

## Japan: Hills-Garden Kiyota

### BIODATA

<b>PV community name:</b>	Hills-Garden Kiyota
<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 2003
<b>City, state, etc.:</b>	Sapporo, Hokkaido
<b>Country:</b>	Japan
<b>Latitude:</b>	N42 59' 12"
<b>Longitude:</b>	E141 25' 30"

### PV SYSTEM CHATACTERISTICS

<b>Total PV power:</b>	336 kW (as of Dec. 2006)
<b>Number of houses/buildings:</b>	142 houses (as of Dec. 2006)
<b>PV power per unit:</b>	2,4 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 – mounted, integrated: PV roof tiles
<b>Main PV module type:</b>	Framed regular module, PV roof tiles
<b>Main PV cell type:</b>	Crystalline silicon – mixed
<b>PV module manufacturer/brand:</b>	-
<b>Inverter manufacturer/brand:</b>	-
<b>Investment for PV systems:</b>	-

### OWNERSHIP

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



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## PV COMMUNITY DESCRIPTION

### PV Community Brief

Hills-Garden Kiyota is located in the east of Sapporo-city, Hokkaido. The community is a residential area designed for the 21<sup>st</sup> century, aimed at a harmonization of “life”, “local environment” and “global environment”.

Hokkaido is the most northerly in Japan, and the energy demand for heating and hot-water supply is larger. All houses of the Hills-Garden Kiyota are all-electric and using high-efficiency energy equipment such as a heat pump system, as well as PV system. The community realizes a low maintenance and operation cost, in addition to a low energy-consumption and low CO<sub>2</sub> emissions.

### Grid issue

To avoid negative influences against the grid network caused by a high-density of PV systems installed in a limited area, a precise negotiation with a utility company was implemented and the design of grid-connection was decided.

### Urban planning and architectural issues

To create a well-designed appearance of the houses and a harmonized streetscape as required by the community. As well, a high thermal insulation performance was designed for energy conservation.

### Economic / financial issues

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.

### Other remarks

All houses of the community were all-electric. A heat pump system for heating, a high-efficiency electric water heater and an induction heater (for kitchen) were used to realize a high efficiency energy system.

## COMMUNITY INFORMATION

**Project leader company:** Misawa Homes Co., Ltd.

**Other project company:** -

**Project's www:** -

**Contact address:** -