

Setouchi Kirei Mega Solar Power Plant Construction Project

【Toyo Engineering Corporation, Shimizu Corporation】

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Setouchi Kirei Mega Solar Power Plant has been constructed on about 260 ha of the 500 ha of a former salt field, which was one of the largest in East Asia. The power plant has an area equivalent to about 56 Tokyo Domes and the capacity of about 235 MW(DC), which is currently the largest operating solar power plant in Japan. This project consists of three businesses; “solar power plant”, “safety and security” and “environmental preservation”.

【Solar Power Plant】

The capacity of the solar power plant is about 235 MW(DC) and about 186 MW(AC), which can produce enough energy to supply about 80,000 households per year. Furthermore, it is expected to reduce half of the CO₂ emissions in Setouchi City, which is about 192,000 tons of CO₂ per year. Cut wood and leaves were used in mushroom beds and mulching material, contributing to the reduction of 3,000 tons of industrial wastes.

【Safety and Security】

For the protection of the power plant and neighboring agricultural & residential lands, the drainage canal crossing the site from east to west has undergone improvement and the installation of additional drainage pump and emergency power system have been completed. Furthermore, the reinforcement of 1.6 km-long embankment located between sea and land, the construction of seawalls has been completed as countermeasures against tsunami in large earthquakes and high tide.

【Environmental preservation】

For the preservation of salt marsh, nature preservation area “Kinkai Habitat” (16 ha) has been built. By using the existing terrain as much as possible and creating variable waterside space, the land has become an area where various creature live enriching the biodiversity of the area. Setouchi Kirei Mega Solar Power Plant is a world-class solar plant, not only from the perspective of the capacity being the largest in Japan, but also because the project has cooperated with the local government and residents to maintain the natural environment and coexist with the environment.

For the excellent achievement noted above and future development, this project is worthy of receiving an award in the field of environmental contribution.



Fig. 1 Overall View of Setouchi Kirei Mega Solar Power Plant



Fig. 2 Reinforcement of Embankment of Kinkai Bay



Fig. 3 Kinkai Habitat



Fig. 4 Central Drainage Canal