



A specialist energy consultancy

Smart monitoring
services - noise

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TNEI is an independent specialist energy consultancy providing technical, strategic, environmental and consenting advice to organisations operating within the conventional and renewable energy sectors.

Smart monitoring services - noise

With significant experience in providing specialist acoustics services, TNEI, alongside expert technology provider, Visualwind, has developed an innovative smart noise monitoring solution. The WindComply Noise Module, which is used exclusively by TNEI, communicates with the wind farm supervision platform, WindSync to provide live noise and rain data feeds. This platform provides smarter acoustics services, especially for long term environmental noise surveys where noise, wind and SCADA data are analysed together.

There is an ever-increasing requirement to undertake noise compliance monitoring at wind generation sites to satisfy the requirements of planning conditions, Environmental Management Plans or in response to complaints from wind farm neighbours. Compliance monitoring assessments can sometimes be lengthy and expensive due to the requirement to collect data during a range of wind conditions and the requirement for regular site visits to service the equipment and to download data for analysis.

During compliance noise monitoring campaigns, there can also be a requirement for wind farm operators to shut down production for long periods in order to obtain robust data in the absence of wind turbine noise. This downtime can represent an expensive loss in production hours for the wind farm, so it is imperative to confirm that the monitoring equipment is working before the turbines are switched off and to have access to the results of the survey to know when sufficient data has been collected.

Data collected by the WindComply Noise Module is sent to a secure cloud server and is accessed remotely, which means that our team of experts can check the status of the equipment at any time and provide clients with a prompt update on the data collected. The WindComply noise module is autonomous and can be left unattended for months whilst providing data daily.

Key features of the WindComply Noise Module include:

- Extremely low power consumption
- Small footprint
- Class I sound level meters embedded in the module to provide high resolution data (including audio files) and enable assessment of noise levels, tonality and amplitude modulation.

Thanks to the development of this smart technology, we are able to provide more responsive noise monitoring services for our clients. Through this partnership between TNEI and Visualwind, the WindComply Noise Module is used in TNEI's noise monitoring campaigns across the UK and abroad.

Case study

Service: **Noise compliance monitoring**
Client: **Wind farm operator**

TNEI was appointed by a wind farm operator in England to undertake compliance monitoring at a recently constructed site to demonstrate compliance with the noise limits detailed in the site's planning consent. As part of the assessment, our team of specialists deployed four WindComply noise modules to collect a variety of noise data at locations around the development.

The WindComply units were powered by solar panels (operating in tandem with an internal battery pack) and data was sent back via Visualwind's Windsync platform on a daily basis. TNEI staff checked the data each day and analysed the noise data, together with SCADA data from the turbines and wind speed / direction data every week.

Use of the WindComply module ensured that sufficient data had been collected to undertake the assessment, whilst enabling TNEI to provide regular updates to the client on the results of the assessment. Our acousticians were able to advise on the requirement for wind turbine shut downs (which were required for certain wind conditions) and were able to confirm when sufficient data had been collected to avoid unnecessary periods of shut down, thus minimising revenue losses.

Following a detailed analysis of the data, our team was able to attend the site to decommission the equipment and prepare a compliance report for submission to the Local Planning Authority.

Key contact

James Mackay
Director of Site Services



Unit (ECU).

Whilst at TNEI, James has been involved with more than 200 ETSU-R-97 wind farm noise assessments and several hundred assessments of smaller single turbine schemes. In addition to baseline noise assessments James also has experience of wind turbine compliance testing, complaints investigations and Planning Appeals.

James holds the Diploma in Acoustics and Noise Control, is a full Member of the Institute of Acoustics.

Get in touch

We are a specialist, independent company. That's why we can offer a flexible, personal service and help our clients quickly and efficiently, without all the big corporate distractions.

But most of all, we love to solve problems.

For more information about our smart monitoring services, please contact James Mackay; email: james.mackay@tneigroup.com or call: +44 (0)191 211 1414.





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For more information about who we are and what we do, please contact: info@tneigroup.com

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