

CASE STUDY

# MODULAR HYBRID POWER POD FRAMEWORK FOR JCE ENERGY



## BACKGROUND

James Aiken Engineering Services has worked with JCE Energy for many years, providing a variety of items for use onshore and offshore.

JCE Energy designs and manufactures fully customised solar/wind hybrid power packages to the offshore and marine industries.

The company has developed a modular hybrid power pod, manufactured in Aberdeen which utilises a wind turbine and solar panel system to supply a certified battery package via its standard controller/distribution system. The inclusion of battery storage means the package will deliver reliable power during periods of wind and darkness.

The environmentally friendly form of power production is in increasing demand due to escalating energy costs and a growing desire to utilise renewable energy.

## CHALLENGE

The modular design incorporates features to ensure that static and dynamic forces are distributed to minimise deck loading. The module is self-contained and ready to be shipped, minimising installation and shipping costs and time.

Furthermore, the framework had to be constructed in a way to make installation and set up of the pods fast and simple.

James Aiken Engineering was tasked with designing, manufacturing and supplying customised frames for the units to ensure stability, ease of shipping.



## SOLUTION

The team at James Aiken designed bespoke metalwork, strong enough to hold the wind turbine and up to six solar panels. The framework incorporated the battery storage system and all-weather control panel.

A key advantage of the hybrid system is its transportability, which makes it suitable for onshore, offshore, construction sites and remote locations. The framework was therefore carefully designed and constructed to be lightweight enough for easy transportation, but sturdy enough for all weather situations.

JCE Energy offers a variety of additional systems which can be added to the power pod, including bird scaring, navigation aids, data recording and alarm systems, and James Aiken Engineering incorporated those requirements into its design.

## RESULTS

The lightweight modular hybrid power pod has been demonstrated to be sturdy in severe winds and rain, and customers have been pleased with the minimal shipping and installation requirements.

The bespoke framework can be adapted according to individual requirements with requests from customers in both the oil and gas and construction industries. The stand-alone unit has been approved for use in non-hazardous or zone 1/zone 2 hazardous areas.

JCE Energy is extremely pleased with the affordability and effectiveness of the framework which has been causing a great deal of interest from customers.



**JAMES AIKEN ENGINEERING SOLUTIONS IS A LEADING SUB-CONTRACTOR OF FABRICATED METAL AND PRECISION MACHINED COMPONENTS WITH EXTENSIVE FABRICATION AND MACHINE SHOP FACILITIES UNDER ONE ROOF.**



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