

EXPLORING TIDAL GENERATION IN THE ROSARIO STRAIT



WHO WE ARE

Orcas Power & Light Cooperative (OPALCO) is a member-owned, non-profit cooperative utility providing energy services to 20 rural-remote islands in San Juan County since 1937. OPALCO is looking to expand our microgrid infrastructure and invest in renewable energy to create a resilient and reliable local power supply.

OUR GOALS

1. GRID RELIABILITY

Resilience, independence, and affordability for residents of San Juan County

2. CONSISTENT GENERATION

Meet year round demand for electricity with renewable energy, regardless of weather

3. INTEGRATION TO OPALCO GRID

Integration to the Blakely Island distribution system

WHY HERE?

OPALCO, with support from the Pacific Northwest National Laboratory (PNNL), selected Rosario Strait for a tidal energy project. It is a favorable location due to its persistent strong tidal currents and lower abundance of sensitive marine species such as orcas, humpback whales, and rockfish.

TIDAL GENERATION

Tidal power is generated by harnessing the energy that flows through sea channels and passes coastlines. The world's tides are predictable gravitational forces, meaning they are not linked to weather patterns. Like wind turbines, tidal turbines rotate to power a generator and create electricity. The benefit of tidal energy is the production of a green and renewable source that provides a continuous and predictable supply of power with high energy efficiency. Conditions in Washington waters present the opportunity to realize tidal energy's potential in meeting electricity demands. This project is still in the very early exploratory phases for OPALCO, and if it successfully moves forward it will likely be 4-5 years before the device is actually installed.



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ENVIRONMENTAL STEWARDSHIP

Rosario Strait is home to several protected species under the Endangered Species Act, Marine Mammal Protection Act, and Magnuson-Stevens Act. Minimizing risks to marine wildlife is always a primary concern to OPALCO, and limiting possible impacts to protected species and habitats is a key objective of this project.

OPALCO seeks to work closely with its Tribal, State, and Federal partners to mitigate risks to wildlife and ensure project success while protecting the region's sensitive resources.

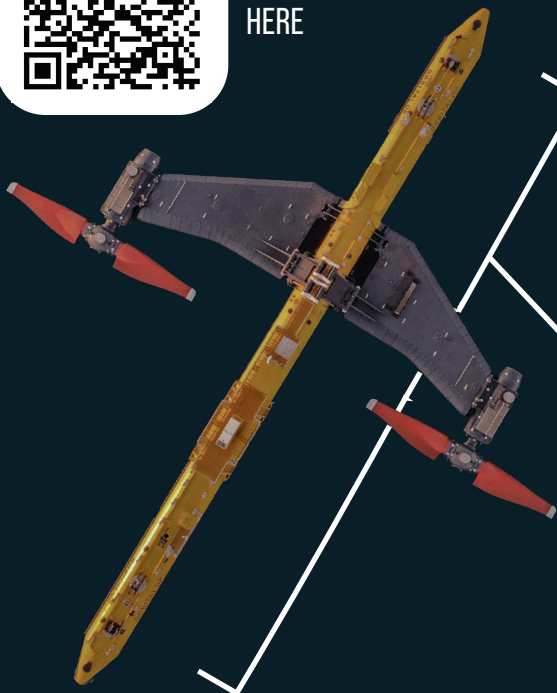
TRIBAL INTERACTIONS

The Tribes have strong spiritual and cultural ties to salmon and other aquatic species in the region that includes thousands of years of use for tribal religious/cultural ceremonies, subsistence, and for commercial purposes. The project would be located in the Usual and Accustomed fishing area (U&A) for the region's Native American Tribes who were signatory to the Treaty of Point Elliott. The Treaty secures the Tribe's "right of taking fish at usual and accustomed fishing ground and stations." Engagement and collaboration with regional Tribes will be a key aspect of the development of the project.

THE TECH Orbital Marine



Read about
project updates
HERE



This device is a unique floating platform that is moored via anchors in powerful tidal stream or river currents.

OPALCO aims to deploy one 2MW+ turbine to provide utility-scale, clean energy.

It floats at the surface with two rotors suspended underneath. The underwater turbines rotate in a steady, rhythmic motion, and cover the same area as three tennis courts.

74 m /
243 ft long



OPALCO
Co-op Run. Community Powered.