

Galion Lidar Technology at Work

Wind Farm Noise Impact Assessment



GalionTM

2nd Generation Lidar

SgurrEnergy's Galion Lidar provides a convenient and cost-effective way of measuring hub height wind speed, making it the ideal solution for noise impact assessments

Background

Noise is a major consideration in determining the consent of a wind farm planning application, whether as part of an environmental assessment or a standalone planning application. SgurrEnergy has many years experience of conducting noise impact assessment's NIA's and helping clients successfully obtain planning permission for wind farms.

There are three main elements to conducting a noise impact assessment (NIA):

- Monitoring the pre-existing background noise at potential sensitive receptors
- Measuring the wind speed and direction over the same period to establish the relationship between background noise and wind speed.
- Modelling the expected noise contribution from the proposed wind farm development and comparing with the background levels.

The generally adopted procedure for noise impact assessment for wind farms is the ETSU R-97 methodology.

Traditionally, background noise data was correlated with wind speed using a 10-metre met mast at the proposed site. Recent developments regarding wind shear issues in noise impact assessments mean that wind measurements at hub height are now recommended. The most effective way to collect this hub height data is to use Lidar technology.

Lidar technology used for noise assessment

Lidar is a mature remote sensing technology that is now successfully being used as part of a wind farm environmental assessment. Lidar technology provides the necessary horizontal and vertical wind speed and direction measurement data, and gives a "sample which is representative of the site" required for all planning applications.

SgurrEnergy's Galion Lidar is an ideal solution for conducting an NIA and can be rented for short duration NIA projects.



Compact, portable, robust and discreet, the Galion Lidar can be deployed very quickly and provides a much more economical overall NIA solution when compared to traditional met mast methods.





Sustainable Engineering Worldwide

Lidar is a mature remote sensing technology that is now successfully being used as part of a wind farm environmental assessment. Galion Lidar is available now for sale or rental.

Lidar - A fast, discreet and economic solution

If you need assurance that your measured wind data will stand up to intensive scrutiny in your planning application, Galion Lidar is the ideal solution.

SgurrEnergy has the advantage of having experts in both wind measurement and noise assessment on hand to help with any recommendations that may be required regarding the proposed location of the device, and to ensure that the correct monitoring process is conducted.

SgurrEnergy's clients include not only wind farm owners, developers and utility companies but also planning consultancies where SgurrEnergy acts as a sub-contractor providing wind measurement data.

Lidar and Noise Impact Assessment at work

A small onshore developer required an NIA conducted for a proposed wind farm of 10 turbines in a remote UK location. The developer wanted a simple cost-effective solution within very fast timescales. It wanted to follow the recommended best practice guidelines for NIA but did not want the inconvenience of seeking initial planning permission, or the expense of installing a large met mast.

Installing a large met mast could have potentially added three* months to the overall delivery process along with the additional expense of erecting the mast. SgurrEnergy conducted a three-week wind measurement campaign using Galion Lidar technology. This cost-effective solution was simple and quick to deliver and enabled the client to obtain the wind farm planning application. This accelerated the overall development process significantly.

SgurrEnergy's noise team also recently provided an operational noise impact assessment for a utility developer based in Scotland. This NIA involved negotiation with statutory consultees and deployment of specialist noise monitoring equipment at a number of nearby noise sensitive receptors. The contribution of noise from different turbine types were then modelled and compared to the measured data and the planning criteria. SgurrEnergy performed the lead role in the preparation of all support materials and presentation at public meetings and consultations. This resulted in the wind farm developer receiving fewer objections to the site because of noise implications and successful planning consent was granted.

* This is based on average time for planning consent and equipment lead time.

Our portfolio of services

SgurrEnergy can provide Lidar technology for standalone wind assessments to assess noise measurements over a range of wind conditions. Alternatively, it can offer Lidar as part of a bundled service that provides a full, comprehensive noise impact assessment, incorporating noise modeling deployment of the required sound equipment to ETSU R-97 standard, at the surrounding sensitive receptors.

To find out more about SgurrEnergy's NIA services call us now on **0141 227 1700** or email: **info@sgurrenergy.com**



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Benefits of using Lidar technology versus Met Mast

- No planning permission required
- Device is compact and non-intrusive, unlikely to cause public concern
- Fast deployment
- Rental rates are very economical
- Inaccessible sites become accessible
- A silent power supply can be provided



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