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ORPC MARINE ENERGY TURBINES WILL INCREASE PERFORMANCE AT REDUCED COST VIA INITIATIVE WITH IRELAND'S ÉIRECOMPOSITES

DEAL SIGNALS MARINE RENEWABLE ENERGY's RAPID EMERGENCE AS A KEY PART OF CLEAN ENERGY MIX TO COMBAT CLIMATE CHANGE

Link to images

Portland, Maine, April 12, 2021 –ORPC, Inc. and its subsidiary ORPC Ireland are partnering with a European consortium to create a new generation of marine renewable energy turbines that increase reliability and performance while reducing manufacturing costs.

"ORPC's growing operations in Ireland and Europe are an important part of the global demand for our clean, renewable marine energy solutions are the CRIMSON project will provide further technological advancements crucial to scaling the commercialization of our marine energy systems in the region and around the world" said Stuart Davies, CEO of ORPC.

The ORPC team along with ÉireComposites of Galway and National University of Ireland Galway are collaborating with Mitsubishi Chemical Advanced Materials, Germany, and Consiglio Nazionale delle Ricerche of Italy on the effort, known officially as the Commercialization of a Recyclable and Innovative Manufacturing Solution for an Optimized Novel (CRIMSON) Project. Funding is provided by the European Commission via its Fast Track to Innovation program. The total project is valued at €3.9 million.

REDUCED COSTS WILL ACCELERATE COMMERCIAL ADOPTION AT SCALE

The CRIMSON project will bring to market ORPC's reliable, sustainable marine energy river and tidal turbine with foils made entirely of recycled carbon fiber, while also reducing capital expenditure and operating expenditure by 33% and 66% respectively. By reducing lifecycle costs and carbon impacts from

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manufacturing, the approach provides a long-term solution for climate change mitigation. The Commission's funding will drive market adoption of renewable marine energy in the bid to replace carbon emitting fossil fuels. This technology has the potential to generate gigawatts of clean energy from river and tidal currents. It is estimated that there is some 615 TWh per year of harvestable energy from tidal streams, ocean currents, and riverine currents and marine energy power systems can harvest that energy.

RIVGEN® POWER SYSTEM IS A LEADER IN MARINE RENEWABLE ENERGY INDUSTRY

ORPC and ÉireComposites began work together in 2019 building the turbines for ORPC's first commercial RivGen Power System installed to power the remote community of Igiugig, Alaska. Using sustainable, predictable local energy from the Kvichak River, this RivGen device is the longest operating current energy converter in the Americas.

The RivGen Power System offers a no carbon, low noise option, positively impacting local economies and enhancing ecotourism opportunities.

"ORPC's river and tidal devices involve deployment, anchoring and converting the energy from free-flowing rivers and tidal currents into sustainable renewable energy. Having worked with ÉireComposites and NUI Galway on previous and current Sustainable Energy Authority of Ireland (SEAI) projects, we look forward to working with them on developing our megawatt-scale turbine and we are confident in the team's ability to achieve the ambitious targets laid out by the CRIMSON project," commented ORPC's Director of European Operations, James Donegan.

Tomas Flanagan, ÉireComposites' Chief Executive Officer said "At the conclusion of this project, we will have delivered a product that will have a positive impact on both the renewable energy sector and wider society. There is no doubt that society is progressing towards greener communities and I believe CRIMSON will play a positive role in this transition in terms of driving down costs for both the industry and consumers but also increase the productivity of the renewable energy sector," concluded Mr. Flanagan.

ORPC is based in Portland, Maine USA. In addition to Dublin-based ORPC Ireland, ORPC operates subsidiaries in Montreal (ORPC Canada) and Punta Arenas (ORPC Chile).

This project is a continuation of previous research conducted by the Sustainable Energy Authority of Ireland (SEAI) and is supported by Údarás na Gaeltachta and Enterprise Ireland, who continue to assist the work undertaken by ÉireComposites. In the U.S., ORPC receives competitively awarded funding from the U.S. Department of Energy to support its technological advances.

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ORPC is a recognized industry leader in the development of underwater power systems for use in free flowing tidal and river sites and is active in North American, South American and European markets. In addition to operating a commercial river power project for the Village of Igiugig, Alaska, now the longest operating river hydrokinetic device in the Americas, ORPC is also working with the communities of False Pass, Alaska, and Eastport, Maine, on smart microgrid projects utilizing tidal energy as a baseload resource. ORPC has become a respected leader in marine renewable energy worldwide. The company's mission is to improve people's lives and their environment through sustainable energy solutions, and it is one of the few companies to have built, operated and delivered power to a utility grid from a tidal energy project (in Maine), and to a remote community grid from a river energy project (in Alaska).

Established in 1998, ÉireComposites is an innovative design, manufacturing and testing company, involved in lightweight, high performance fiber-reinforced composite materials, with an international blue-chip customer base of over 70 companies in aerospace, renewable energy, marine, Formula 1 racing and general automotive sectors. As a leader in designing and manufacturing composite materials, ÉireComposites have extensive experience, state-of-the-art facilities and advanced design capabilities as a one stop shop for composites process and product development. The company is based in Inverin, Galway, Ireland, and employs over 60 people.

The Fast Track to Innovation is a fully-bottom-up innovation support program promoting close-to-the-market innovation activities open to industry-driven consortia that can be composed of all types of participants. It can help partners to co-create and test breakthrough products, services or business processes that have the potential to revolutionize existing or create entirely new markets, under the helm of the Enhanced European Innovation Council pilot.

The financial mechanism implementing the Innovation Union, **Horizon 2020** is the biggest research and innovation program ever implemented by the European Union with nearly €80 billion of funding available over 7 years (2014 to 2020). The idea of this program is to develop great ideas from the lab to the market through new breakthroughs, discoveries and world-firsts. This in turn will help deliver economic growth and job creation thus securing Europe's global competitiveness.