

Noise from Unconventional Gas

The Airshed has conducted numerous surveys and assessments for proposed coalbed methane projects throughout the UK for Reach CSG, Composite Energy and Dart Energy. The main consideration for noise assessments is night-time noise from temporary drilling operations and the need to ensure that noise does not exceed the World Health Organisation's (WHO) night-time criteria to prevent sleep disturbance.

The Airshed has extensive experience in assessing this type of activity and has a large database of noise survey information for vertical and horizontal drilling for a wide variety of rigs. The main noise sources for temporary drilling are from the rig engine and associated plant. These are close to ground level and can be readily screened by acoustic fences or earth bunds.

An important aspect of these assessments is to ensure that the local EHOs don't seek to apply inappropriate noise criteria to these operations: the noise from temporary drilling is more akin to construction noise and should be assessed accordingly.

The Airshed recently conducted a detailed assessment for Dart Energy (Europe) Ltd for a proposed gas extraction network and gas distribution and water treatment facility near Airth, in central Scotland.

A number of options were considered to reduce noise from temporary drilling. The controls adopted included the selection of quiet compressors, generators and ancillary plant. Noise from different rig engines can vary significantly, so the use of smaller, quieter rigs was an option in some cases where horizontal drilling was not proposed. In most cases, noise from the temporary drilling operations could be reduced to an acceptable level using acoustic screens. In some cases, where the proposed operations were within 200–300m of receptors, the residual noise was too great for night-time operations, (due to noise from the top drive). In these circumstances additional mitigation was applied to enclose the top drive. These combined measures reduced impacts to well below the WHO night-time limits.

Noise from long-term operations such as the gas collection network, gas distribution and water treatment facilities must be designed to comply with stricter noise standards. Noise from the gas collection network once operational is much quieter and can be easily controlled. The Airshed worked closely with the process engineers for this installation to ensure that noise from the gas distribution infrastructure would not cause loss of amenity at residential properties nearby.

