Interreg Atlantic Area
HY4RES

Co-funded by the European Union

AQUACULTURE PILOT SITE

Killybegs, Co.Donegal, Ireland



GENERAL INFORMATION

Killybegs, northwest Ireland - Fish processing plant
Island Seafoods Ltd. - Established in **1986**

Power plant built in **2007** - Wind turbine in **2021**
Started operations at the biomass facility in **2025**

Company's commitment to energy efficiency and sustainable aquaculture

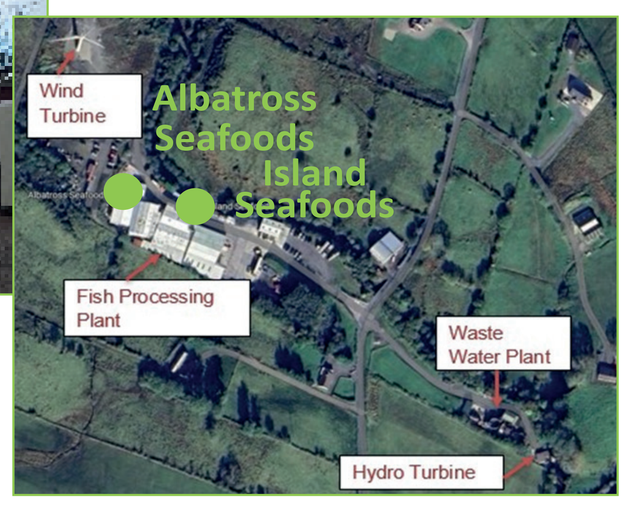
Existing wind & hydropower generation constrained by limited local demand and grid restrictions

HY4RES explores how intelligent energy management can optimise the use of onsite renewable electricity, which already generates more than 1.5 times the electricity required for onsite processes



2 companies hosted on the same site

New business called **Killybegs Energy Ltd**





Biomass facility

Hydro turbine



TYPES OF RENEWABLE ENERGY

Wind power

Wind turbine
850 kW - 820,000 kWh
Lifetime: **20-25 years**

Hydropower

Francis turbine
380 kW - 850,000 kWh
Lifetime: **50 years**

Biomass

Kiln-dried logs produced from local biomass and using excess renewable energy produced onsite

INVESTMENT & ROI

Cost
€1.5 million

Energy price
€0,3808/kWh

Annual energy requirement
1,100,000 kWh

Annual revenue
€535,000
(€110,000 from export of electricity*)

