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Ocean Renewable Power Company

CALIFORNIA ENERGY COMMISSION

August 8, 2024

Patented technology, proven through 17 successful deployments since 2010

Who we are

- Founded in 2004 in Portland, Maine, USA
- 50 employees in 4 countries (USA, Canada, Ireland & Chile)

What we do

- Convert kinetic energy in water currents into clean, predictable, affordable sources of renewable electricity
- Provide smart microgrid solutions powered by ORPC power systems

ORPC's objectives

- Develop clean energy solutions for remote communities and critical infrastructure
- Create local jobs for installing and maintaining equipment

U.S. DEPARTMENT OF ENERGY · EU Horizon 2020 · ALASKA ENERGY AUTHORITY · seai SUSTAINABLE ENERGY AUTHORITY OF IRELAND · Natural Resources Canada

At scale, Marine Energy is projected to remove >1 gigaton of carbon with diesel generation as a prime target given its dirty emissions profile

ORPC Devices…

…result in up to a

98%

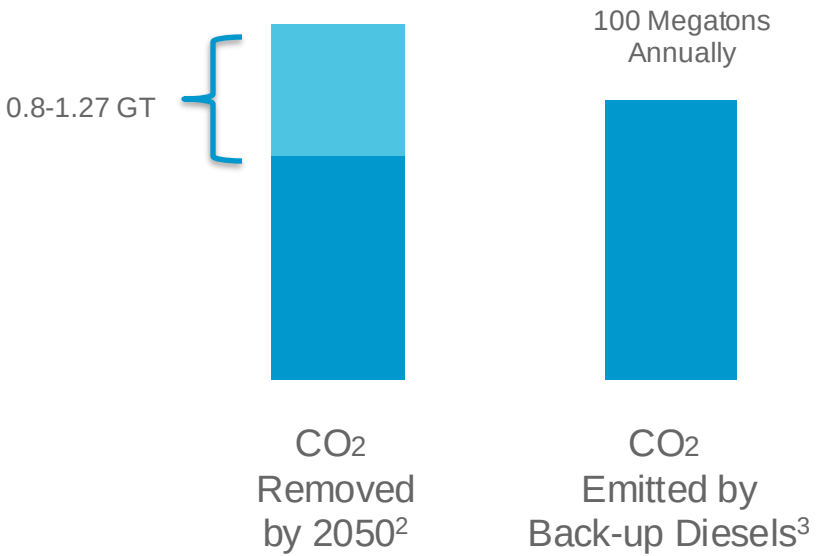
in CO_2 emissions vs diesel[1]

…are at least

93%

recyclable

Carbon Removal Opportunity



1 McCallum, Kumar, Curry, McBride, and Doran. "Renewable Electricity Generation for off Grid Remote Communities; Life Cycle Assessment Study in Alaska, USA." Applied Energy
2 https://drawdown.org/solutions/ocean-power 3 https://documents1.worldbank.org/curated/en/640791573016682618/pdf/Summary.pdf

RivGen® energy production potential

in a typical river

One RivGen® powers
(200 to 600 MWh/year)

