

Noise Statement: Temporary wind turbine

Cathedral Gardens, Fennel Street, Manchester, M4 3BG

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1. Introduction

- 1.1 This Noise Statement has been prepared by Infinite Renewables Ltd to accompany the planning application for a Single Temporary Wind Turbine in Association with the Christmas Ice Rink at Cathedral Gardens, Fennel Street, Manchester.
- 1.2 The purpose of this statement is to identify the potential noise impact associated with the development, whether this is acceptable and whether any mitigation is required.

Proposed Development

- 1.3 The proposed development is the installation of a single temporary wind turbine in association with the Christmas ice rink. The application is for temporary permission for a period starting on 01/10/2025 and ending on 31/01/2026 (4 months in total).
- 1.4 The candidate turbine is a Bestwatt turbine (BW15) that provides up to 15kW generation capacity. It has a maximum tip height of 21m.

Site Details



Figure 1: Proposed Turbine Location (Google Earth)

- 1.5 The development site is within the outdoor space of the ice rink, which was

previously occupied by a large Christmas tree.

- 1.6 The ice rink will be located on a grassed area of open public space within Cathedral Gardens, which is bounded by Corporation Street to the east and Fennel Street to the south. Surrounding the gardens are heritage buildings (including The Triangle, Manchester Cathedral and Chetham's School of Music) and the contemporary Urbis building which houses the Football Museum. Cathedral Gardens is located within Manchester City Centre, a heavily built-up and urban environment.

2. Policy and Guidance

- 2.1 In preparing this assessment we have consulted a range of policies and guidance including the Council's technical guidance on planning and noise, national policy and guidance and best practice. A review of the documentation is provided in this section.

Noise Policy Statement for England

- 2.2 The Noise Policy Statement for England (NPSE) launched in March 2010 states the long term vision of Government noise policy is to "promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development".
- 2.3 The long-term vision is supported by the following aims; through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:
- Avoid significant adverse impacts on health and quality of life;
 - Mitigate and minimise adverse impacts on health and quality of life;
 - Where possible, contribute to the improvement of health and quality of life.
- 2.4 The Noise Policy Statement for England (NPSE [Reference 4]) (2010) introduces the principles of a LOAEL (Lowest Observed Adverse Effect Level) and a SOAEL (Significant Observed Adverse Effect Level) for noise. The LOAEL identifies the exposure level where adverse effects of noise on health and quality of life can be detected (which should be mitigated and minimised). The SOAEL identifies the exposure level above which significant effects on health and quality of life occur (which should be avoided). The NPSE however notes that both of these general aims should be interpreted within the context of government policy on sustainable development. The explanatory note to the NPSE also explains that the aim is to 'minimise' non-significant adverse noise impacts as far as reasonably practicable.
- 2.5 The intention is that the NPSE should apply to all types of noise apart from noise in the workplace (occupational noise).

Noise Planning Policy Framework

- 2.6 NPPF was published in March 2012 and sets out the Government's planning policies for England and how these are expected to be applied. The framework states (among other commitments) that the planning system should contribute to and enhance the natural and local environment by: "preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability".

- 2.7 The express inclusion of noise in the NPPF means that it is a material planning consideration for local planning decisions. Paragraph 123 of the NPPF document states that planning policies and decisions should aim to:
- A. Avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;
 - B. Mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;
 - C. Recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established; and
 - D. Identify and protect areas of tranquility which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

Draft Updated Guidance: Assessment and rating of wind turbine noise

- 2.8.1 The aim of this document is to provide technical guidance to developers, planners and other stakeholders on the environmental assessment and control of operational noise from wind turbines.
- 2.2 Whilst it is still in the draft stage and not formal guidance, it is aimed to be a targeted update and replacement for the original document, ETSU-R-97 'The Assessment and Rating of Noise from Wind Farms', to reflect evolutions in turbine technology and developments in wind turbine noise assessment methodologies since 1996, as well as established best practice and the latest available evidence in the field.
- 2.3 The guidance notes that when adverse but non-significant effects (above the LOAEL and below the SOAEL) are expected, through compliance with the present technical guidance, it is not necessary to further minimise noise levels from wind turbines in the context of sustainable development.
- 2.4 Operational wind turbine noise assessment criteria for noise-sensitive receptors are defined as the greater of:
- a Lower Limiting Value (LLV); or
 - 5 dB above the prevailing background LA90,10min sound levels determined in accordance with these guidelines.
- 2.5 Noise sensitive receptor locations will normally comprise residential dwellings only. In some cases, additional receptors with sensitivity to noise, such as

healthcare buildings providing inpatient services, nursing/retirement homes, educational establishments with residential elements, (e.g. boarding schools), etc. should also be included in the assessment. Additional receptors should be identified at the initial scoping stage of the assessment, in consultation with relevant stakeholders such as the relevant Planning Authority. It is not necessary to consider every potential noise-sensitive receptor within any study area provided that the receptors that are considered are representative of all relevant noise-sensitive receptors identified.

3. Noise Assessment

- 3.1 This section analyses the operation noise associated with the wind turbine and the impact on neighbouring receptors.
- 3.2 The assessment of the impact of the turbine is made in the context of the temporary nature of the wind turbine and the commercial nature of the area in which it will be located alongside the ice rink.
- 3.3 The nearest receptors to the turbine are The Corn Exchange (20m), the Urbis Building (National Museum of Sport – 29m) and The Chetham's School of Music (66m).
- 3.4 Only the Chetham's School of Music, which is a boarding school, is considered a sensitive receptor location in accordance with guidance.
- 3.5 The background noise levels have been assessed using the Extrium database. This identifies all the receptors as having an average noise level (L_{den}) of at least 50.00 – 59.9.
- 3.6 The noise levels of the wind turbine increase as wind speed increases. As such the assessment of noise impact is made assuming the worst case scenario of wind speeds of 10 m/s. Most of the noise emitted from the turbine will be below this assessed level.
- 3.7 The noise level at Chetham's is assessed to be a maximum of 47.2dBa. This put's the maximum output of the turbine noise within 5dBa of the background noise level, and within the Guidance threshold of acceptability.
- 3.8 In addition, the introduction of the wind turbine in the ice rink infrastructure will negate the need for a diesel generator which would be located closer to Chetham's and with a louder noise level emission.
- 3.9 In conclusion, the wind turbine will have an acceptable noise impact on the neighbouring sensitive receptor.