

## Japan: Jo-Town Rinku Hawaiian Village

### BIODATA

<b>PV community name:</b>	Jo-Town Rinku Hawaiian Village
<b>Kind of urban area:</b>	Residential – urban
<b>Main building type in community:</b>	Houses - single houses
<b>New/Retrofit/Added:</b>	New district/community – building integration
<b>Type of project:</b>	Commercial project
<b>Start of operation:</b>	Year 2005
<b>City, state, etc.:</b>	Tajiri, Sennan, Osaka
<b>Country:</b>	Japan
<b>Latitude:</b>	N34 23' 41"
<b>Longitude:</b>	E135 17' 14"

### PV SYSTEM CHARACTERISTICS

<b>Total PV power:</b>	476 kW
<b>Number of houses/buildings:</b>	236 houses
<b>PV power per unit:</b>	2 kW/house
<b>Energy yield per year:</b>	-
<b>Main PV system type:</b>	Grid-connected - demand side
<b>Main PV application type:</b>	Inclined roof – integrated: PV roof tiles
<b>Main PV module type:</b>	PV roof tile
<b>Main PV cell type:</b>	Amorphous Si
<b>PV module manufacturer/brand:</b>	Kubota corporation / MSK corporation
<b>Inverter manufacturer/brand:</b>	Kubota corporation / OMRON corporation
<b>Investment for PV systems:</b>	-

### OWNERSHIP

<b>Building owner:</b>	Inhabitant
<b>PV owner:</b>	Inhabitant
<b>PV energy user:</b>	Inhabitant



**COPYRIGHT:** Sakurafudousan CO., Ltd.

## PV COMMUNITY DESCRIPTION

### PV Community Brief

Jo-Town Rinku Hawaiian Village is in Tajiri, Sennnan, Osaka, is located near the Kansai International Airport, approximately 60 minutes from center of Osaka city. The area is 22 100 m<sup>2</sup> comprising 258 house compartments to form a PV community. All houses are equipped with PV systems.

The community was developed by Jo Cooperation CO., Ltd. (proprietor) and Sakurafudousan Co., Ltd. (selling agency). Their strategy was to foster environment-consciousness to customers and expected customers to be first-time house owners.

In addition to PV systems, whole-house energy efficiency is enhanced, with all houses either all-electrified or equipped with a gas co-generation system, called "Eco-Will".

### Grid issue

To avoid negative influences against a grid network caused by a high-density of PV system installations in a limited area, a negotiation with a utility company (Kansai Electric Power corporation) was implemented.

The electricity distribution line in the area was designed and constructed by the utility company, and each electric pole was installed for five houses, e.g. five PV systems.

### Urban planning and architectural issues

The compartments before building houses were sold with carrying option to build a house equipped with PV system, and then, each house was designed and built on the compartment according to users' (inhabitants') requirements, including the choice of all-electric facilities or gas co-generation system.

The compartments layout was developed, for the PV roof to face south as much as possible, and to create a well-designed appearance of the houses and a harmonized streetscape as a community, PV roof tiles were selected for the PV systems.

Based on the design of the roof, the energy consumption pattern, the solar insolation and a price level of house etc., the PV system capacity was standardized at 2kW.

### Economic / financial issues

Trade-offs in PV system capacity, roof geometry for maximum PV electricity output led to an increased house price. The PV system capacity was set at 2kW. In some houses, a governmental subsidized program for residential PV systems was available.

After starting operation, a net-metering scheme was applied so that surplus PV is traded between the inhabitant and the utility company, at the same price of the residential electric tariff. For the all-electric house, electricity tariff structure is different than usual. The daytime rate is higher, while in nighttime the tariff is discounted. This means the value of the PV electricity from inhabitant to the utility company is higher.

Additional significant energy bill reductions resulted from energy conservation measures of high thermal insulation and high efficiency equipment.

### Other remarks

The concept of the community development, 'all houses would be equipped with PV systems', was well accepted and handed down to the inhabitants. Also, 95% of inhabitants chose gas co-generation system while choice of all-electrified facilities was only 5%.

The project, Jo-Toen Rinku, is the biggest PV community in Kansai area (west side of Japan), and has been contributing not only to deploying areal PV system installation in residential area but also to increasing publicity of the project companies.

Here, Sakurafudousan Co., Ltd., which is the selling agency of the project, has been promoting PV community in Kansai area other than this project. They are aspiring to create an environment-conscious community and to enhance a value of the community. Expected customers would be spread to ones who are well-aware of environmental problems. In their strategy, PV system is a main component of their community development.

## COMMUNITY INFORMATION

**Project leader company:** Sakurafudousan Co., Ltd., Jo-Cooperation Co., Ltd.

**Other project company:** Kubota corporation, MSK corporation

**Project's www:** -

**Contact address:** -