CLIENT : SOVEREIGN DEVELOPMENT GROUP LTD
PROJECT: PROPOSED HOUSING DEVELOPEMNT

SITE: ROSE AND CROWN INN 132 KNOWL ROAD
GOLCAR HUDDERSFILED HD7 4AN

DATE : DECEMBER 2024
Revised January 2025

1.00 – ENERGY STATEMENT

All developments of 10 dwellings or more, or over 1,000 square metres of floorspace, (including conversion) where feasible), will be required to:

(i) Reduce total predicted carbon dioxide emissions to achieve 20% less than the Building Regulations Target Emission Rate until 2016 when all development should be zero carbon, and
(ii) (ii) Provide a minimum of 10% of the predicted energy needs of the development from low carbon energy.

1.01 – ENERGY CONSUMPTION

The attached table shows a typical cross section of recently constructed housing types to those designed for this scheme

The average primary energy consumption of each type is shown and will be proposed to be the base of detailed renewable provision for this development

1.02 – CALCULATION OF SCHEME SPECIFIC PREDICTION

The development comprises of 2No different type situations

2No 3 Bed Conversion 100sq m

5No 4 Bed New Build at 1200 sq m

1.03 – ENERGY CONSUMPTION

The total primary energy consumption therefore in kWh/year

TOTAL **63,575**

The total of renewable energy therefore that this development will targeting to provide is **6,357.5 kWh/year**

1.04 – TECHNOLOGIES AVAILABLE

WIND TURBINE.

The Town Centre location would not be a suitable.

SOLAR THERMAL SYSTEM

a.) The development benefits for roof area

b.) Space will be made available for a hot water cylinder near to the panels

c.) The site is not a conservation area.

This method would be a viable way, subject to a detailed survey and panel size, of providing water heating towards our 10% renewable requirement

SOLAR PHOTOVOLTAIC SYSTEMS

a.) The development benefits from pitched roofs.

b.) The roofs will be free from overshadowing from other buildings and structures through the day.

This system maybe suitable but there will be issues dependent upon the detailed design. Whether there will be sufficient roof area to provide the amount of paneling required.

BIOMASS

a.) There is only likely to be space to set up fuel storage on the larger plots and could support individual room heaters but not support to extended hot water and heating.

b.) There is probably a sustainable source of fuel locally but only within the limitations of the above.

This system will only have limited application and is probably not going to be able to make up the whole 10% contribution required

AIR SOUCE HEAT PUMPS

a.) All dwellings will benefit from the installation of heat pumps to reduce the Carbon Dioxide Emissions

1.05 – CONCLUSION

For all the above it seems most likely that a Mixture of Photovoltaic and Solar Thermal system for each dwelling is the most likely way to be able to satisfy the need to provide the required amount of renewable energy for the proposed dwellings.

1.06 PREDICTED 'U' VALUES

The preferred solution is to provide a fabric first approach through thermal elements and other parts of the building fabric. This addresses fuel poverty by reducing energy consumption.
Below are the u-values we envisage to achieve, however these indicatives only and will be confirmed when the Energy calculations for the project are produced at a later stage.

- Walls: 0.18 K/m2K
- Roofs: 0.18 K/m2K
- Windows: 1.40 K/m2K
- Doors: 1.20 K/m2K
- Floors: 0.12 K/m2K

1.07 ALL ELECTRIC

The new development will be all Electric with the installation of Air Source Heat Pumps to reduce carbon Emissions.

EVP Charging point to be installed for each dwelling.

1.08 CONCLUSION

The up graded 'U' values and installation of efficient Heating and Hot Water system together with renewable will reduce the Carbon Emissions by 20%.

In addition Low Energy Light Bulbs, Higher insulation measures, installation of Air Source Heat Pumps

All dwellings to be fitted with Solar Panels to a suitable design.