ENS Acoustics
consulting

ACOUSTIC CONSULTING

Environmental Noise Solutions (ENS) is an independent acoustic consultancy specialising in noise in the built environment.

We undertake projects that encompass small, local development projects and new school developments through to major developments including large residential developments and hotels.

Our consultants all have a broad range of experience, both in the public and private sector, and who all work to our high standards of delivering the best possible service to our clients in a proactive and responsive manner required by the modern, commercial environment we all work in.

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Renewable Energy and Planning

DELIVERING THE SOLUTIONS YOU NEED

Over the last few years some new developments that have combined heat and power (CHP) energy requirements (such as universities, hotels, holiday villages, social housing projects, etc.) have been opting for CHP energy systems that have a renewable fuel source. Such plants offer operational flexibility, reduced carbon footprint and overall cost savings for clients with traditionally large fuel bills. Such plants are also often noisy and careful consideration needs to be taken to control noise breakout from such plants at the planning and operational stages of the development.

flexible solutions for energy developments

Noise and the LPA

For most local planning authorities (LPA), a CHP plant is very likely to be a unique development when considered from a noise perspective. Traditionally, large power generating stations are situated in semi-rural environments where, given the scale of the operation, the distance between plant and noise sensitive receptors is large (typically > 500m) and as such noise breakout from such plants has no material impact on nearby noise sensitive receptors.

However, we have typically found that noise levels associated with some plant used by renewable CHP plant systems are in excess of 90dB and, from a Health and Safety perspective, would require hearing protection to be worn when working in the building housing the plant. Consequently, noise breakout from such plant needs to be considered carefully, especially where noise sensitive receptors can be less than 50m from the CHP plant (for example, in a university setting with teaching spaces and student accommodation in close proximity).

Typically at the planning stage a noise survey will be required to determine/record the current ambient noise levels at the site to ensure that the CHP plant does not adversley affect the current noise environment and the building envelope housing the plant to be designed to mitigate noise breakout.

NEW UNIVERSITY CAMPUS CHP SYSTEM

This CHP development was proposed for a new campus on the outskirts of an existing university town in the north of England. The site to be developed was essentially farm land but bounded on two sides by existing residential properties.

The CHP plant was designed to supply heat and power to the new university buildings that consisted of teaching spaces and a student accommodation block. The CHP was less than 30m away from noise sensitive receptors; the CHP has internal levels between 85-90dB and as such the acoustic design and ventilation strategy for the CHP housing was essential to future proof the teaching and residential amenity of the university buildings, especially for the student accommodation that would be occupied at night when, especially during winter, the CHP plant would be operating.

Through careful design of the building envelope for the CHP plant and recommendations for the acoustic design of the remaining buildings to control noise break-in the requirements of the LPA were satisfied and the new CHP plant is now being built prior to the development of the remainder of the campus.

For further details about how ENS Acoustics can help you with any noise related planning and design issues associated with renewable energy sources please contact our environmental acoustics team.

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