

Eco-Model City Initiatives in the Town of Yusuhara



Town of Yusuhara, Kochi Prefecture

Yusuhara Profile

- Location: Along the border between Kochi Prefecture and Ehime Prefecture
- Near the source of the Shimanto River
- Area: 23,651 ha (91% of which is forest)
- Elevation: 220 to 1,456 m (with snow accumulation during the winter)
- Annual average temperature: 13.4°C (averaged over the last 10 years)
- Population: 4,010 (1,796 households)
- Aging rate: 41.11% (65years and older)
- Principal industries: Agriculture and forestry

Regional Development in Yusuhara

A forest- and water-centric cultural plan: The 3K Plan

Yusuhara is committed to a basic philosophy for the 21st century that is based on working with residents to develop a happy community in terms of environment, health, and education by learning from the wisdom of its predecessors and realizing a society based on the principles of coexistence with nature and recycling.

<3K Plan>

Networks for having fun learning together while maintaining and improving health

- Healthy living based on learning
- Emphasis on prevention
- Forest therapy

Environment
"Kankyo"

Production of safe products that take advantage of local environmental conditions

- Eco-Model City initiatives
- FSC certification
- Local production for local consumption

Health
"Kenko"

Education
"Kyoiku"

Learning opportunities that utilize the natural environment

- Hands-on learning
- "Jointly managed forest"

Overview of Yusuvara's Low-carbon Initiatives

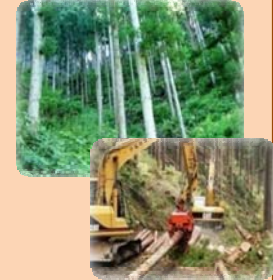
Wood Biomass Regional Recycling Model Business Project

- Implement recycling of regional resources, for example through the production of wood pellets through a cooperative effort by government and residents.
- Expand joint forest development projects with businesses.
- In the future, aim to develop sustainable businesses that take advantage of domestic credit transactions.



Forest CO₂ Absorption Project

- Implementing sound forest development practices and streamlining operations
 - Promote forest management, for example using revenue from the sale of wind power.
- Implementing sustainable forest management
 - Acquire FSC forest certification by practicing appropriate forest management, thereby adding economic value, providing employment opportunities, and stabilizing forest management.



CO₂ Reduction Project

- Meet 100% of power requirements in the industrial, business, and household sectors by actively developing wind, micro-hydro, and solar power generation.
- Collect used cooking oil and produce biodiesel fuel (BDF).
- Expand wood pellet consumption by popularizing pellet-fired equipment.



Human Resource and Mechanism Development Project

- Continue and ensure broad social acceptance for efforts to develop a low-carbon society by revitalizing local communities through human resources development programs targeting all ages, exchange and partnership programs with other cities and business, and by promoting environmental industries such as forest therapy.



Utilizing Revenue from the Sale of Wind Power to Fund Environmental Measures

Use revenue from the sale of wind power to
(1) popularize CO₂ emission reduction equipment and (2) develop CO₂ sinks.



Utilization of some revenue from the sale of wind power

① Provide subsidies of 200,000 yen per kilowatt for the installation of solar panels and of 1/4 the cost associated with the installation of pellet stoves and other appliances.



(Left) Solar panel installation
(Above) Pellet stove

② Provide a subsidy of 100,000 yen per hectare to forest owners who thin their land.



Agreement with town

Thinning

Subsidy



Yusuhara Initiatives to Promote Local Cyclical Use of Wood Biomass

【Joint project involving Yusuhara, the local Forestry Cooperative, Kochi Prefecture, and Yazaki Corporation】



① Creation of employment opportunities in intermediate and mountainous areas by promoting the use of unused biomass

② Conversion to wood pellets and production as a domestically produced source of energy

③ Use of heat derived from wood pellets

④ Regeneration of devastated forests and maintenance of water sources

Example installation

Special-care nursing home



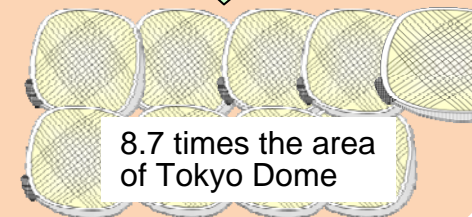
Example installation
Yusuhara Junior High School
CO₂ reduction of 31 t-CO₂/year

【Benefits of wood pellet heat utilization】

◆ Facilities in Yusuhara being supplied with wood pellet heat in FY 2008

- Four facilities operating a total of six biomass Aroace boilers
- Two facilities operating a total of two biomass boilers

- Annual CO₂ reduction of 348 t-CO₂
- Man-made cryptomeria forest annual absorption area (348 t-CO₂ → 40.8 ha)



Cooperative Initiatives Involving the Forestry and Construction Industries

A local revitalization project undertaken in conjunction with the construction industry
Yusuhara Forest 3R Project

Yusuhara Forest 3R Promotion Council

Construction industry (association)

