

Regulatory Hot Topics: ORPC Case Study



Improving people's lives, and their environment,
through sustainable energy solutions



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Agenda

- ORPC Overview
- FERC Preliminary Permits
- Pilot License Transition in Igiugig
- Future Considerations for Project Development

Patented technology, proven through 17 successful deployments since 2007

Who we are

- Founded 19 years ago. Headquartered in Portland, Maine, USA
- 45 employees; subsidiaries in 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 communities and increase resiliency of energy infrastructure
- Create local jobs for installing and maintaining equipment



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ORPC Product Portfolio

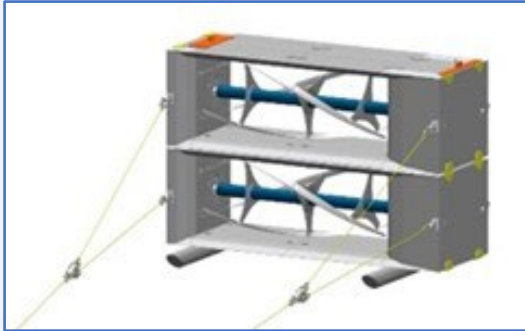
ORPC is developing a portfolio of products that address all segments of the river and tidal markets



RivGen®

2 Turbines
40-80 kW

Remote Communities



Modular RivGen®

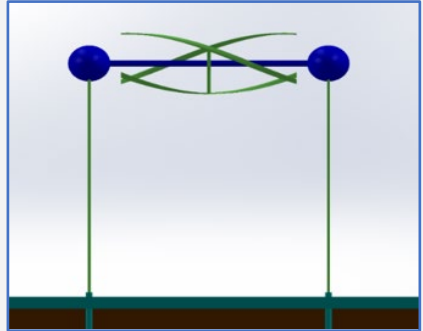
1 Turbine, stackable
20-40 kW

Rivers/Tailraces/Canals



TidGen®

4 Turbines
80-160 kW
Tidal
Locations



Optimor™

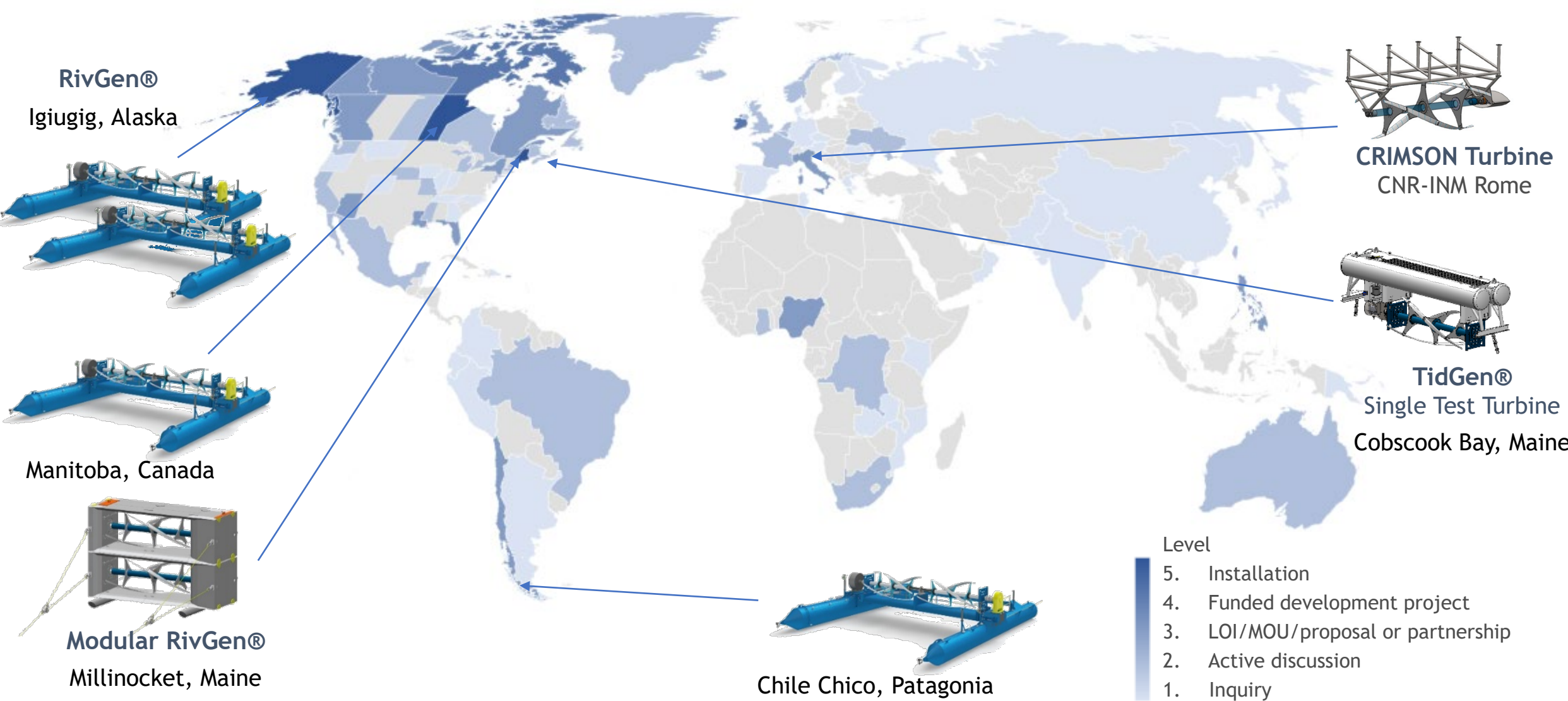
1 Large Turbine
1-2 MW
Tidal Locations



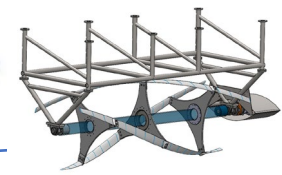
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ORPC 2023/2024 Deployments

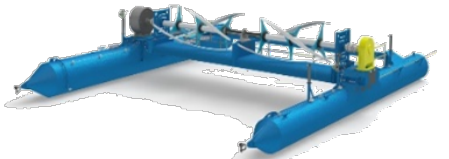
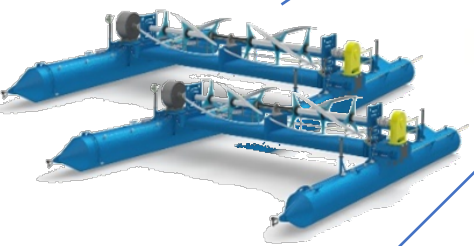
3 Product Lines with Outreach from 50 Countries



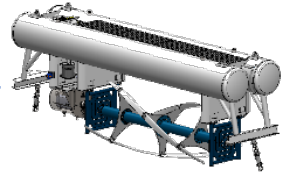
RivGen®
Igiugig, Alaska



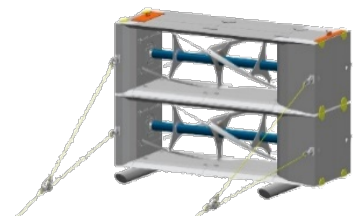
CRIMSON Turbine
CNR-INM Rome



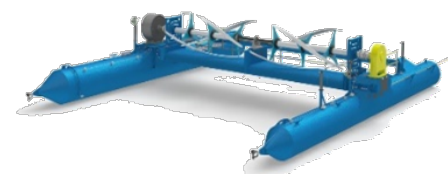
Manitoba, Canada



TidGen®
Single Test Turbine
Cobscook Bay, Maine



Modular RivGen®
Millinocket, Maine



Chile Chico, Patagonia

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

FERC Preliminary Permits

- End of February 2024 – FERC denied preliminary permit applications for 7 pumped storage projects proposed on Navajo Nation Land
