



# CASE STUDY

## OPENHYDRO TIDAL TURBINE

**APPLICATION OVERVIEW:**  
This OpenHydro tidal turbine generates electrical power through the inflow and outflow of water.



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### Above and under water



This regenerative-energy OpenHydro tidal turbine generates electrical power through the inflow and outflow of water at low and high tide on the coast of the Scottish Orkney Islands. The turbine has a diameter of almost 20 feet. An igus®

Series 4040 Energy Chain® from the E4/4 range protects the Chainflex® continuous-flex motor and signal cables during the lifting and lowering movements of the turbine, while also protecting them against the aggressive ambient conditions. The travel distance amounts to approx. 66 feet in a vertical direction above and under the water with the Energy Chain® guided in a steel trough. The vertical travel is transformed into a horizontal travel by turning through 90 degrees. A plastic chain makes any kind of maintenance on the open sea superfluous and was the only suitable solution because a conventional metal chain would not have stood up to the technical, environmental and mechanical demands.



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