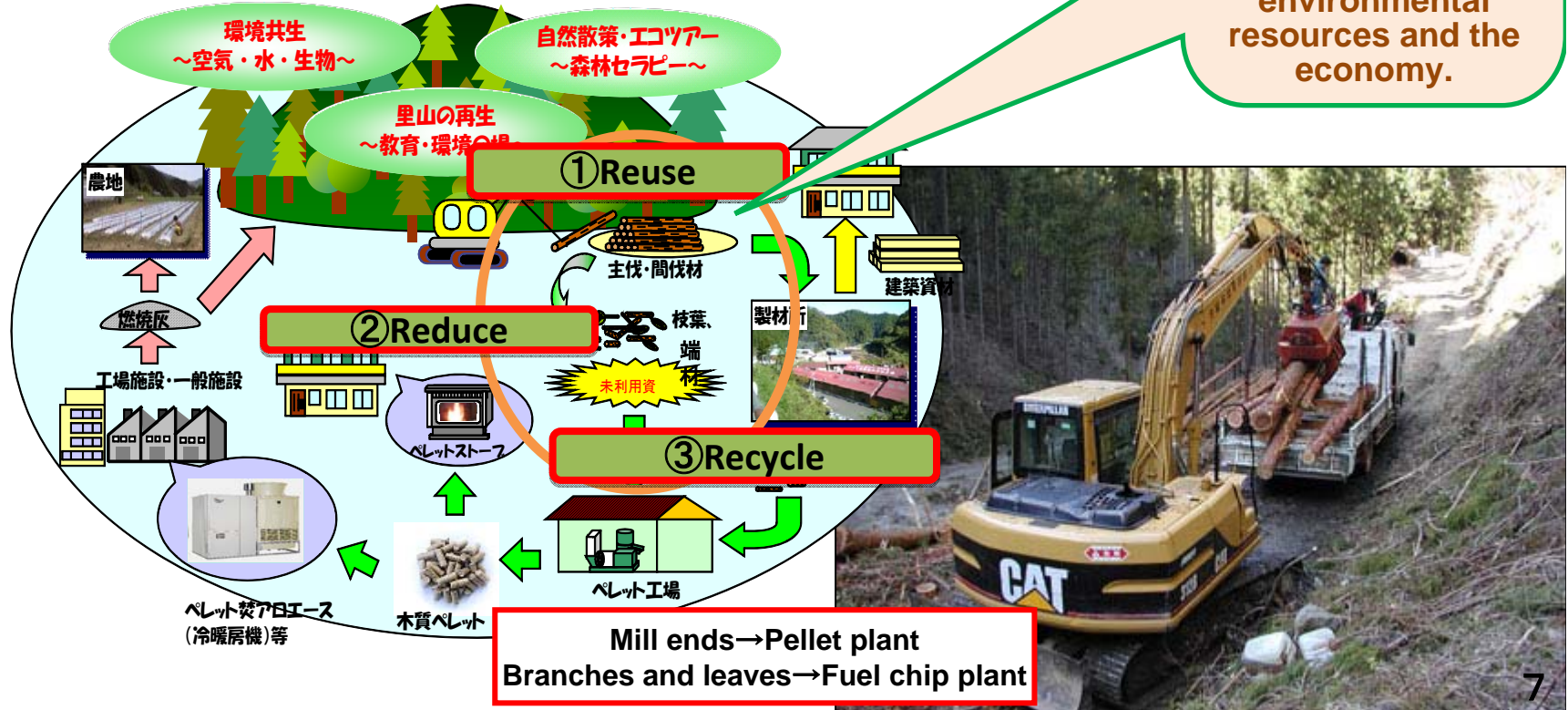
Yusuhara Forestry Cooperative

Town of Yusuhara

Kochi Prefecture

Creation of an energy-recycling society that coexists with the environment

Yusuhara Forest 3R Project
 The construction and forestry industries are working together to develop cyclical mechanisms for environmental resources and the economy.



Popularizing LCCM Housing with Model Homes

This initiative will build long-lasting model homes and have interested parties such as seasonal residents and city residents who have opted to move back to a smaller community use them for a fixed period of time. By creating Japan's first example of lifecycle carbon minus (LCCM) housing, the project will both help lure permanent residents to the area and contribute to the popularization of homes with extensive CO₂ reduction benefits.

What is LCCM?

