



European
Commission

Innovation Fund Programme



Overview of ongoing projects in Ireland

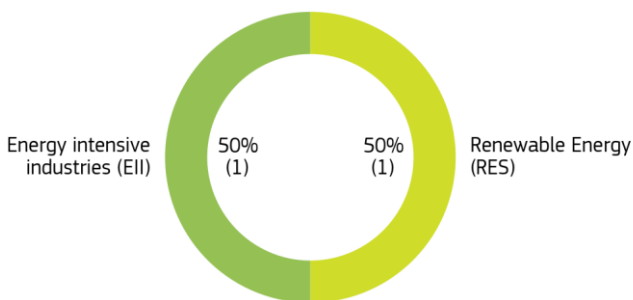
Funded by the revenue of the EU Emissions Trading System, the Innovation Fund's goal is to help businesses investing in innovative low-carbon technologies with significant GHG emissions reduction potential.

The Innovation Fund currently supports **2 projects** located in Ireland, which will contribute to the decarbonisation of European industries with a total expected GHG emission reduction of **128,589 t CO₂ equivalent in the first 10 years of operation.**

The total **Innovation Fund grant in Ireland is of EUR 43.7 million**, out of the **total relevant costs of EUR 73.4 million**, as defined in Art 5 of the Delegated Regulation 2019/856 on the Innovation Fund¹.

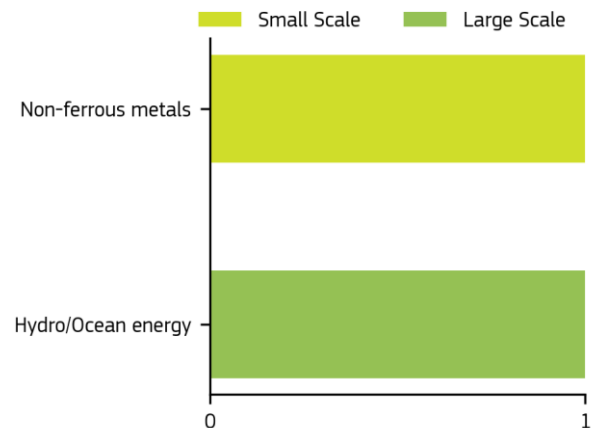
Projects per category

Number of projects and percentage of the total



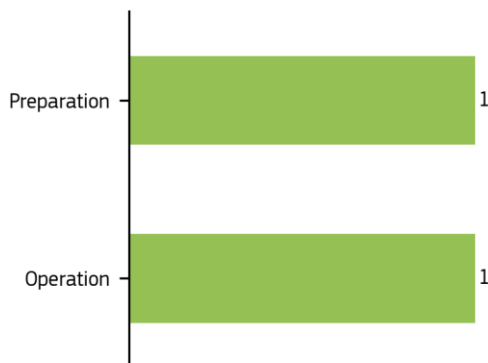
Projects per sector

Number of Small and Large-Scale projects



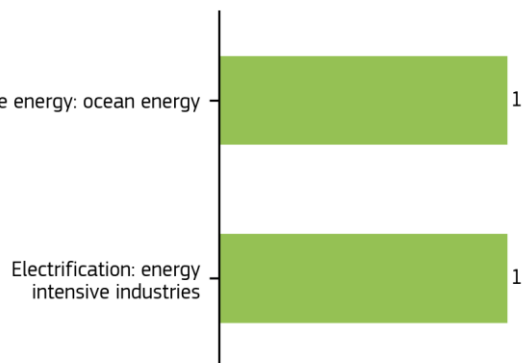
Projects per phase²

Number of projects



Top 5 technology pathways³

Number of projects



¹ OJ L 140, 28.5.2019, p. 9.

² Preparation means the period before financial close is reached; construction means the period between financial close and entry into operation; operation means that the construction is finished and the project has already started production.

³ Projects may employ several technological pathways, only the top 5 per country are kept in the graph.

