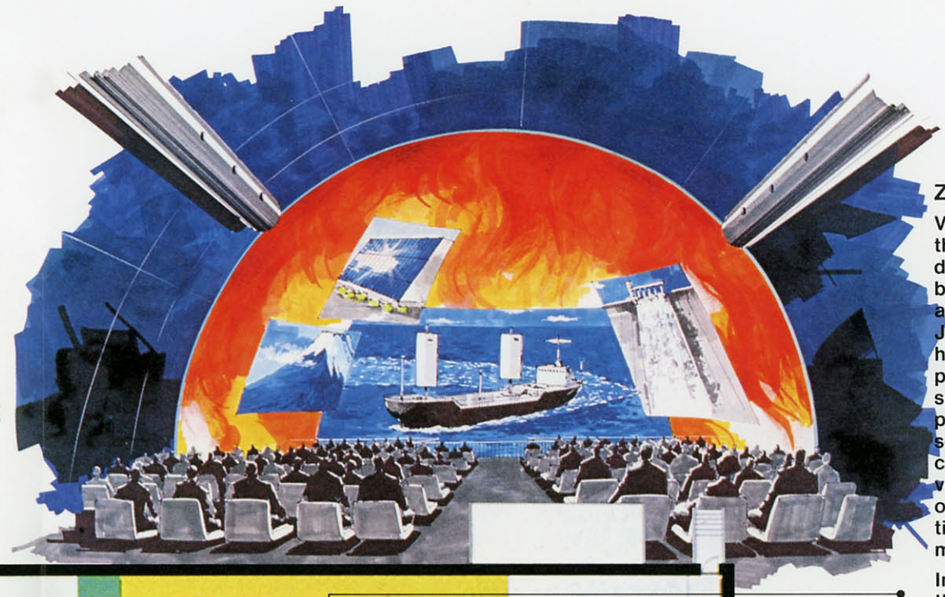
JAPAN PAVILION

**In considering the problems of energy,
the Japanese have reappraised their ideas of Japan,
the world, and the earth.
These new perspectives, together with various other tasks
required for the survival of the earth and mankind,
now lie before us.
Now is the time
for us to call upon our wisdom
to ensure the future happiness of man.**

THE 1982 WORLD'S FAIR™

The Knoxville International Energy Exposition

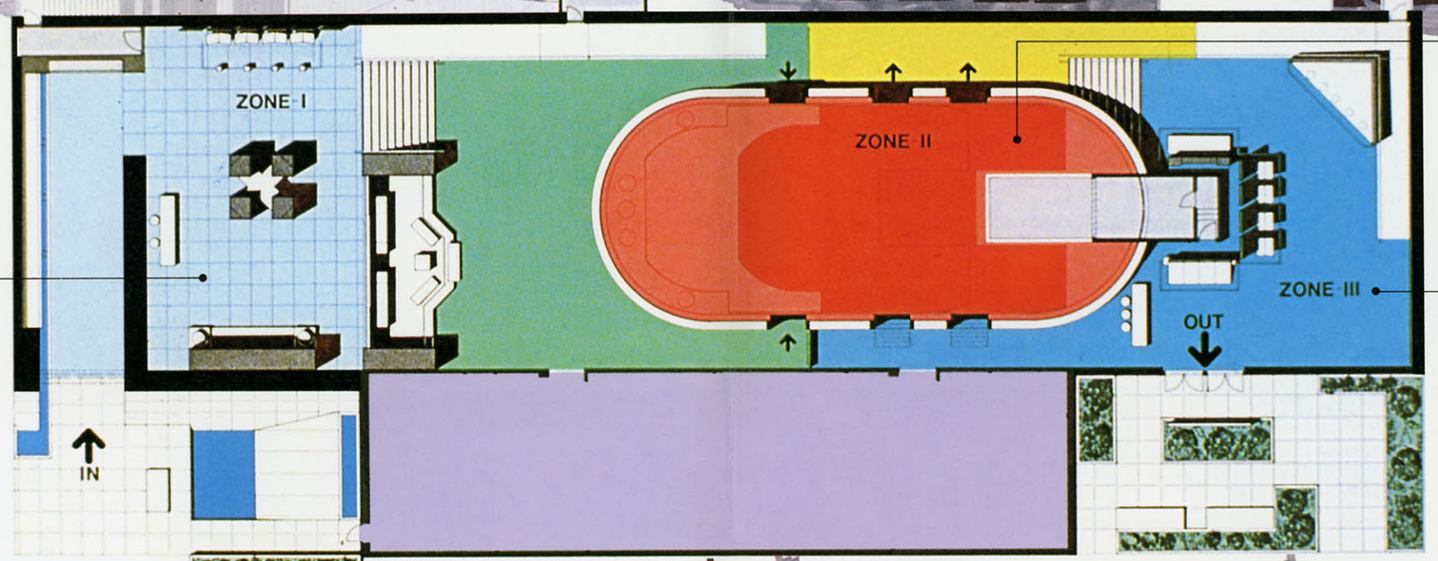
In the severe international energy situation, Japan is taking various measures to improve her fragile energy supply-demand structure. The Japan pavilion mainly presents such measures including the development and introduction of alternative energy sources, promotion of energy conservation, and the new life-style adopted by the Japanese to conserve energy. Concurrently, Japan would like the world to know that she considers the energy issue a task common to all mankind that must be solved through international coopeation, and that she is making contributions to the world by participating in international research and development of pioneering technology, providing technological assistance to developing countries, diffusing technology developed from her own research and development activities, etc.



