

**Energy Statement to Accompany Planning Application for:
52b, Southbury Road, Enfield EN1 1YB**

Site and Surroundings:

The site is located on the northern side of Southbury Road behind No.52, which fronts the main road, and has its own existing access road between Nos. 50 and 52.

It is within walking distance of Enfield Town Station and Town Centre.

It is part of a small area of industrial land and comprises of a vehicle repair workshop, some garages and a two storey office building, now derelict but previously used by as a builder's office and yard, with a part covered hard standing for storage of building materials and vehicles.

The office building was serviced by a gas boiler for hot water and heating.

Proposal:

Is to develop the site by converting the existing two storey office building into a two bedroom 4 person dwelling house and to construct 1 No. two storey two bedroom 3 person house and 1 No two storey one bedroom 2 person house.

The proposal is to provide a mix of Class Use C3 dwellings to comply with the National Space Standards and Enfield Council Development Management Document as appropriate. This is considered to be a minor development.

The proposal will result in the removal of the existing gas supply pipe, and will incorporate the measures proposed by the government in the Future Homes Standard 2025 which will reduce the carbon dioxide emissions by 81% (HM Government claim).

Each dwellinghouse will have 1Kw solar panels fitted and an air source heat pump fitted.

“U” values are a measure of heat loss through a material and show how effective elements of building's fabric are as insulators. The lower the “U” value the better.

It is, therefore, essential that the fabric of the building is also addressed to minimise the heat loss through the buildings by reducing the elemental “U” values below that required in the Building Regulations Part L.

This can be achieved by using materials that can provide lower “U” values than others. E.g Upvc windows cannot achieve a “U” value lower than 1.2 however, high quality double glazed timber windows can easily outperform that, and with triple glazing can achieve a value of 0.65.

Similarly, by using materials that have flexibility, by their very nature, air gaps can be minimised by their ability to adapt to minor imperfections to maximise their thermal performance. E.g by using Knauf Dri Therm cavity wall slabs instead of rigid insulating slabs within cavity walls.

The proposed development will result in each dwelling having a predicted EPC “A” rating.

Reduction in CO2 Emissions by:

1. Installing Air Source Heat Pump

Gas will not be supplied to any of the new dwelling houses.

A 5Kw output air source heat pump will be fitted to provide heating to each dwelling.. This is a sustainable and efficient source of providing energy to heat the home.

Air source heat pumps generate heat at lower more consistent temperatures than a boiler.

It works by extracting heat energy stored naturally within the outside air, raising the pressure and the temperature using a compressor, and circulating the heat around the home.

“As a result of this, heat pumps require less electricity in comparison to an electric boiler, and can achieve a 300-400% efficiency rate as the amount of energy produced is markedly higher than the energy consumed.” (Source - Greenmatch.)

This is in line with current Government and Local Government policy as the drive to net zero by 2050 takes pace.

A hot water cylinder is used to reserve any hot water and is ready to meet the demand.

The use of an air source heat pump will prevent the burning of fossil fuels and therefore reduce CO2 emissions.

2. Installing Solar Panels

“Installing Solar Panels will produce free electricity to the home (or to the grid) by taking advantage of one of the most powerful yet free resources known to man.

Solar Energy is harnessed by Photovoltaic systems which use semi conductor technology to convert energy from sunlight into electricity to power the home in an efficient sustainable and environmentally friendly way. (Source -Greenmatch.)

Solar Panels generate clean emission free electricity and their use will prevent burning of fossil fuels and therefore reduce CO2 emissions.

3. Carbon Remissions Reduction by Addressing the Fabric of the Building

In order to maximise thermal performance and consequently reducing energy consumption the fabric of the building in the construction phase also has to be addressed.

Use of high quality thermal insulation in the ground floor slab, cavity walls and roof void will ensure that the energy generated by the air source heat pump and solar panels is not lost through the fabric of the building.

To comply with the Building Regulations all new homes must meet tighter limiting “U” values for heat loss in a building and produce 35% less carbon emissions and a Part L Energy Performance Certificate produced to show compliance.

Other measures to take into consideration are the use of Argon filled double glazed units to windows and doors which also have to ensure compliance with the Building Regulations for heat loss. All windows and doors of the new dwellings will not only comply with these requirements, they will obtain better “U” values than those required.

Following the Government guidance on “Robust Combustion Details” will also ensure efficiency by the prevention of draughts.

The Energy Performance Certificate of each new dwelling is predicted a rating of A.

