment

\* Secretary General: Kitakyushu (city)

○ Secondary Screening Committee Members

Building Research Institute Chief Executive Shuzo Murakami (Chairman)

Integrated Research Institute, Professor Takao Kashiwagi

Tokyo Institute of Technology

Toyo University Extraordinary Professor Tsuyoshi Fujita

Institute for Policy Studies Visiting Professor Taizo Yakushiji

● Results of screening

(1) **Grand prize** ○ **Toyama's LRT Network Formation**  
(2) **Special prizes** ○ **The following eight best practices.**

~ A case example of forest management and cooperation between local governments from a new viewpoint.~

○ **Shimokawa-cho: Forestation Project in Cooperation with Leading Environmental Enterprises and Organizations**

~ A case example of activities under the cooperation of cities and villages~

○ **Yokohama: Joint Project with Doshi Village, Yamanashi Prefecture**

~ A case example of activities in cooperation with a financial institution~

○ **Sakai: Joint Project with Sakai Eco-Finance Supporters Club**

~ A case example of enterprise activities backed up by a local government~

○ **Kitakyushu: Project to Create Kitakyushu Eco-premium Industries**

~ Case examples of activities of practical education to children bearing the next generation~

○ **Kyoto: Visualization of Power Consumption of Municipal Educational Institutions (Primary and Secondary Schools and Kindergartens) and Power-saving Initiatives**

○ **Ube: Fifty-Fifty Project (Project for returning the saved cost of heat, light, and water)**

~ A case example of resident-lead activities at home~

○ **Anjo: Anjo Project for 30% Reduction of Greenhouse Gas Emissions**

~ A case example of activities with good results expected in the future. (Good planning award)~

