

Design Statement

11.03.23. Installation of an Air Source Heat Pump (ASHP) in rear garden of 22 Orchard Road, N6 5TR

This design statement is to support a planning application for the installation of an Air Source Heat Pump (ASHP) at the rear garden of 22 Orchard Road, N6 5TR. The proposed ASHP installation will remove the existing gas boiler that provides heating and hot water to the household.

Unit siting

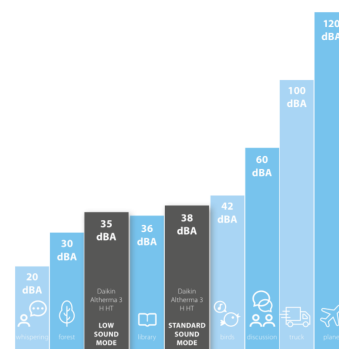
We propose siting the ASHP along the boundary fence to #20 Orchard Road. The unit will be sited c.4.5m away from the buildings, and positioned behind the existing wooden bike shed, minimising any visual disruption. #20 Orchard Road have confirmed that they support this application.



The unit is sleek and quiet

The ASHP hardware has been carefully chosen to be discrete - both in looks and noise levels. The unit proposed is the Daikin Altherma 3 H HT Heat Pump E-Series. As per Daikin's technical specification, when operating in Standard Sound Mode, the sound pressure level of the outdoor unit is 38 dBA (at 3 metres). On Low Sound Mode, the sound pressure is reduced to half (35 dBA at 3 metres).

Daikin describes the sound as 'somewhere between birds chirping and a quiet library' when operating in standard mode¹.



¹https://www.daikin.co.uk/en_gb/product-group/air-to-water-heat-pump-high-temperature/daikin-altherma-3h-ht.html#design

The installation supports the UK in achieving the Climate Change Act

The Act commits the UK government by law to reducing greenhouse gas emissions by at least 100% of 1990 levels by 2050.

We would like to transition our household from a carbon emitting, gas powered system to an efficient ASHP that runs on electricity. The property is an EPC C with no outstanding loft or cavity wall insulation requirements. A high-temperature ASHP has been chosen to limit the need to replace the existing heating system.

The heat loss calculations undertaken confirm that the coefficient of performance will exceed 3. Under an established location based methodology, this installation is expected to avoid c.1,500kgCO₂e per year².

As Baroness Parminter, Chair of the Environment and Climate Change Committee, recently concluded, “The transition to low-carbon heat is fundamental in the path to net zero, given that 17% of the UK’s greenhouse gas emissions come from our homes. The Government must quickly address the barriers we have identified to a successful take-up of the Boiler Upgrade Scheme in order to help grow the take up of low-carbon heating systems. It is vital they do so if we are going to meet our Net Zero ambitions.”

²https://company.ovo.com/wp-content/uploads/2022/07/FINAL_OVO-Carbon-Avoidance-Potential-of-Products-Assessment-Methodology-Document.pdf