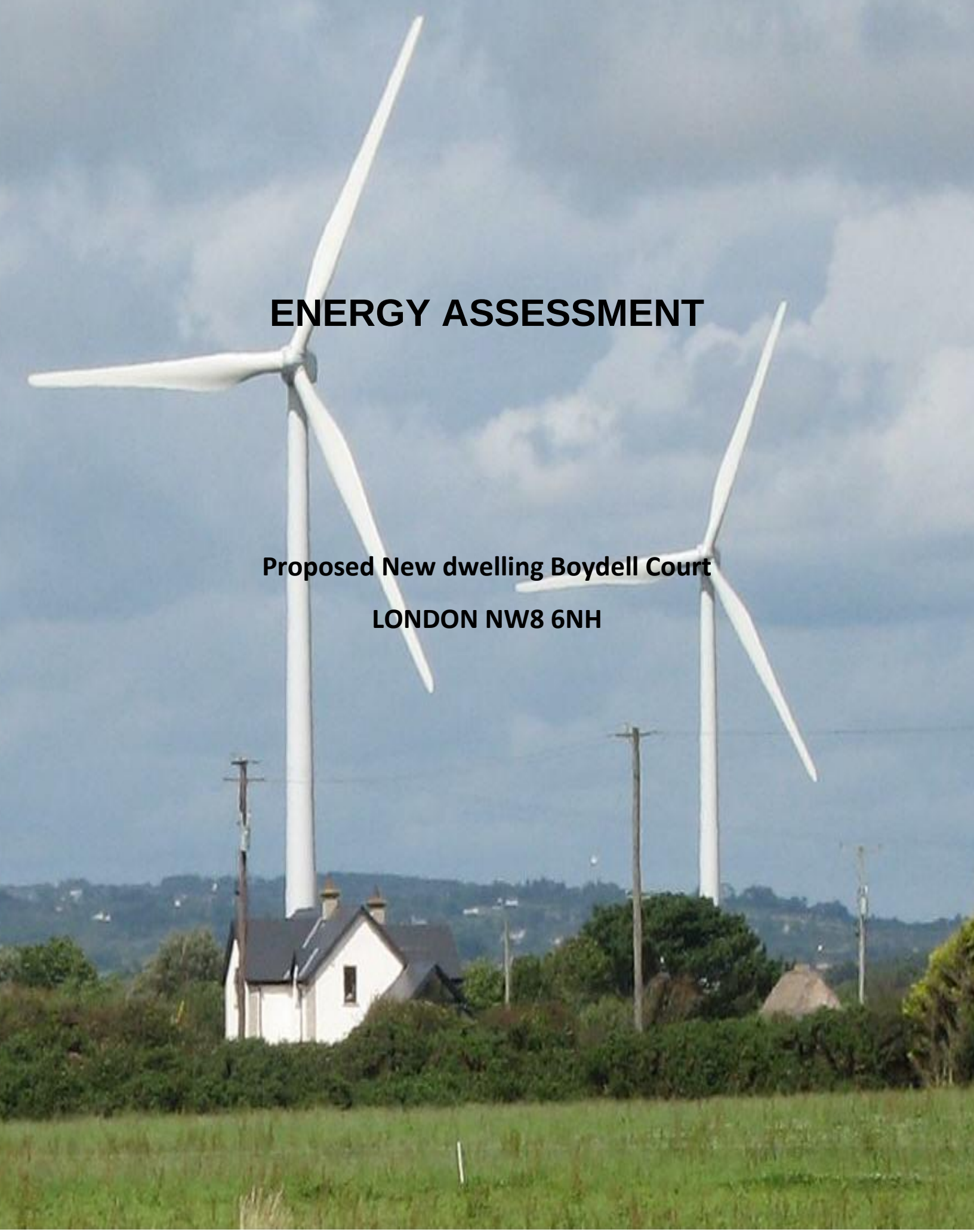

ENERGY ASSESSMENT

Proposed New dwelling Boydell Court

LONDON NW8 6NH

RE: Proposed New Dwelling Boydell Court St Johns Wood Park London NW8

Carbon Emission Report

A.1 Full SAP calculations have been carried out on the unit using the Elmhurst SAP 10 Program 1.0. A licensed OCDEA accredited SAP Assessor has carried out the calculations.

A.2 The **Base TER** (based on the attached Building Regulation England Part L (BREL) Compliance Report in terms of kg/CO^2/m^2, calculations showing average occupancy usage for lighting. In addition the **Actual case DER** (again based on the attached Building Regulation England Part L (BREL) Compliance Report (Ref: Boydell Court NW8 with ASHP) in terms of kg/CO^2/m^2 saved through the proposed use of energy efficient measures and renewable technologies and the achieved a further section shows the percentage improvement using renewable energy over the current part L Building regulations

A.3 Based upon the figures as set out in **BREL**, with a total gross internal floor area of **105m^2,** the development has a required maximum total production of CO^2 based on the SAP energy calculations of **12.25KgCO^2/m^2**

ENERGY EFFICIENT DESIGN MEASURES

B.1 Area weighted average U-values have been selected to ensure that all fabric U-values exceed the requirements of Part L of the Building Regulations.

B.2 The 2021 limiting U-values for the development are as follows:

Elements	U Value
Floor	0.18

External Walls	0.26
Roof	0.16
Windows	1.6
Doors	1.6

B.2a The proposed U-values for the development are as follows:

Elements	**U Value**
Floor	0.13
External Walls	0.18
Roof	0.09
Windows	1.2
Doors	1.0

B.3 The Dwelling Emission Rate is based upon this form of design and construction with all of the internal lighting having 100% dedicated low energy light fittings giving a light lumen circuit wattage (LLCW) of 100 against a minimum LLCW of 75

B.4 The dwelling is being heated via a Air Source Heat Pump with a minimum efficiency of 341.2%

B.5 The development has been designed to be traditional construction and to achieve an Air Permeability of $3m^3/hm^2$@50PA. This represents a great improvement over the Building Regulations Part L target of $8m^3/hm^2$@50PA.

B.6 Based on the fabric construction the total DFEE as seen within (BREL) (Ref: Boydell Court NW8 with ASHP) DFEE for the building is **45.2** and the TFEE (as seen within (BREL) TFEE is **45.3** which satisfies the FEE section of the building regulations

SUSTAINABLE ENERGY MEASURES

C.1 With a maximum CO^2 emission from the site of **12.25 $KgCO^2/m^2$ (TER)**, the introduction of the low "U" values the ASHP results in a CO^2 emission level of **6.03$KgCO^2/m^2$** this achieves a very impressive **50.78%** improvement over the **TER.**

C.2 The savings in CO_2 for the proposed development when taking into account energy efficiency savings (Fabric, ASHP), are summarised in the table below.

Emissions	**$KgCO_2/yr$**	**CO^2 Reduction (%)**
Baseline standard case	**1286.25**	**-**
Actual Case	**633.15**	**50.78**

CONCLUSION

D.1 The baseline emissions (**TER**) for the development have been assessed in accordance with the 2021 edition of the Part L of the Building Regulations CO_2 figure for the unit giving a total emission of **1286.25**$kgCO_2/yr$.

D.2 The Actual Case (**DER**) equates to **633.15**$kgCO_2/yr$, therefore the chosen Low carbon energy technology (**ASHP)** result in a overall CO_2 reduction for the development of **50.78%** easily achieving the planning requirement of **35%** meeting the minimum LA design requirements shown within local plan