4. Sustainability

Part G of the Building Regulations requires proposed new homes to provide a report for water consumption and the Enfield Council requirement is to meet a target of 105 litres per head per day. This will be met by installing flow restrictors, and reduced capacity to all amenities provided.

5. Conclusion

By combining the requirements of the Future Homes Standard and addressing the fabric of the building to maximise thermal efficiency it will be possible to achieve 81% reduction in Carbon Emissions and by the use of materials that can be adapted to obtain lower “U” values (triple glazing) then this target could potentially be exceeded.

S. Wotton

Predicted Energy Assessment



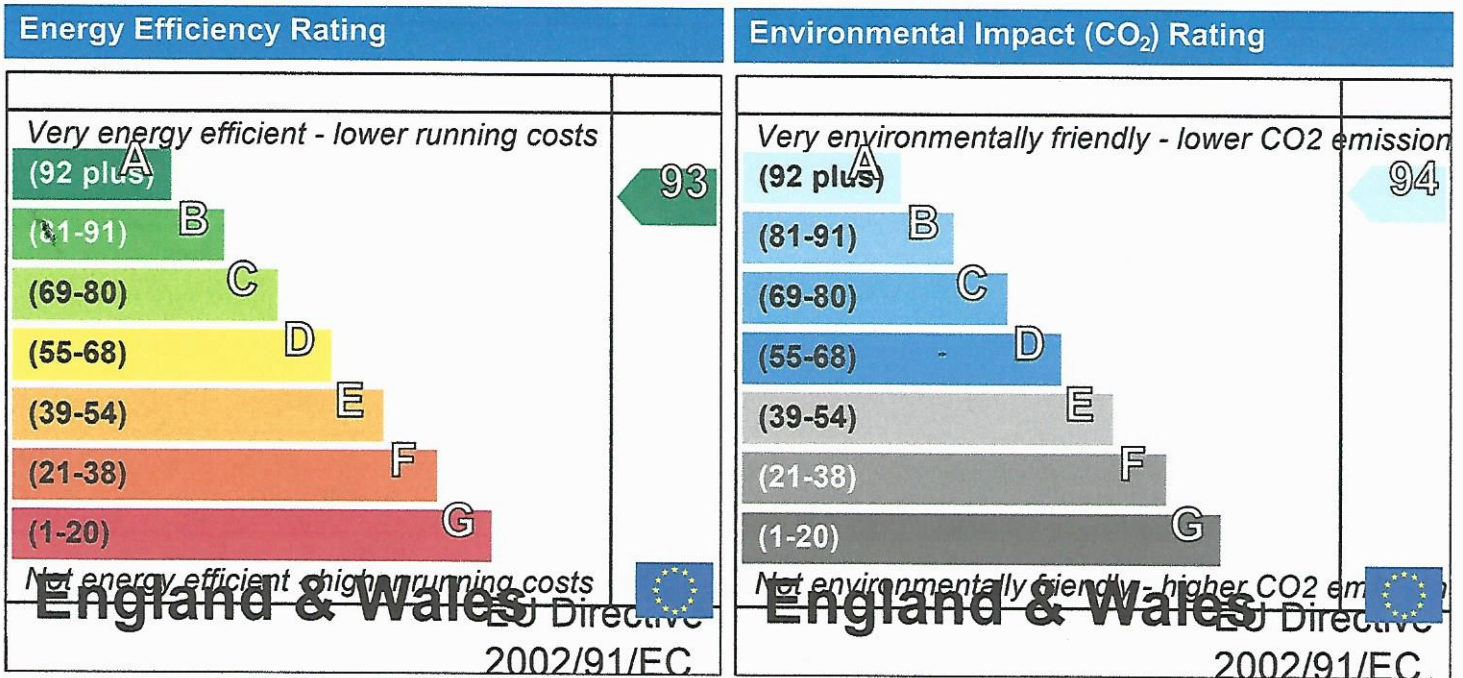
10a Wharf Road
BROXBOURNE
EN10 6HX

Dwelling type:
Date of assessment:
Produced by:
Total floor area:

End-terrace House
18 May 2022
Yanli Suo
104.17 m²

This is a Predicted Energy Assessment for a property which is not yet complete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, an Energy Performance Certificate is required providing information about the energy performance of the completed property.

Energy performance has been assessed using the SAP 2012 methodology and is rated in terms of the energy use per square metre of floor area, energy efficiency based on fuel costs and environmental impact based on carbon dioxide (CO₂) emissions.



The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be.

The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO₂) emissions. The higher the rating the less impact it has on the environment.