

Program for recycling technologies and systems

Developing technologies and systems for recycling end-of-life products and waste

At the product level, each sector of Japanese society, industry, academia, and government is currently working to promote the recycling of post-consumer products and waste (based on separate recycling laws, including the Containers and Packaging Recycling Law, the Home Appliance Recycling Law, the Construction Material Recycling Law, the Food Recycling Law, and the End-of-Life Vehicle Recycling Law). The Biomass Nippon Strategy is another initiative designed to promote the research and development of technology relating to the use of biomass.

At the regional scale, the Ministry of Economy, Trade and Industry and the Ministry of the Environment are jointly implementing the Eco Town Project, which supports the regional creation of Sound Material-Cycle Societies. The project supports the goal of “zero emissions” as the basic framework for creating an environmentally friendly regional economic society. The “zero emissions” goal is also regarded as a core pillar of regional economic revitalization to promote environmentally friendly regional economic development. The project supports the development of technology that creates advanced and environmentally sound business.

Promotion of regional materials recycling

Current research projects aim to promote the recycling of materials in a designated region. One example is the research being carried out on Yakushima Island, Kyushu, which is a UNESCO World Heritage Site. The project aims to produce a model that provides analytical and simulated results about the environmental impacts associated with socio-economic activities in several future scenarios for sustainable development. Given the unique environmental and geographical conditions of Yakushima Island, the project also aims to provide a plan for improving the island's economy as well as a manual or blueprint that can be used to develop other sustainable regions. The results will be disseminated domestically and internationally to promote cultures that emphasize sustainability.

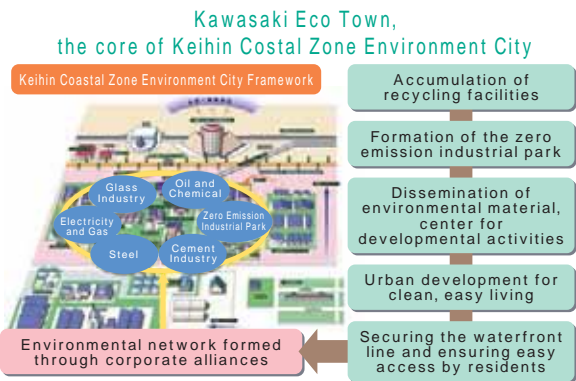
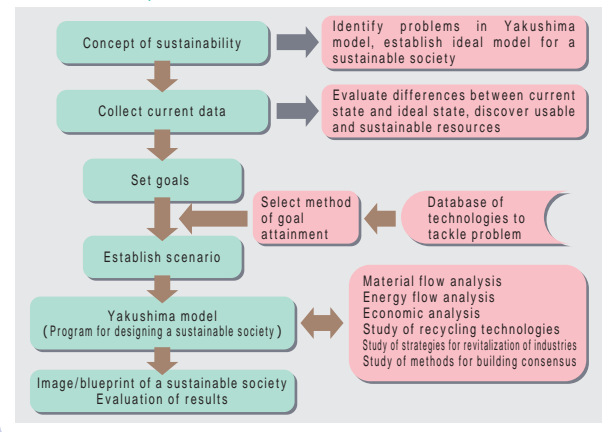


Image of a sustainable society, and methods of establishing a blueprint, taken from the Yakushima model.



Program for appropriate disposal technologies and systems

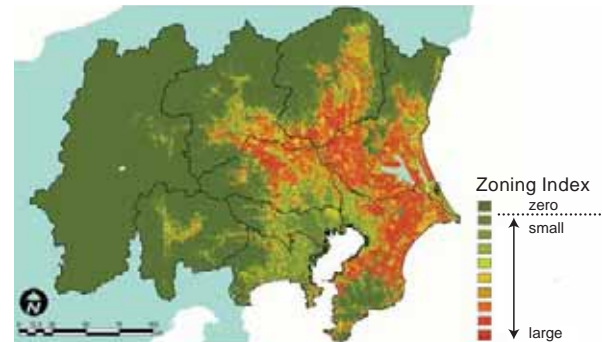
Appropriate disposal of waste products, and monitoring and control of waste disposal sites

Research is currently underway into technologies for 1) reducing waste volume, improving waste reuse, and decontaminating hazardous waste, 2) monitoring and reclaiming waste disposal sites, and 3) rehabilitating polluted sites. These efforts aim to combat various waste disposal problems, including relieving the pressure on waste disposal sites, handling waste products, and preventing illegal disposal and environmental pollution through inappropriate waste processing. Furthermore, there is a strong need to monitor related substances and processes to ensure that waste is appropriately reused or disposed of safely and securely. Such monitoring encourages the reuse of waste products and prevents environmental pollution during disposal and processing. These monitoring technologies are currently being developed.

Development of technology for decomposing hazardous waste

Public anxiety is growing concerning the adverse effects on both people and the environment of residual chemicals such as dioxins in hazardous waste. This is due to the discovery of inappropriately discarded waste products and the detection of residual chemicals on regional and global scales. Examples of problems caused by inappropriate waste management include the Love Canal incident in the US and the Seveso Incident in Italy, both of which occurred in the 1970's, and the Teshima Incident that occurred in Kagawa Prefecture, Japan, in the 1980s. In addition, residual chemicals such as PCBs, Hexachlorobenzene (HCB), and DDT have been detected in many places. These incidents of pollution and detection of residual chemicals do not merely cause anxiety about their effects on individuals and the environment, but also have an extremely large impact on the industrial economy and international society. Therefore, there is a strong need to develop technologies for decomposing hazardous substances.

Map of potential sites of illegal waste disposal (25m mesh, integrated level zoning analysis)



Residual organic contaminants divided according to those used intentionally and those that are unintentional by-products.

