A flow of energy

Tidal Power Plant
Delta Works Netherlands

1.25 megawatt installed capacity  electricity for 1000 households  robust and reliable technology
The world’s largest commercial Tidal installation of five turbines in an array

Tocardo, designer and producer of tidal and free-flow water turbines and Huisman, designer, builder and financial sponsor of the turbine’s suspension structure have installed five tidal turbines in the Eastern Scheldt storm surge barrier to generate clean energy. This installation is the largest tidal energy project in the Netherlands as well as the world’s largest commercial tidal installation of five turbines in an array.

The T2 turbines are fitted with bi-directional blades to harvest electricity from both ebb and flood flows because barrier only closes when a heavy storm approaches. This enables the turbines to generate electricity during ebb and flood.

The 50 meter long and 20 meter wide structure was transported over water. Taking into account the water levels, the tides and the weather and using the slides of the storm surge barrier, the tidal power plant was placed on a floating pontoon combined with lifters and installed between the pillars under the Eastern Scheldt storm surge barrier.

With an installation window of just two hours and with a highly precise operation, the tidal power plant was successfully installed. The Eastern Scheldt storm surge barrier is the largest of the world-renowned Delta Works series of dams and storm surge barriers, designed to protect the Netherlands from flooding from the North Sea. The location will now be a combination of water defences and hydroelectric power.

Future:

This project marks an important step in the development of tidal energy. With these turbines in the Eastern Scheldt storm surge barrier, Tocardo can now show the world what tidal energy is all about: providing a clean and reliable source of energy that could fulfil 10-20% of the world’s electricity needs.