Zone II

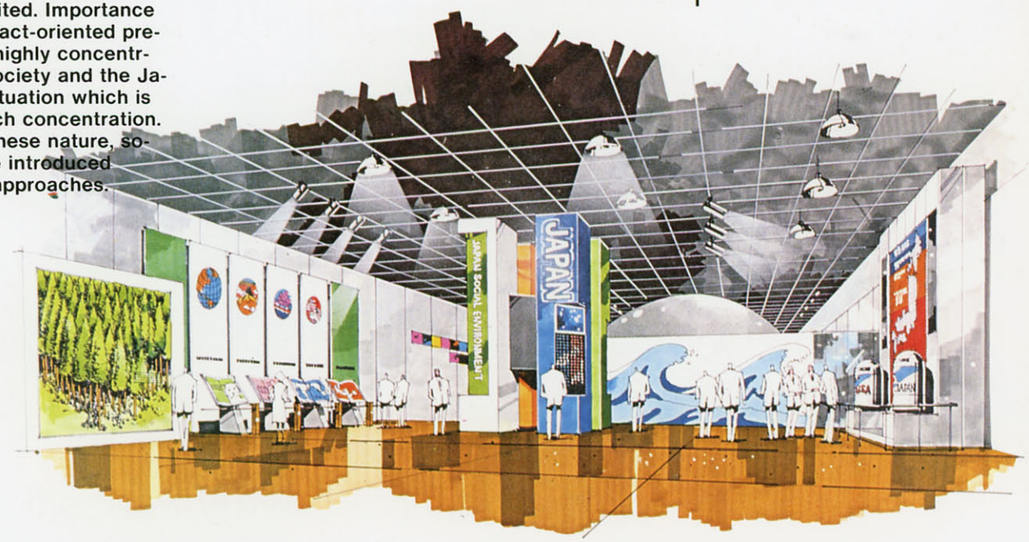
Visitors are led into and seated in the theater with an oval-shaped dome whose entire floor moves back and forth. They not only acquire knowledge but experience Japan, the Japanese people, and her energy situation through the presentation of a dynamic film. A special visual system makes it possible to project the picture on a semi-spherical screen, while special sound effects intensify the viewing experience. The number of seats totals 181, and the duration of film is approximately 12 minutes per showing.

In addition, in the waiting area of the theater in Zone II, an industrial robot is exhibited for entertainment. The show proceeds with an atmosphere in which visitors themselves can participate.



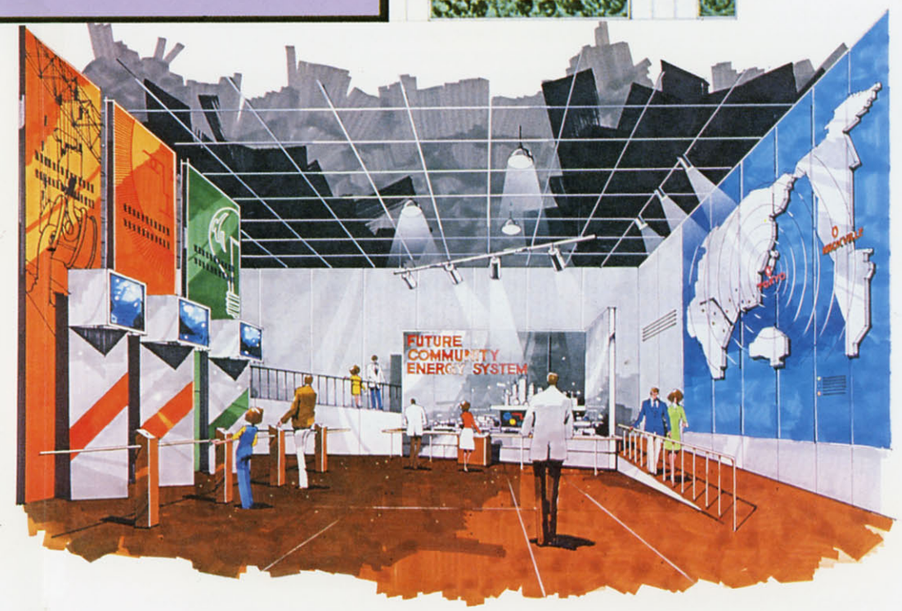
Zone I

In this zone, various aspects of Japanese society, industry, and culture are exhibited. Importance is attached to a fact-oriented presentation of the highly concentrated Japanese society and the Japanese energy situation which is influenced by such concentration. In addition, Japanese nature, society, and life are introduced through various approaches.