Harvesting of trees

Manufacture of lumber

Processing

Construction

Disposal

Improvements

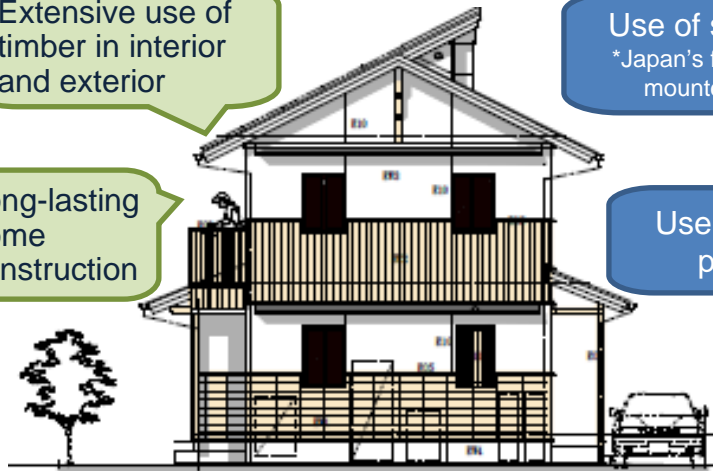
Repairs

Use of home



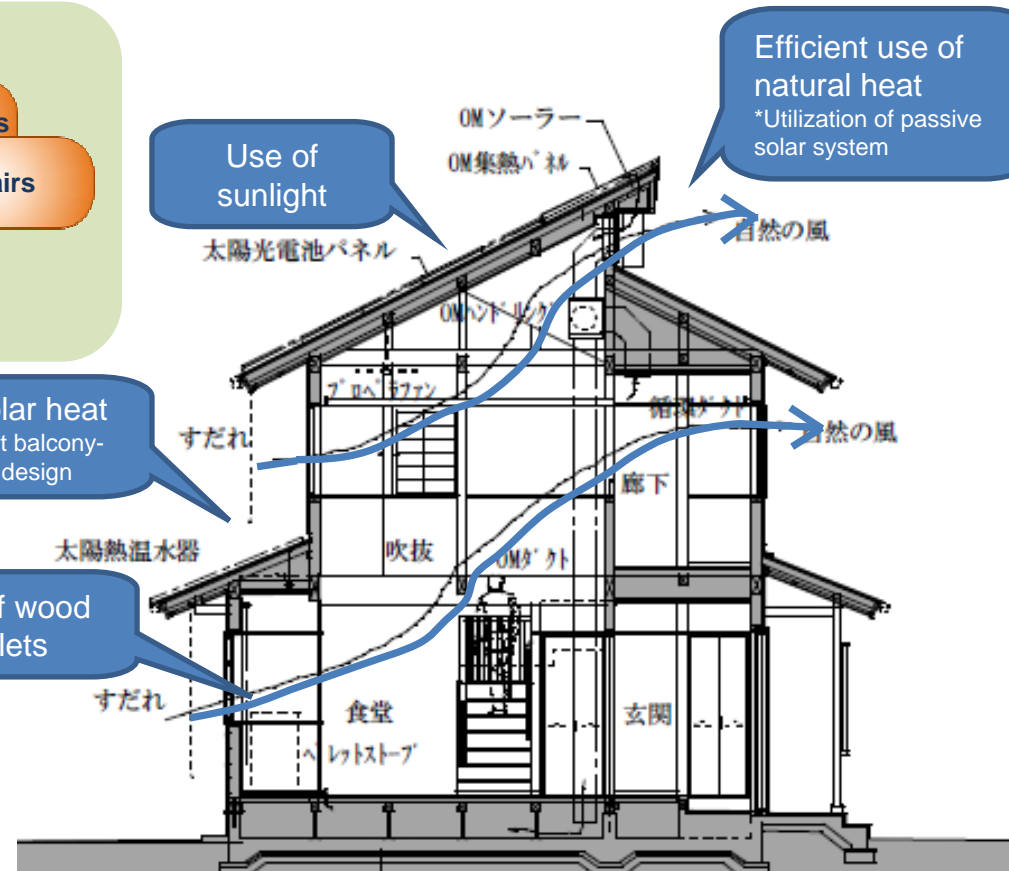
Extensive use of timber in interior and exterior

Long-lasting home construction



Use of solar heat
*Japan's first balcony-mounted design

Use of wood pellets



Efficient use of natural heat
*Utilization of passive solar system

Use of sunlight

太陽光電池パネル

すだれ

太陽熱温水器

すだれ

吹抜

食堂

ヘルメットストア

OMが外

玄関

廊下

信楽が外

自然の風

自然の風

Future Developments

○ New initiatives that take advantage of local resources

- Steadily promoting forest development and the utilization of wood biomass
- Increasing the number of wind power facilities as a means of promoting the installation of equipment designed to provide energy self-sufficiency

○ Creation of a Yusuhara Eco-Model City Promotion Council

- Active promotion of resident initiatives and expansion of support programs by industry, academia, and local government

○ Implementation of emissions trading

- Working to improve the multi-faceted functionality of forested land and contributing to the cyclical use of additional resources by providing credit for forest development

Through these initiatives, Yusuhara will pursue an approach to town planning that harmonizes resource recycling with community revitalization.

- We're striving to slash greenhouse gas emissions by 70% by 2050 and to increase CO₂ absorption capacity by 4.3 times (compared to 1990).
- We're also striving to achieve a mountain village-style low-carbon society through the Eco-Model program and to exceed 100% energy self-sufficiency by utilizing local resources.

Artist's conception of Yusuhara's future as an eco-friendly, low-carbon society

