Post Construction Monitoring

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Renewable Energy - Onshore Wind

Client: Peel Land & Property Group

Location: Frodsham - Cheshire

Project Overview

Frodsham Wind Farm is a nineteen-turbine 50.35MW onshore wind development, located in Frodsham, Cheshire.

Atmos was initially commission as the project ECoW through the construction phase and was retained to undertake post construction monitoring (PCM).

Key Challenges

An onerous planning condition, requiring turbines to be powered down at key times during the active bat season to avoid bat fatalities.

Access and health and safety issues to wetland areas for survey purposes, such as reedbeds and areas of open water.

The site is home to Schedule 1 Marsh Harriers that nested near to the wind turbines.

Our Solutions

Using data from the ultrasonic bat detectors installed in each turbine, we established a clear picture of the bat species composition, how they used the site, when they were active and in which areas.

To further build evidence, specially trained sniffer dogs were used to build data on bat fatalities and compared to other UK wind farms.

Scientific analysis of the data strongly suggested that the production downtime was overly excessive, and a case was made to the Local Planning Authority (LPA) to reduce the curtailment time without risk to bats.

To overcome the accessibility issues in surveys of wet lands, drone aerial photography was used to enable us to accurately map the extent of reedbed habitats and the encroachment of scrub.

The Successful Outcome

The LPA agreed to reduce the level of curtailment.

The use of sniffer dogs vastly improved the robustness of the data. The dogs found 80% of bat carcasses whereas whereas human surveys average around 25%.

Substantial cost savings were also made in survey costs, due to the efficiency of using sniffer dogs.

What our client said:

"As a result of the work Atmos have carried out, bringing together science with the data gathered from the wind farm, we have managed to reduce the amount of wind turbine down time by proving to the local planning authority that there would not be a detrimental effect on bats. This equates to an extra 3000MWh of green energy being produced per year.'

Michael Humphreys,
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