Zone III

Here, the development of energy conservation technologies and alternative energy sources supported by Japan's advanced technology are presented by use of a moving model which shows the concept of a community energy system and a total energy system, a model sailing tanker, panels, video tape recorders, video discs, etc.



The Japan Pavilion is divided into 3 zones making two-way communication possible. The theme is also developed in such a way that visitors will be able to greatly enjoy it.

[Zone I]

INTRODUCTION

The four seasons of Japan and its natural beauty are represented by Kitayama cedar — a symbol of the spiritual energy of the Japanese.

PROFILES OF JAPAN

An outline of the natural environment of Japan and the life of the Japanese (food, clothing and housing) is introduced through the use of moving picture books, each having a theme consisting of Location, Geography, Climate and Living, respectively.

JAPAN

The Japanese social environment is introduced under the themes of Society, Information, and Living. The actual conditions of a highly concentrated, information-based society, and the living standard are developed multilaterally utilizing slides, electronic displays, and a combination of electric signboards.

THE JAPANESE ENERGY SITUATION

The Japanese energy situation is introduced in an amusing manner through a dialog between the Japanese robot, "Taro," and the American robot, "Betty." Data on the Japanese and American situations are compared by use of a combination of graphic panels and an electric indication board which change according to the theme.

[Zone II]

A THEATER WITH A MULTI-IMAGE SYSTEM UTILIZING A SEMI-SPHERICAL SCREEN — A JOURNEY THROUGH JAPAN IN VIEW OF ENERGY

As an introduction, the various aspects of the Japanese and the nature of Japan are shown. Then the actual conditions of the efforts made in regard to energy conservation, both in the industrial and consumer sectors, and efforts exerted for the development and utilization of alternative energy sources are introduced with the use of audio-visual systems and a moving floor.

INDUSTRIAL ROBOT

As an entertainment item in the waiting area, a Japanese painting robot will skillfully draw patterns chosen by the guests.

[Zone III]

Visitors will have random access to each theme using video discs. The viewing time of each theme is a few minutes.

Video Disc (1): Japan's Energy Supply and Demand
(1) Oil stockpiling
(2) Thermal, hydraulic, and nuclear power generation
(3) Liquefied natural gas and Liquefied petroleum gas
(4) Provisional prospect for long-term energy supply and demand

Video Disc (2): Development of Alternative Energy Sources
(1) Solar energy
(2) Geothermal energy
(3) Coal energy
(4) Liquefied natural gas cryogenic (cold) energy
(5) Nuclear energy
(6) Wave energy
(7) Wind energy
(8) Energy by waste incineration
(9) Biomass energy — fuel alcohol

Video Disc (3): Energy Conservation by Industries
(1) Energy conservation in major industries — iron and steel, petrochemical, synthetic fiber, glass sheet, and cement industries
(2) Research and development of energy conservation technology — collecting solid sensible-heat generated by coke, magneto hydro-dynamics power generation
(3) Sailing tanker

Video Disc (4): Energy Conservation in Daily Life
(1) Solar houses and buildings
(2) Energy conservation in electric home appliances and automobile fuel consumption
(3) Traditional ways of the Japanese in saving energy

SAILING TANKER "SHIN AITOKU MARU"

This is the only sail-aided tanker in the world developed to conserve energy by utilizing wind power. The sails are accurately controlled by a computer system.

FUTURE COMMUNITY ENERGY SYSTEM

A moving conceptual model with the theme of an energy self-support system of cities. Types of energy introduced are shown below.
— Liquefied natural gas
— Advanced gas turbine
— Waste incineration power generation
— Fuel cell
— Wind power generation
— Wave power generation
— Solar heat power generation
— Biomass power generation
— OTEC (Ocean Thermal Energy Conversion) and tidal level difference power generation
— Thermal power generation
— Hydraulic power generation
— Nuclear power generation
— Geothermal power generation
— Liquefied natural gas cryogenic (cold) energy

INTERNATIONAL COOPERATION ON ENERGY

The energy-related international cooperation of the Japanese is shown on a world map.

POSTERS

A poster contest was held in Japan to celebrate The 1982 World's Fair. The first-prize posters are shown.

The International Exposition, Tsukuba, Japan: 1985 is introduced through the use of computer graphics.

JETRO

JAPAN EXTERNAL TRADE ORGANIZATION

2-5, Toranomon 2-chome, Minato-ku, Tokyo 105, Japan

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