○ **Kitakyushu: Kitakyushu Smart Community Creation Project**

# 1 Grand Prize (One Best Practice)

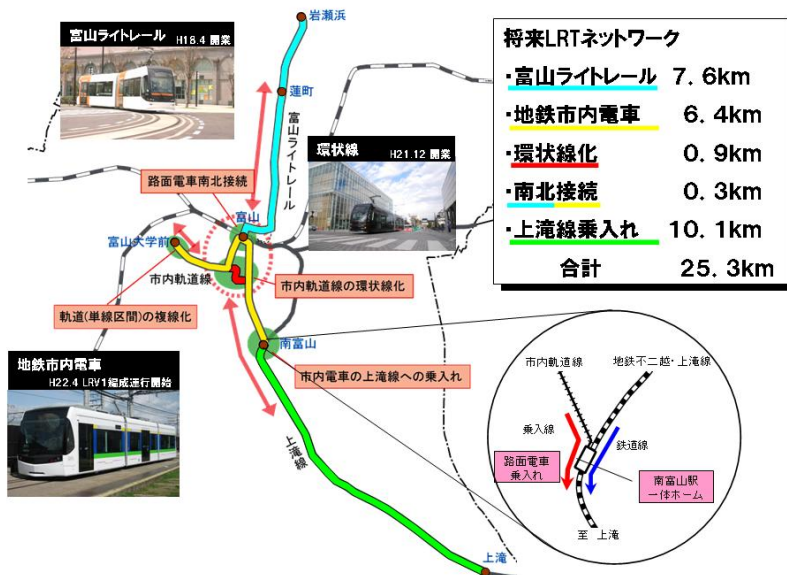
## ○ Toyama: LRT Network Formation

The Toyama Municipal Government is advancing the formation of a light rail transit (LRT) network in order to realize a compact and convenient town centered on public transportation. Its plan includes the conversion of JR's existing Toyama Port Line into an LRT system \*(1), the modification of the City Train Line into a loop line \*(2), the north-south connection of the City Tram Lines \*(3), and an extension of the City Train Line to the Kamitaki Line of the Toyama Chihou Tetsudou (a local railroad company) \*(4). The plan aims to realize a town with ease of transportation, reduce the operating cost of the city, build a sustainable intensive urban structure, and change people's excessive automobile-dependent lifestyle, thus promoting the reduction of greenhouse gas emissions. As for the conversion of the Toyama Port Line into the LRT system, the number of people using the new Toyama Port Line has increased as many as 2.6 times since it came into operation. There has been an approximately 12% increase in the number of users who changed their means of transportation from automobiles. People's review in the use of automobiles is making progress in Toyama. In the meantime, there has been a 1.6-time increase in the number of houses newly constructed along the Toyama Port Line and a 3.5-time increase in the number of people visiting tourist facilities. Furthermore, the plan has created new opportunities for elderly people to go out. It can be said that the multi-faceted community revitalization effect of the plan has been reflected in Toyama.

The number of people using the city train has increased by approximately 15% since the City Train Loop Line came into operation. The development of public transport has accelerated urban migration, thus contributing to the vitalization of town. A track/service separation system has been applied to the Loop Line, which has demonstrated that a local city with insufficient means of transportation can realize a sustainable public transport system.

As for the reduction effect of greenhouse gas emissions, a CO<sub>2</sub> reduction of approximately 64 tons a year is expected from the LRT system applied to the Toyama Port Line. Furthermore, a CO<sub>2</sub> reduction of at least 131 tons a year will be expected in the future when the LRT network is completed.

- \*① A decrease in the number of people using the JR Toyama Port Line was significant. The project revived it into the nation's first LRT system with the establishment of new LRT stations, the introduction of low-floor cars, and a service level improvement with a great increase in the number of runs. The system came into operation in April 2006.
- \*② The project is adopting a track/service separation system, in which the Toyama Municipal Government owns the tracks and maintains them at its expense while the private sector leases the facilities and is responsible for the operation of passenger trains on the tracks. In the project, a part of the existing tracks in town was extended into a loop line in the aim of accelerating urban migration in Toyama. The Loop Line came into operation in December 2009.
- \*③ This project aims for a transportation network improvement in the city center and northern part by connecting the LRT system on the north of Toyama Station and the City Train Line in the south of Toyama Station, following the modification of Toyama Station into an elevated station and the development of its vicinity.
- \*④ This project aims for the functional reinforcement of the LRT network by connecting the City Train Line to the Kamitaki Line of the Toyama Chihou Tetsudou (a local railroad company).

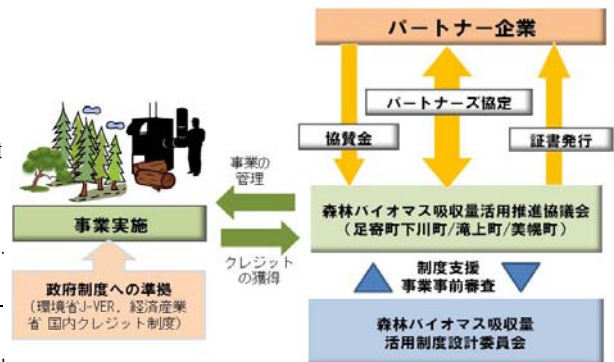


## 2 Special Prizes (Eight Best Practices)

### ○ Shimokawa-cho: Forestation Project in Cooperation with Leading Environmental Enterprises and Organizations

Hokkaido's Shimokawa-cho in wide-area cooperation with three other towns in Hokkaido, i.e., Ashiyoro-cho, Takinoue-cho, and Bihoro-cho, has been advancing this project in collaboration with leading environmental enterprises and organizations. A certain amount of carbon offsets is expected from this project. That is, the project uses the CO<sub>2</sub> absorption function of the forests in the region as environmental resources, and realizes the reduction and absorption of greenhouse gas emissions and maintains the sustainable development of the project subsidized by the carbon offsets. The project has issued an offsetting credit of 5,688 tons of CO<sub>2</sub> up to now in accordance with the Japanese Verified Emissions Reductions Certification (J-VER) of the Ministry of the Environment, Japan (MOEJ).