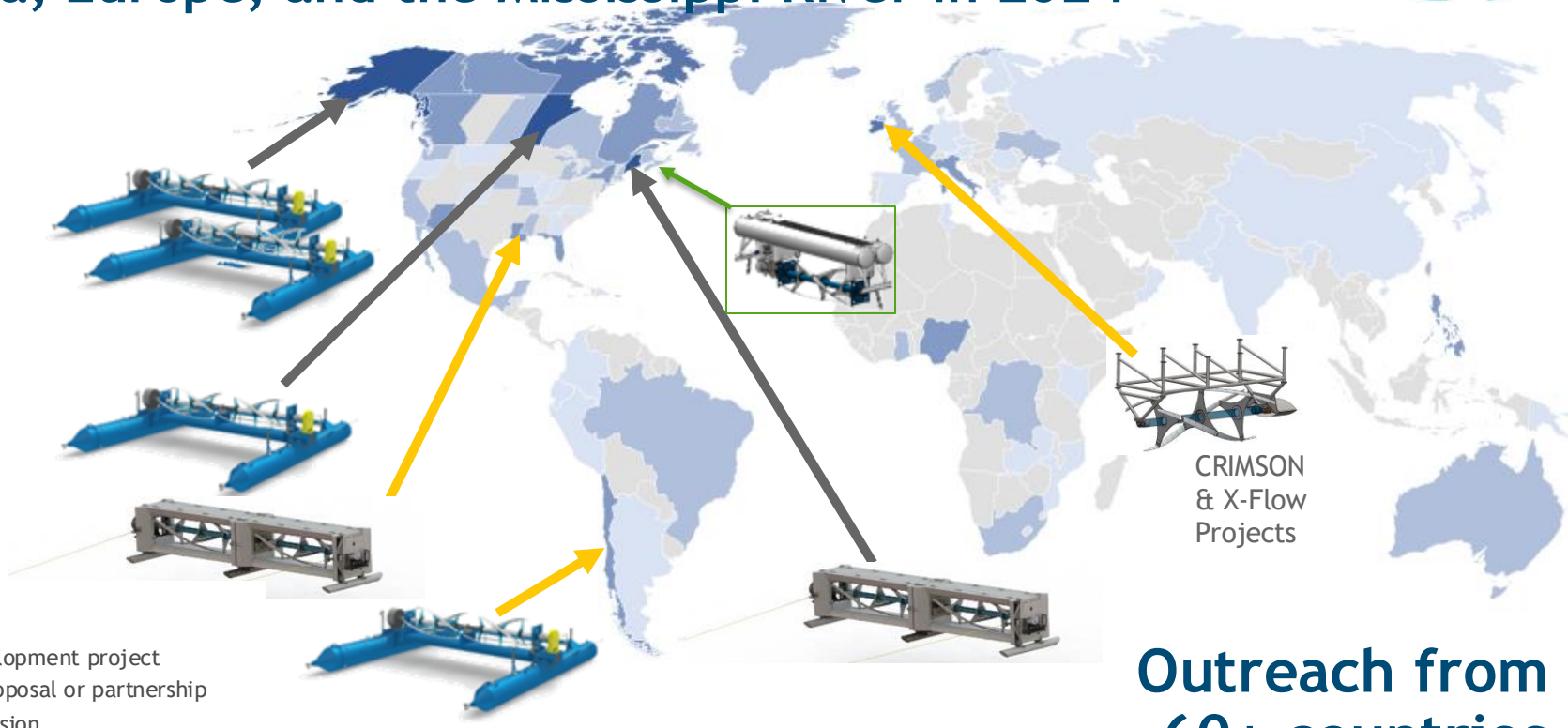
2 to 6 public buildings
(7,200 sqft – 15 kWh/sqft)

9 to 27 houses
(22 MWh/year)

25 to 75 times around the world in Tesla
(31 kWh/100 miles)

Benefits

Five devices currently deployed and expanding into South America, Europe, and the Mississippi River in 2024

