

Osaki Photovoltaic Power Plant



Solar Power Generation with a photovoltaic cell

Osaki Land Improvement District

Outline of Osaki Photovoltaic Power Plant

(Construction)

- ◆ Construction Period ; 17th September 2014 – 20th March 2015
- ◆ Date of Power Generation Start ; 16th March 2015
- ◆ Project Expenses ; 25,390,800 Yen (206,400 USD)
- ◆ Unit Construction Cost ; 475,000 yen/ kw

(Details of Power Plant)

- 1) Ground Area ; 946 m²
- 2) Output Capacitance ; 49.5 kw
- 3) Quantity of Annual Energy Production ; 55,000kwh
- 4) Annual selling electricity ; 2,000,000 yen (16,260 USD)

(Equipment)

- 1) Photovoltaic Module (Manufactured by Mitsubishi Electronic Corp.)
 - Single Crystal Silicon Solar Cell ; 192lots
 - Size of Solar Cell ; 994mm × 1657mm / 1 lot
 - Weight of Solar Cell ; 19.0 kg / 1 lot
 - Angle of inclination ; 22°
 - Conversion Efficiency of Module ; 15.8%
- 2) Power Conditioner
 - Three-wire System Power Conditioner ; 5

(Remarks)

- ◆ Annual energy production of this plant equivalent to 15 households per year
- ◆ The CO₂-reduction is 0.551kg/kwh (estimated value)
The quantify of annual CO₂-reduction is 27.70t.
- ◆ The carbon dioxide -reduction is 0.227L/kwh (estimated value)
The quantify of annual carbon dioxide -reduction is 12,500L.
- ◆ All of generated electricity is sold to the power company, all the proceeds of the selling electricity will be used for the cost required for maintenance and operation of agricultural facilities.

Osaki Photovoltaic Power Plant

Osaki Photovoltaic Power Plant was constructed by the subsidized program of the Ministry of Agriculture, Forestry and Fisheries, Japan. It started to generate from March 2015. The object of the introduction of a renewable energy as flowing

- 1) The cost required for maintenance and operation of agricultural facilities in LID
- 2) The contribution to community and environment in Osaki area by energy mix and limit carbon emissions
- 3) Promotion of demonstration test of a renewable energy and showing the models for the management of a renewable energy power plant in

This plant is able to realize a profit of 250,000 yen per one month at present. And we will use this plant for environment education in Osaki area.



Showing the power generation in real time

Showing the quantify of CO2reduction in real time
(Calculation from a power generation current)

The indicator is used to explain for inspectors and an environment education.

Real time indicator



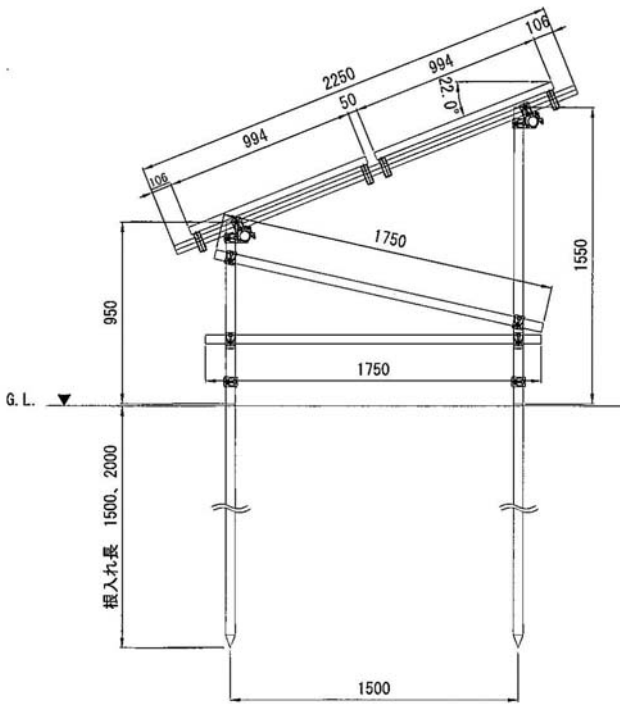
Control Panel



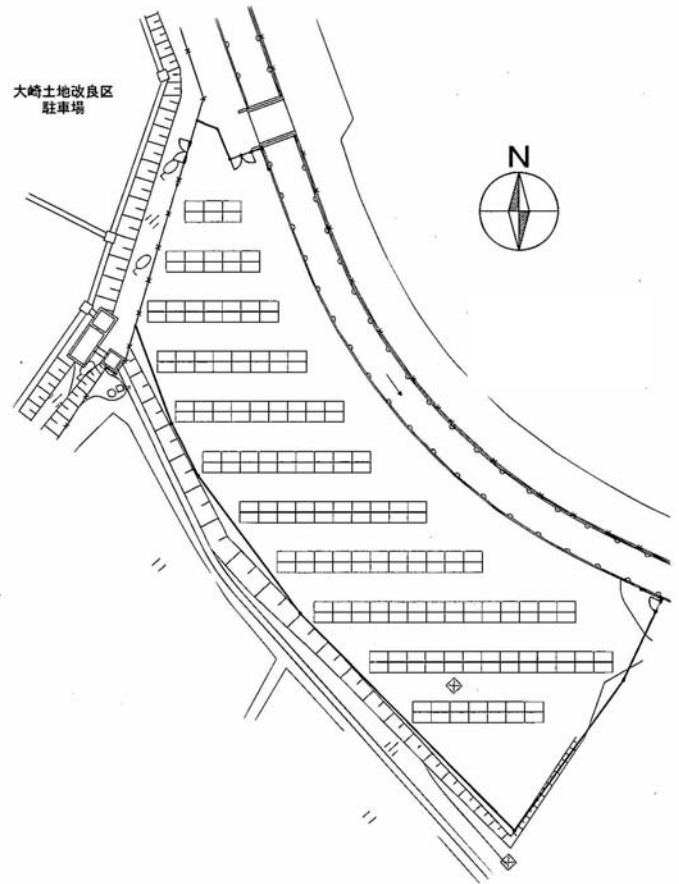
Power Conditioner



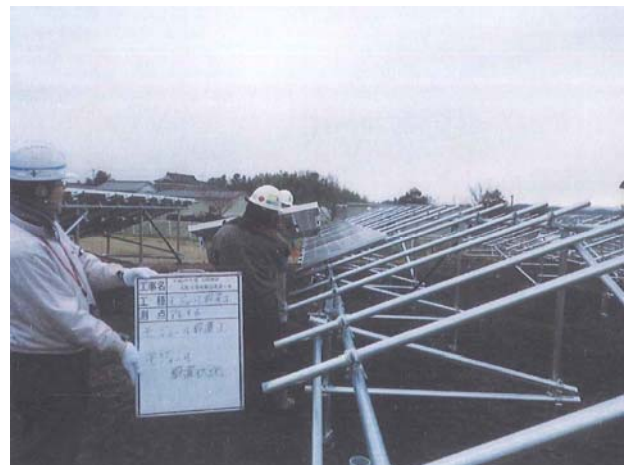
Cross Section



Plane Figure



Construction Situation



Osaki Land Improvement District
194 shinko, osaki, hurukawa, Osaki city,
Miyagi prefecture