List of ongoing Innovation Fund projects in Ireland

Acronym	Title	Sector	Start date	Project phase	Beneficiaries	Innovation Fund grant (EUR million)	Expected GHG emission avoidance (t CO2eq)
Large Scale						39.5	26,245
SAO	The Saoirse Wave Energy Project	Hydro/Ocean energy	01/01/2024	Preparation	SAOIRSE ESB Wind	39.5	26,245
Small Scale						4.2	102,344
AAL SEB	Demonstration of the use of flexible electrical demand to assist Electrical grid facilitate higher levels of renewable power	Non-ferrous metals	01/12/2021	Operation	AAL	4.2	102,344

Project overview

Acronym	Title	Description
AAL SEB	Demonstration of the use of flexible electrical demand to assist Electrical grid facilitate higher levels of renewable power	<p>Aughinish Alumina wish to install and operate a first of a kind High Pressure Electric Boiler Unit which will demonstrate decarbonisation of a high temperature energy plant. This project is a large scale pilot which will demonstrate the benefits of demand side frequency response to an electrical grid that is aiming to be a world leader in renewable generation.</p> <p>It has the potential to be scaled up within Aughinish to 10 times the size of this pilot project as well as numerous industries within Ireland & Europe that requires energy in the form of heat.</p> <p>The ability to create additional demand when levels of renewables are high will ensure that levels of curtailment of wind generation will reduce, whilst also reducing carbon emissions through displacement of fossil fuels such as gas & oil.</p> <p>This project is innovative as it provides additional benefits outside of carbon reductions. The electric boiler provides large scale grid services reducing curtailment on the grid and increasing the usage of renewable energy. The CO2 saving comes from the reduction of natural gas use on site and through providing system services that would otherwise be provided by fossil fuel generators. Its flexibility will provide electrical grid operators with a service essential to maintain security and stability on a system with increasing levels of renewable generation.</p> <p>The technology once demonstrated can be scaled both larger and smaller with applications including but not limited to Pharmaceutical, Food, Oil & Gas and Chemicals.</p> <p>Aughinish have delivered many large projects and are uniquely positioned to deliver this project with extensive knowledge of the electricity market and the in house engineering capabilities to deliver the project.</p> <p>The project is technically ready, scalable, will reduce carbon emissions, allow greater levels of renewable electricity on the Irish power grid and help the electrical system operator maintain a stable power grid.</p>
SAO	The Saoirse Wave Energy Project	<p>The Saoirse Wave Energy Project</p> <p>Saoirse is a first-of-a-kind 5 megawatt (MW) wave energy development located 4 kilometres offshore from County Clare, Ireland. The project will deploy and demonstrate the CorPack, a pre-commercial wave energy array using the CorPower Ocean wave energy converter (WEC) technology. Saoirse is a stepping-stone for proving the bankability of wave energy and kickstarting the development of larger projects in Ireland, the European Union (EU), and across the world. It will lead to a relative greenhouse gas (GHG) emissions avoidance of 96.6% compared to the business-as-usual scenario.</p> <p>The CorPack design brings a breakthrough degree of innovation as a turnkey wave farm building block of 5-10 MW capacity, gathering several CorPower WECs in a cluster. The project will exceed the current state-of-the-art by overcoming the challenges that are preventing wave energy from evolving and upscaling commercially. The electricity from each CorPack is exported to the grid via subsea cables through a floating electrical collection hub. With 14 CorPower WECs, the 5 MW CorPack demonstrated in this project will validate, at farm level, the integration of all systems needed to generate electricity from ocean waves. The Saoirse project will generate 15 gigawatt hours (GWh) per annum of renewable electricity from ocean waves. This is equivalent to the annual demand of around 4 200 homes, displacing GHG emissions of 27 000 tonnes of CO2 equivalent in the first ten years of operation.</p> <p>By accelerating wave energy roll out, Saoirse Wave Energy will enable others to implement wave energy farms, contributing to the delivery of the European Commission's Green Deal deployment targets for tidal and wave energy. It will demonstrate wave energy levelised-cost-of-energy (LCOE) reduction towards the EU SET Plan's target of EUR 150 per megawatt-hour.</p> <p>Saoirse Wave Energy will demonstrate a reinforced, 100% European supply chain with engaged industrial suppliers, contributing to the European Green Deal's socially just transition. Parts of the system are manufactured in Ireland, including the composite hulls in a unique mobile factory. Ocean installation, wave farm management, and operation and maintenance rely on local Irish suppliers from the wave farm location. A techno-economic analysis of a 10MW CorPack shows benefits in Gross Value Added, and 54.27 job-years supported, strengthening the local supply chain and helping create a new local wave energy industry. This project will create 5 local full-time jobs.</p>