

January 31, 2018  
juwi Shizen Energy Inc.

Ishinomaki Numazu 14MW Photovoltaic Power Plant in Miyagi Prefecture,  
has been completed by juwi Shizen Energy

On September 13, 2017 juwi Shizen Energy Inc. completed the EPC (Engineering Procurement and Construction) of the “14 megawatt Ishinomaki Numazu Photovoltaic Power Plant”, Ishinomaki Kizuna GK – a company invested in by GE Energy Financial Services – assigned the EPC of this project to juwi Shizen Energy Inc., and the commercial operation of the power plant commenced on September 1, 2017.

Trina Solar Japan Energy Co., Ltd. (headquarters: Hamamatsucho, Minato Ward, Tokyo, Japan; Representative Directors: Carlos Garcia Garcia, Eiji Sato), a wholly-owned subsidiary of Trina Solar, was in charge of Development and Engineering, Procurement and Management of this project, juwi Shizen Energy was also responsible for EPC and juwi Shizen Energy Operation Inc. will be responsible for O&M (operation and maintenance).

This solar power plant with an output of approximately 14 megawatts (DC) occupies a 220,000 m<sup>2</sup> site on a former golf course in the city of Ishinomaki in Japan's Miyagi Prefecture. Its annual generated energy output is projected to reach approximately 16,080,000 kilowatt hours, which is equivalent to the annual amount of power consumed by 4,400 ordinary homes. The Energy generated will be sold to Tohoku Electric Power Co., Inc. under the country's Feed-in Tariff (FIT) for renewable energy.

A feature of the construction was the efficient expansion of the area in which panels could be installed by leveraging the terrain of an existing golf course in site preparation. A regulating pond was also created on the basis of an ordinance issued by Miyagi Prefecture. The number of panels were increased and the optimum conversion efficiency was achieved by installing large arrays composed of four modules in an upright orientation. The arrays that the plant uses can be broadly divided into four types, with the best array for each area being installed in consideration of the ground and terrain.

juwi Shizen Energy was established in 2013 as a joint venture between Shizen Energy Inc. (headquarters: Arato, Chuo Ward, Fukuoka City, Fukuoka Prefecture, Representative Directors: Ken Isono, Kenji Kawado, and Masaya Hasegawa; hereinafter referred to as “Shizen Energy”), whose activities include the development of and securing of funding for renewable energy power plants, and juwi AG, a company headquartered in Germany that is involved in development and EPC for renewable energy around the world. As well as being involved in Shizen Energy's development projects, juwi Shizen Energy also takes EPC orders for other customers, track record of juwi Shizen Energy in Japan includes more than 50 projects completed with about 160MW in total capacity. juwi Shizen Energy shall henceforth continue to leverage the knowledge and experience it has accumulated through its global operations and aim to contribute to the increased use of renewable energy and the construction of a sustainable society both in Japan and overseas by providing EPC solutions that correspond to the needs and circumstances of the area in which a power plant is to be established.

## [Project outline]

Name of power plant	Ishinomaki Numazu Photovoltaic Power Plant
Location	Aza Obayashiyama, Numazu, Ishinomaki City, Miyagi Prefecture
Project owner	Ishinomaki Kizuna GK * GK invested by GE Energy Financial Services
EPC	Trina Solar Japan Energy and juwi Shizen Energy Inc.
O&M	juwi Shizen Energy Operation Inc.
Power plant area	Approximately 220,000 m <sup>2</sup>
Generated energy output	Approximately 14 MW (DC), 10 MW (AC)
Estimated annual generated energy output	Approximately 16,080,000 kWh/year (equivalent to the annual amount of power consumed by 4,400 ordinary homes)
Start of construction	July 12, 2016
Start of operation	September 1, 2017

## [Ishinomaki Numazu Photovoltaic Power Plant]



[About juwi Shizen Energy Inc.]

Founded in January 2013 as a joint venture of Shizen Energy Inc. which develops renewable energy-based power plants and procures related funding, and juwi AG, a globally active wind and solar energy development and EPC firm headquartered in Germany. As of the end of December 2017, the company has successfully completed EPC projects for photovoltaic power plants in a total of 56 locations around Japan with a total output about 160 megawatts.

- Head office: Hongo Fuji Bldg. 2F/3F, 4-9-22 Hongo, Bunkyo Ward, Tokyo
- Representative Directors: Masaya Hasegawa and Jan Warzecha
- Phone: +81-3-3868-0344
- URL: <http://www.shizenenergy.net/en/company/overview/juwi-shizen-energy.html>
- Business: Engineering, procurement and construction of solar and other renewable energy power plants.

[About juwi Shizen Energy Operation Inc.]

Founded in 2013 as a joint venture of Shizen Energy Inc. which develops renewable energy-based power plants and procures related funding, and juwi AG, a globally active wind and solar energy development and EPC firm headquartered in Germany. Has received orders for O&M services for solar power plants around Japan with a total output of over 166 megawatts as of the end November 2017.

- Head office: Hongo Fuji Bldg. 2F/3F, 4-9-22 Hongo, Bunkyo Ward, Tokyo
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- Business: Engineering, procurement and construction of solar, wind and other renewable energy power plants.

[About Shizen Energy Inc.]

Established in June 2011. Shizen Energy's involvement in the Japanese solar power generation business as a group amounts to 700 megawatts nationwide (as of the end of January 2018). The company started work on power generation projects (IPP) in 2014, and it started full operation of wind and small-scale hydroelectric power projects in 2015. Since 2016 it has also been involved in asset management and overseas projects. In 2017, it has started power retail business.

- Head office: Fukuoka Ohori Bldg. 3F/ 6F, 1-1-6 Arato, Chuo Ward, Fukuoka City, Fukuoka
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- Phone: +81-92-753-9834
- URL: <http://www.shizenenergy.net/en/>
- Business: Development, fund raising, asset management, and other such activities for solar, wind, small hydroelectric and other renewable energy power plants. Holding and operating owned solar power plants.

[About juwi group]

The juwi group is one of the world's leading companies in the area of renewable energy. The renewable energy pioneer with a strong regional presence offers project development and EPC services as well as products and solutions for the energy turnaround. Company activities are mainly projects with solar and wind. The juwi group was established in 1996 in Rhineland-Palatinate/Germany. Since the end of 2014, Mannheim based utility MVV Energie AG has been partner and majority shareholder (63%) of the juwi Group. juwi has about 1,000 employees worldwide, branches on all continents and is actively engaged in various projects all over the globe. Working together with passion to implement renewable energy economically and reliably is what drives us. So far, juwi has realized more than 950 wind turbines with a total capacity of more than 2,100 megawatts at more than 150 sites globally. In the solar segment, more than 1,600 projects with a total capacity of around 2,300 megawatts have been designed and constructed. Combined, these energy systems produce around 7.7 billion kilowatt hours of clean energy per year,

equalling the annual demand of more than 2.5 million German households. Within the past 20 years, juwi has initiated an investment volume of around 8.6 billion euros to realize these projects.

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