Evaluation: The project has been practicing forest management from a new viewpoint by making use of the CO<sub>2</sub> absorption function of forests. Furthermore, the project can be a model of municipality cooperation in the environmental field (the municipality cooperation of isolated areas).



### ○ Yokohama: Joint Project with Doshi Village, Yamanashi Prefecture

The City of Yokohama established the Joint Study Group of Three Parties on Global Warming jointly with Doshi Village and Yamanashi Prefecture in July 2008. The project held a Doshi Village tour (including tree-thinning experience), and established a Doshi reforestation fund and started a registration system of tree-thinning area. Furthermore, the project made improvements in privately owned forests, and established a system to implement carbon offsetting under the CO<sub>2</sub> absorption certification system of Yamanashi Prefecture. Besides, the project included a water eco project (WECOP) for the maintenance of Yokohama's water resource forests and the sale of mineral water under the brand name "Hamakko-Doshi The Water," which is sourced from a limpid stream that flows into the Doshi River, the sales of which are partly used for the carbon offset system of the APEC Yokohama. The project combines the forest resources of the rural mountainous area and the human resources and technology of the urban area in the aim of a project expansion beyond the prefectural borders and an increase in the interaction of people.

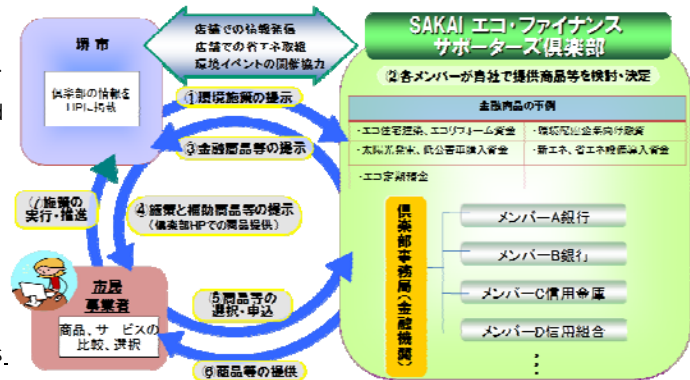
Evaluation: This project is a model of the functional lateral cooperation between urban and rural areas. It is essential to make a lateral expansion of the project by making use of the characteristics of the areas.



### ○ Sakai: Joint Project with Sakai Eco-Finance Supporters Club

The City of Sakai entered a mutual agreement with the Sakai Eco-Finance Supporters Club, which was established by 22 financial institutions, and jointly making a variety of arrangements toward the establishment of a low-carbon town. The arrangements include the following ones. (1) Information service (e.g., the browsing of lists of financial products offered by the participating financial institutions). (2) Provision of financial products and service (e.g., the development of products under the partnership between Sakai and the participating financial institutions). (3) Enlightenment and public relations activities (e.g., the exhibition of eco booths at events sponsored by Sakai). (4) Implementation of the Sakai Environment Business Fair.

Evaluation: This project embodies a new concept of finance, and the collaboration with the financial institutions will directly promote the development of low-carbon business.



**○ Kitakyushu: Project to Create Kitakyushu Eco-premium Industries**

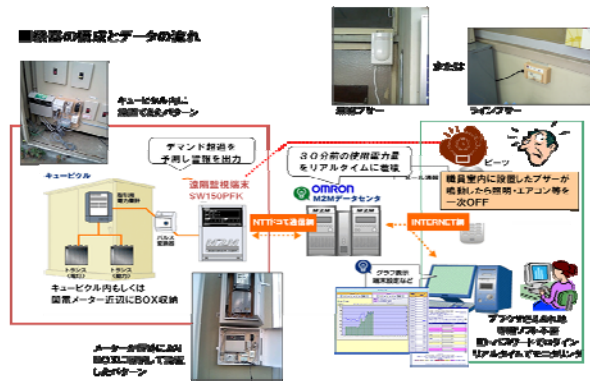
Kitakyushu selects and announces eco-products and eco-services as eco-premiums contributing to a reduction in environmental impact from industrial and technical arrangements made in the city of Kitakyushu, thus promoting industry-wide environmental activities conducted in the city and expanding and disseminating environment-friendly products and services. Up to now, 139 eco-products and 29 eco-services have been selected (i.e., a total of 168 eco-premiums). Furthermore, the municipal government has been focusing on and selecting innovative and unique eco-premiums with excellent marketability as recommended eco-premiums since 2006.



