

HY4RES is a European project led by Trinity College Dublin, co-funded by INTERREG Atlantic Area.

The project gathers 9 partners in 4 countries (Ireland, Spain, Portugal and France), working in the fields of hybrid renewable energy systems, agriculture, aquaculture, ports and community energy.

























**HY4RES** 



ERDF funding 2,40 M€

Calendar 12.2023 to 11.2026







Developing hybrid renewable energy systems to support the green transition of industry and community energy demand in the Atlantic Area



## Achieving net-zero emissions in the Atlantic Area...

The HY4RES project develops hybrid renewable energy systems and energy storage solutions, combining 3 different sources of energy: solar-hydro-wind. The project will help producing sustainable energy:

- Low-cost
- Efficienct & self-sufficient
- Environmentally-friendly

The HY4RES project aims to increase the penetration of renewable energy in the Atlantic Area, reducing greenhouse gas emissions from agriculture, aquaculture, ports and community energy.

## ...with hybrid solutions for renewable energy systems

HY4RES tackles the challenge of ensuring effective solutions across the EU, balancing the variable output of wind, solar and hydropower with energy storage.

Renewable energy sources need to be managed using digital solutions to maximise their potential benefits, improve management and interoperability of these energies in a hybrid system.

HY4RES works with researchers, policy makers, entreprises and many other interested stakeholders to provide effective and sustainable techniques, responding to industry and community energy demand in Europe.

## **EXPECTED RESULTS**

- Development of solutions for hybrid energy production (wind-solar-hydro) and storage at micro scale using submersible sea-water compatible fish friendly pumped storage hydropower.
- Creation of renewable energy management software, forecasting models following energy production and users energy demand.
- Demonstration of hybrid renewable energy systems in 4 pilot sites located in Ireland, Spain and Portugal, in agriculture, aquaculture, port and community energy sectors.
- Measurement of the impact of hybrid energy systems: policy and sustainability assessments and elaboration of a decision-making tool.
- Creation of a 'Community of Practice' to involve and disseminate the project results among a wide network of stakeholders.

