

Track record

The Kinewell Energy team has **13.1 GW of advisory experience** across the European, Japanese, US, South Korean and Chinese offshore wind markets.

Equinor, EDF Renewables and OREC Catapult

Kinewell Energy were **selected by Equinor, EDF Renewables and OREC Catapult** to be awarded a share of £800k through the TIGGOR programme [1], extending our project scope from a previous £1.7m round of TIGGOR awards [2], thanks to the **incredible performance of our team in adding value.**

Equinor, Beacon Wind, >2GW

Optimisation of the US wind farm's inter-array cable layout. The work considered project uncertainties, such as: various turbine sizes, base and overplanting capacities, substation location, cable types and radial vs branched networks. The cable layouts were optimised for both minimum CAPEX, and minimum of CAPEX plus OPEX considering electrical losses and unavailability losses. The work provided information that **de-risked numerous key client decisions** while also identifying substantial savings over the project life.

Confidential client, confidential MW

Inter-array cable system re-analysis for a major European developer to understand the savings achievable using KLOC. The developer described the results as '**relevant cost savings**'. The study demonstrated flexibility in turbine layout, asset crossings, cable type selection, substation positioning, and export cable routing are key to achieving optimized CAPEX and added revenues through reduced transmission losses. [3]

Confidential client, Hollandse Kust Zuid I&II, 700 MW

Repeat business from the client supporting their project tender, KLOC was used to optimise the electrical connections for the 700 MW wind farm linking the 80 proposed turbines to the offshore substation.

Case study: Gwynt-y-mor, 576 MW

A benchmarking study to demonstrate the savings KLOC can deliver against the installed Gwynt-y-mor cable layout using publicly available data. The re-optimisation yielded **savings of £2.2m**. The total length of cable reduced by 1.7 km and the electrical losses reduced by 1.2 GWh per year. [4]

North East Business and Innovation Centre (NE-BIC)

"We funded the Kinewell Energy team to deliver on an innovation project that will lead to a new-to-market solution. Seeing Kinewell Energy's pioneering ideas develop and become reality was very rewarding, and the company **professionally delivered the project on time and on budget**. I have no doubt that the new solution will be a commercial success and add significant value to Kinewell Energy's client base while supporting societal decarbonisation efforts." [5]



KLOC enables offshore wind farm inter-array cost savings typically in the region of 20% of CAPEX over the operational lifetime.

The purchase and installation of inter-array cables are a significant cost at an estimated \$360m/GW, or 11% of total wind farm CAPEX. KLOC uses state-of-the-art AI based software to formulate an **economically optimised** inter-array cable layout.

Kinewell Energy are a **UK based worldwide** business delivering offshore wind inter-array cable layout optimisation **consultancy, training and KLOC licensing services.**



The KLOC inter-array cable layout optimisation tool:

- Reduces **cable system CAPEX** through **reduced cable length**
- Reduces **electrical transmission losses** and **maximises energy sales**
- Improves **cable system reliability** and **reduces downtime**
- De-risks key decisions such as **substation location and choice of cable type**
- Enhances engineering team productivity through **digitalisation and automation**
- Can be accessed from anywhere, anytime, using desktop, laptop, tablet or mobile via **an intuitive graphical web-app**