Evaluation: The manufacture of environment-friendly products increases CO2 emissions in the city. The promotion of disseminating the products, however, will encourage other cities to start similar arrangements. The directionality of the project is highly evaluated, and the quantization of reduced greenhouse gas emissions is expected in the future.

**○ Kyoto: Visualization of Power Consumption of Municipal Educational Institutions (Primary and Secondary Schools and Kindergartens) and Power-saving Initiatives**

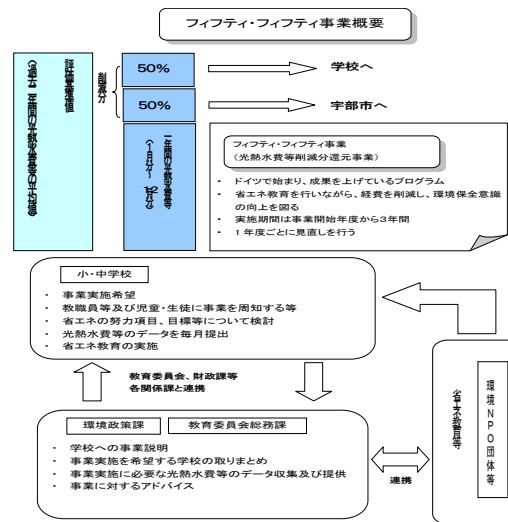
The Kyoto Municipal Board of Education took the initiative in introducing power monitors to all the municipal educational institutions (approximately 300 institutions) of Kyoto in fiscal 2006 with the cooperation of OMRON Corporation. This is a part of Kyoto's activities of making environment-friendly schools, and these power monitors will visualize the daily power consumption and maximum power demand of each municipal educational institution. Besides, Kyoto introduced an alarm system to 251 schools with a minimum contract power of 50 kW so that an alarm goes off when the power consumption of any of the schools reaches the target maximum power demand, thus alerting the school to save its power consumption. In addition, Kyoto has constructed a system to get intensive information in real time through the Internet and an incentive arrangement for the educational institutions for their power-saving efforts.



Evaluation: By giving environmental education to children who bear the next generation, the dissemination effect of the education to home and community activities is expected.

**○ Ube: Fifty-Fifty Project (Project for returning the saved cost of heat, light, and water)**

This project has been implemented since fiscal 2006, in which teachers and pupils at Ube municipal primary schools and junior high schools have been cooperating and practicing energy-saving activities as a part of environmental education, thus giving back part of utility charges saved to the schools. This project started in the aim of raising their awareness of environmental maintenance. The name Fifty-Fifty Project was decided because half the saved expense is given to the schools. This kind of project is the first trial in Yamaguchi Prefecture.

