

Environmental considerations

Acoustics

Sound immissions from wind farms in many circumstances may be inaudible or effectively “masked” by the background sound already present in the surrounding environment. We take care to ensure sound levels from wind turbines are within recommended limits and comply with planning policy. Initial design work has taken account of residential properties in the surrounding area with buffers applied, which has resulted in the scoping layout presented. Survey work is being undertaken to understand the background sound levels in greater detail, and this will inform the iterative design process and EIA.

We will shortly be commissioning a range of background sound surveys at selected properties in the local area which will be agreed with the Highland Council’s Environmental Health Officer. The surveys will measure the sound levels at different times of the day and night to establish a baseline. The results of the background sound survey will inform the setting of the sound immission limits for the operation of the wind farm.

Shadow flicker

Shadow flicker is a phenomenon where, under certain circumstances of geographical position and time of day, the sun may pass behind the rotors of a wind turbine and cast a shadow over neighbouring properties. When the blades rotate, the shadow flicks on and off. It only occurs inside buildings, such as where the flicker appears through a narrow window opening. Shadow flicker can be easily modelled and the Clune Wind Farm proposal is being designed in a way that will minimise any potential for shadow flicker. Shadow flicker can be mitigated in a number of ways, including shadow detection technology on relevant turbines to create a shutdown timetable, if necessary.

Aviation and Radar

Radar systems can be susceptible to interference from wind turbines as the blade movement can cause intermittent detection by radars within their operating range. This is particularly relevant where there is a line of sight between the radar and the wind turbine development.

RES has undertaken an initial Aviation Assessment to identify any radar infrastructure which may be impacted by the proposed turbines. The closest infrastructure to the site is located at Inverness airport and RAF Lossiemouth. Further assessment and consultation are being carried out to establish whether mitigation measure will be necessary.

Full consultation will be undertaken with all relevant consultees including the MoD, Civil Aviation Authority and Inverness Airport.

Aviation lighting

The turbines proposed for Clune are above 150m in height and will therefore require aviation lighting so that the turbines are visible to aircraft. We will be consulting with the Civil Aviation Authority (CAA), Inverness Airport, the Ministry of Defence (MOD) and any other relevant consultees over the coming months to agree a lighting strategy with them.

It is worth noting that not all turbines are likely to be required to be lit (for example, lighting may just be required on outermost turbines). Furthermore, the (red) aviation lighting is designed to focus the light across and upwards for the attention of aircraft rather than downwards to ground level.

The proposed lighting strategy will be presented in the planning application.