 - New policy established where “the Commission will not issue preliminary permits for projects proposing to use Tribal lands if the Tribe on whose lands the project is to be located opposes the permit.”
-
- ORPC experience – FERC has also tightened their internal policies for preliminary permit application reviews




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Igiugig Hydrokinetic Project



FERC Pilot License Transition to FERC Commercial License

- FERC Pilot License for a Hydrokinetic/Tidal Project = 10 years
 - Relicensing of a Pilot Project is *still* required to start 5-years in advance of license expiration
- 
- Igiugig Hydrokinetic Project will be the second project to ever undergo this transition
 - FERC Hydrokinetic Pilot Project Licensing Process allows a waiver process for filing NOI/PAD if the proposed project is <1.5 MW
 - Propose a 4-year TLP relicensing process plan and schedule
 - Propose filing a DLA in place of a PAD with NOI
 - Plan has been discussed with Project Adaptive Management Team



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Future Considerations for Project Development

ORPC is one of two organizations selected by the U.S. Department of Energy's Water Power Technologies Office for negotiations to pursue Phase 1 efforts for tidal energy project development

- American Tidal Energy Project, Cook Inlet, Alaska
- Project development & FERC Draft Pilot License Application effort to begin in late spring 2024



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Future Considerations for Project Development: American Tidal Energy Project

- Section 401 – Water Quality Certification
 - On August 10, 1999 the AK DEC filed a letter with the Commission waiving all water quality certifications for FERC-jurisdictional hydroelectric Projects.
- Section 18 – Fish Passage
- Proposed NEPA Revision Watch Items
 - Environmental Justice
 - Alternatives analysis
 - Climate change projections



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Thank You!

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