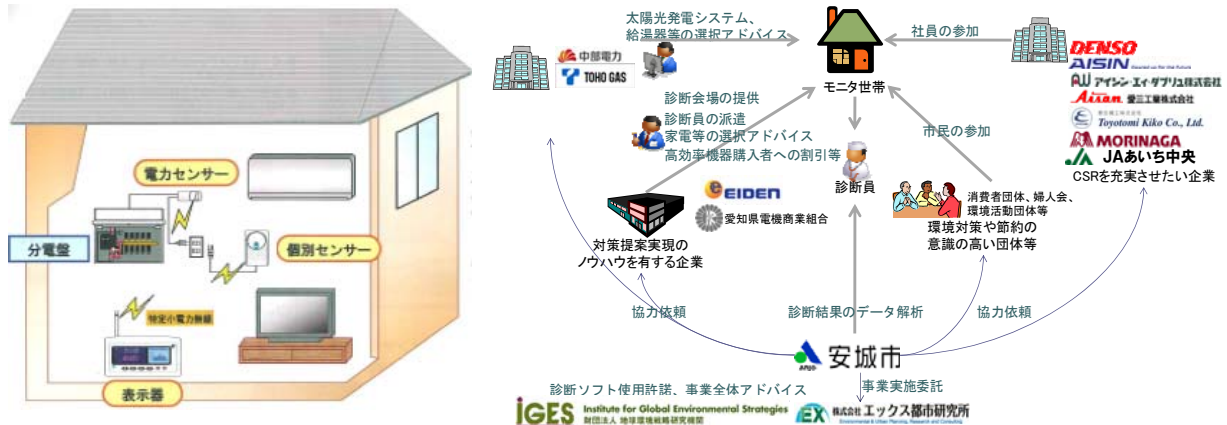


Evaluation: By giving environmental education to children who bear the next generation, the dissemination effect of the education to home and community activities is expected.

## ○ Anjo: Anjo Project for 30% Reduction of Greenhouse Gas Emissions

This project aims for a 30% reduction of greenhouse gas emissions from the household sector in the end, and implements sustainable practical arrangements that reduce wasteful energy costs, thus leading to the reduction of greenhouse gas emissions profitable to households. In fiscal 2008 and 2009, the project implemented a comprehensive CO2 reduction program focused on "visibility," covering 267 monitor households with an energy-saving navigator installed at each of the households. This program visualized the daily energy consumption of each household, provided the households with energy-saving information, issued diagnostic reports, gave eco points to the households according to their energy-saving achievements, and supported their sustainable energy-saving efforts.

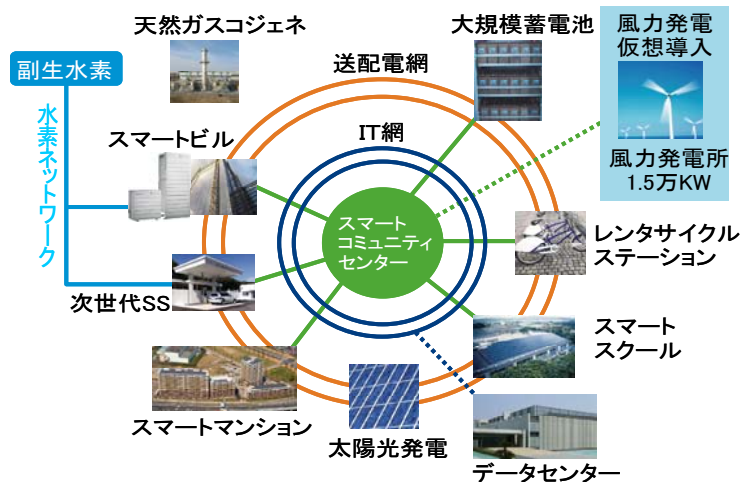
Evaluation: Residents have been taking the initiative in conducting energy-saving activities to suppressing the increasing amount of CO2 emissions from the household sector.



## ○ Kitakyushu: Kitakyushu Smart Community Creation Project

This project focuses on the demonstration of next-generation energy resources, such as solar power, and devices related to next-generation energy resources in Kitakyushu's Higashida industrial area (approximately 120 ha large). The project evaluates a variety of infrastructures including communication, urban development, transportation systems, and lifestyles as well in the aim of realizing ideal next-generation energy and social systems. To be concrete, the project includes the implementation of the following items. (1) Maintenance of block imposed with a new-energy consumption rate of 10%, (2) Introduction of energy-saving systems to buildings, (3) Construction of a regional energy management system based on a regional power-saving station, (4) Construction of an ideal next-generation local social structure, and (5) Transmission of information to overseas areas, such as Asian countries.

Evaluation: The future of the project is promising, and Kitakyushu has been selected as a next-generation energy and social system demonstrating area while Kitakyushu is planning and advancing the project as the main program of Kitakyushu as an environmental model city. An expansion of the results of the project to other areas is highly expected.





**Promotion Council for the Low-Carbon Cities**  
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