Annual savings from RE generation
€425,000

ROI in 3 years

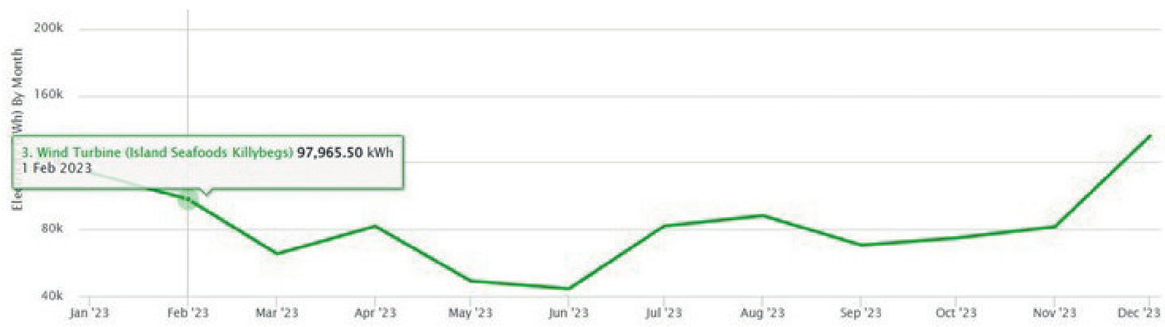
***Selling to National Electric Grid**

TECHNOLOGIES/TOOLS USED

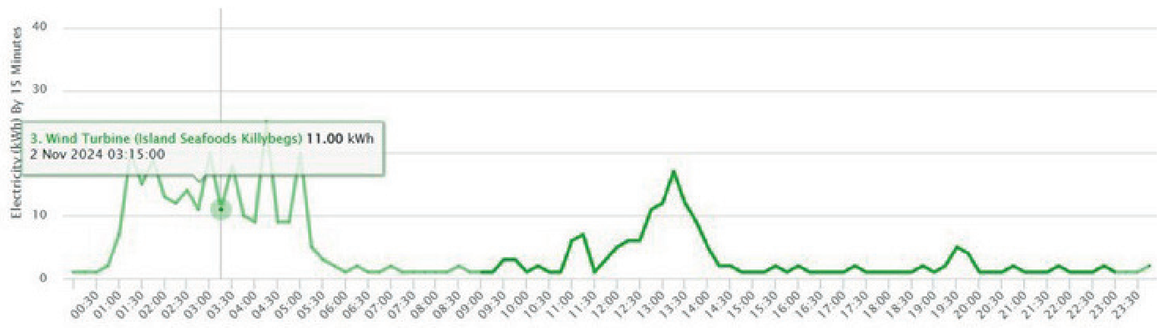
Forecasting energy source & using hybrid power system modelling software (following production & consumption)

WIND POWER PRODUCTION

Yearly wind power production **2023**

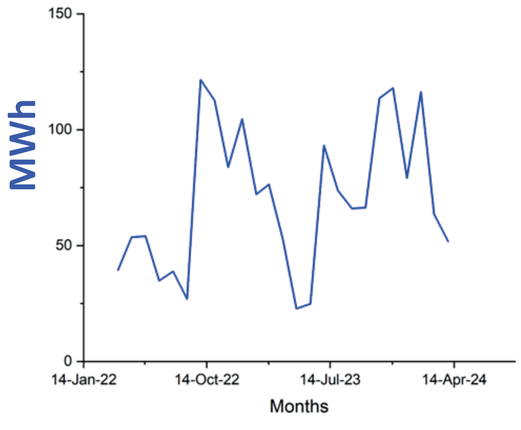


Daily wind power production **2nd November 2024**

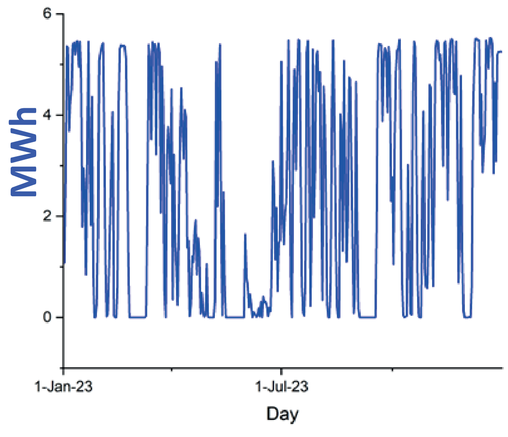


HYDROPOWER PRODUCTION

Monthly hydroelectricity production **2022-2024**

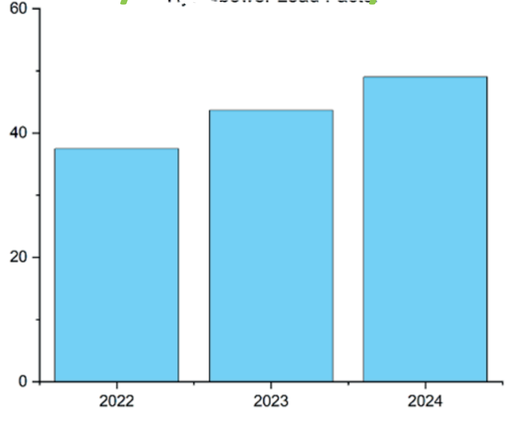


Daily hydroelectricity production **2023**



LOAD FACTOR

Hydropower
04/2022 to 04/2024



Wind turbine
2022, 2023 & 2024