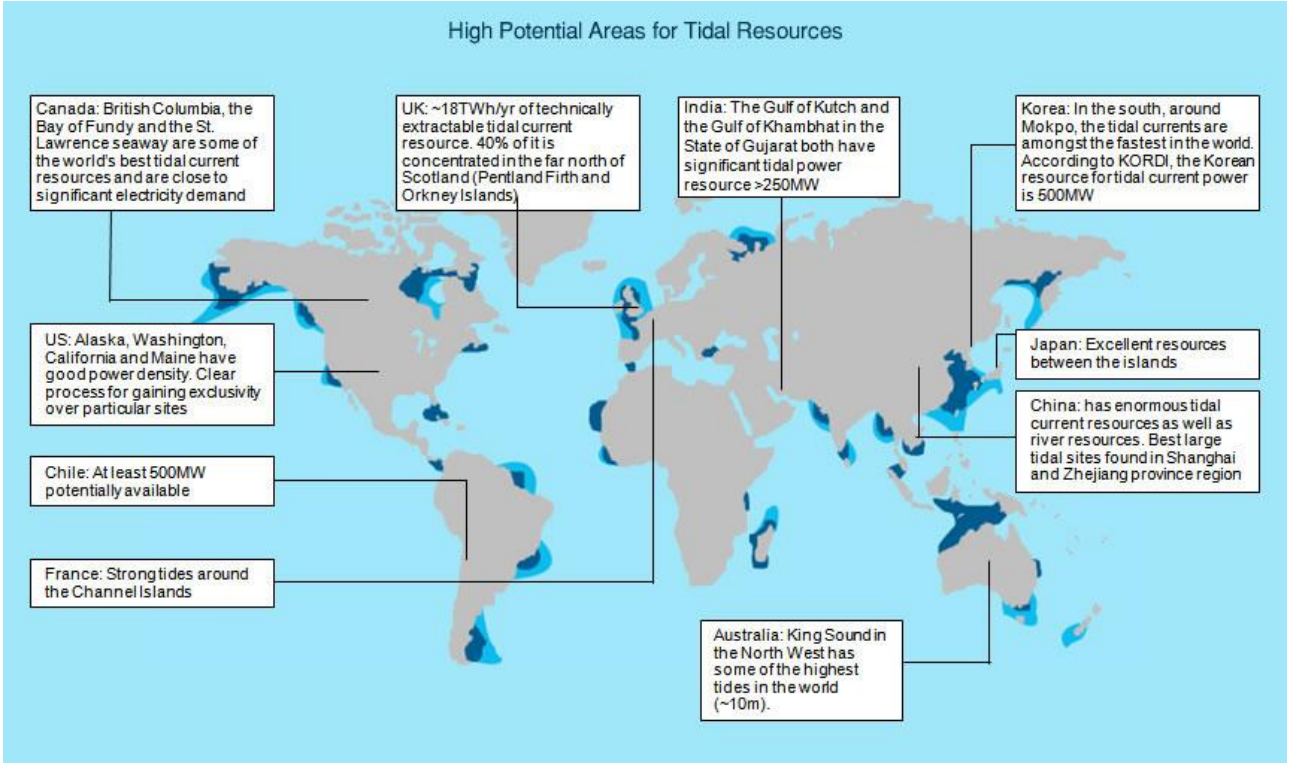


Level
5. Installation
4. Funded development project
3. LOI/MOU/proposal or partnership
2. Active discussion
1. Inquiry

Outreach from 60+ countries

Currently deployed | Removed in 2023 | Upcoming deployments

Tidal energy can play a significant role in global decarbonization especially in the developed world



- Global tidal resource of 800-1200 TWh/year
- Strong resources across Europe, N. Asia and N. America
- Incorporating tidal energy with other renewables can reduce the storage needs by up to 30%

East Foreland/Cook Inlet

ORPC has begun developing a large tidal site under a DOE grant award

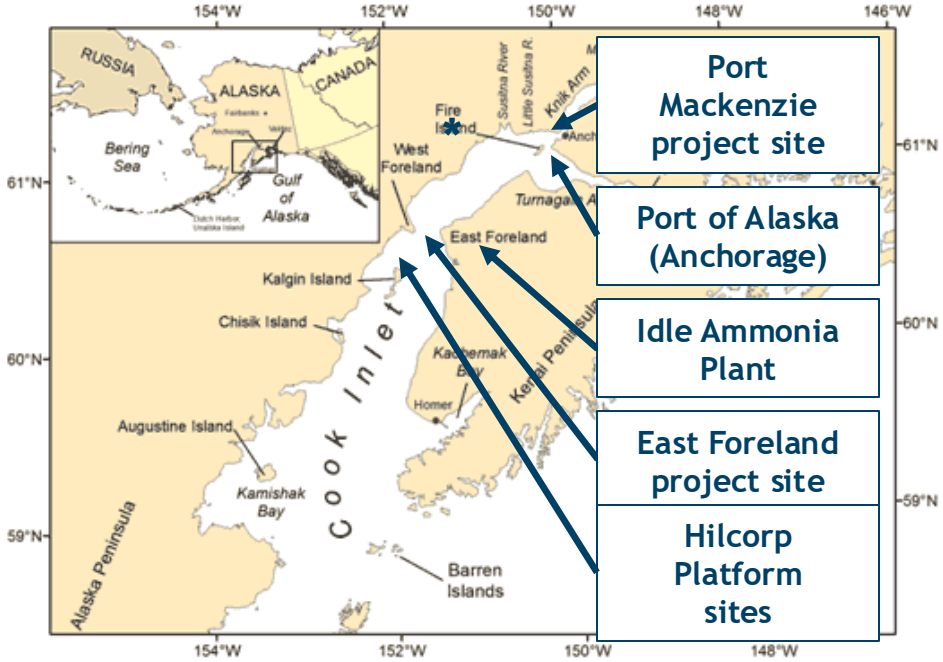
Funding Program

- DOE Water Power Technology Office
- $3,000,000 (provided to two project different developers)
- $29,000,000 (awarded to one developer in 2025)

Project

- ORPC has been awarded 1 of the 2 initial grants
- ORPC's American Tidal Energy Project's objective is to develop ORPC's Cook Inlet site near the East Foreland
- The site benefits include:
  - Existing ORPC preliminary FERC permit
  - Location adjacent to Hilcorp rig-tender facility for ease of deployment (pictured at right)
  - Homer Electric's sub-station located <1 mile from ORPC's come ashore point
  - Idled ammonia plant sits <1 mile from come ashore point

Alaska Opportunity: Excess tidal energy in Cook Inlet can help address developing energy shortage in Alaska and can be used to produce green hydrogen and green ammonia



- Resource ~ 18GWs[1]
- 120 TWh of extractable annual energy
- Nikiski ammonia plant sited next to ORPC's East Foreland project site
- First deployment in early 2025
- Full development 2026-2030

Graph: Cook Inlet – Tidal Power for the Railbelt NOAA & AEA project to assess Cook Inlet tidal energy, 2012. Insets from UAA modeling of ORPC investigated sites, 2013. *Haas et.al., Assessment of energy production potential from tidal streams in the United States (DOE/GO/1817-8). Georgia Tech Research Corporation, 2011

California has river, wave and tidal resources available for development

- Rivers in Northern California could be used as baseload resource for microgrids for communities exposed to wildfire risk.
- ORPC device arrays could be used to offset power production losses from dam removal projects
- San Francisco Bay holds tidal energy development potential to provide baseload electricity

Thank You

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