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ENERGY/SUSTAINABILITY STATEMENT

FOR

DEVELOPMENT OF 24 DWELLINGS ON,
HIGHER WOODCROFT,
LEEK,
Staffordshire Moorlands

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1.0 Summary

There is a proposal for the sustainability of energy for the 24 dwellings off Higher Woodcroft, Leek. This has been developed in accordance to relevant planning policy.

2.0 Planning Policy

The rather new government policy is the 'Government production Plan' updated on the 10/07/15. A quote from this policy relates to the intended development. In chapter 9 – 'Planning freedoms and more houses to buy' it states that the government:

'Will repeat its successful target from the previous Parliament to reduce net regulation on housebuilders. The government does not intend to proceed with the zero carbon Allowable Solutions carbon offsetting scheme, or the proposed 2016 increase in on-site energy efficiency standards, but will keep energy efficiency standards under review, recognising that existing measures to increase energy efficiency of new buildings should be allowed time to become established'.

3.0 Local Policy

The main energy strategy follows local policy on energy and sustainability. Staffordshire Moorlands policy 'SD1 – Sustainable Use of Resources' asks for all local developments to make sustainable use of resources. This development will follow this request by:

- Requiring that development is located and designed to minimise energy needs and to take advantage of maximised orientation to achieve energy savings in line with Policy SD3.

- Ensuring all major-scale planning applications (10 or more residential units or 1,000+ square metres floor area) are accompanied by a Sustainability/Energy Statement.

- The Council will expect that all developers investigate the potential for re-using construction or construction waste materials, especially those sourced locally (which can Leek Energy Statement 7 include those minerals available on site, as appropriate) and integrates where possible onsite waste management facilities.

Not only this, but the proposed developments will follow 'Policy SD3' which follows a carbon saving strategy. An SD3 requirement is for the landowners and developers to contribute to existing or emerging heating networks. Which is complied with by the proposed designs.

For this development scheme, the 24 dwellings shall follow Part L of the Building Regulations, aimed to reduce energy consumption through layout, modern techniques of thermal efficiency and design measures. Part 1A is also a main target to follow, with the inclusion of water efficient fittings and systems.

4.0 Energy Strategy

Stated on page 8 of the Staffordshire Low carbon Energy Study by 'CAMCO', Up to the year 2026 'development will be zero carbon requiring the incorporation of high standards of energy efficiency, on-site low carbon generation and additional off-site carbon reduction'. The proposed dwellings will achieve this target by:

- Minimizing thermal bridging
- Heating the homes through the use of air source heat pumps and wet radiator systems
- Minimizing excavation

Thermal Techniques

For an energy efficient home that doesn't solely rely on mechanical heating, all floors, walls and roofs need to have enhanced U values. This is done by a thicker than usual insulation size that wraps around the envelope of the structure allowing little to no breaks/gaps to prevent thermal bridging. High performance double glazing is also specified to stop heat escaping in the window areas.

Renewable Systems

Certain renewable energy systems are simply not acceptable on a site with only 24 dwellings. An example is the use of wind turbines. The council would be unlikely to accept such a roof mounted structure in such a compact neighbourhood. Staffordshire council states that the local area has a 'reasonably good' wind speed of 6ms^{-1} however this is at a height of 45m above ground. Which is too high for this size estate. Especially for the amount of energy they produce. Having said this, there are relevant systems that are proposed for this scheme.

- Photovoltaics: The client has specified that all south facing roofs shall have PV panels. By generating electricity from direct sunlight, these panels shall help save energy usage by up to 40%, and with the client being so well involved within photovoltaics, it shows how this Leek development scheme greatly focuses on reducing CO_2 emissions across the whole site.

- Air Source Heat Pump: These pumps reclaim heat from the ambient air and convert it to higher temperatures to heat a building. Just like ground source heat pumps, they would use electricity to spread the heat around a dwelling, however, unlike ground source pumps, air source heat pumps do not require any ground work excavation which saves in CO_2 emissions.

  This system may not produce as much heat as a ground source heat pump, but it is an effective method to provide heat and hot water to a building. This system is not recommended to work in a gas network area, and therefore, a wet central heating system shall be used.

- Wet Radiator System: Instead of gas heating, hot water shall heat the dwellings through the use of a linked piped system. Using a heat exchanger boiler, each radiator will be provided with heat from the circulation of hot water to warm up each building. Although being more expensive to run than gas, installation and servicing is usually cheaper.

Conclusion

When summarizing the energy efficiency of the proposed dwellings, they may need additional sustainable support to meet the CO_2 emissions recommendations set by Building Regulations. This comes from the suggestion of water efficient fittings within the designs. Equipment like ‘low-flush toilets’ and ‘Spray Taps’ help lower water usage on a daily basis. This would help to comply with Part L1A of the BR.

Not only this, but if this new complex wants to ‘support the aim of achieving a 30% carbon reduction by 2020’ (CAMCO), then it can only be assured that the client would accept additional terms to lower the CO_2 emissions on site. Even small changes like LED light fittings instead of the conventional light bulb are recommended for this scheme.