Energy Statement – Ewenny Road Residential Development (18 Units, Maesteg)

CASTELL GROUP
Property Development Specialists

Introduction and Policy Context

The proposed development at Land on South Side of Ewenny Road, Maesteg (former M.E.T. Fabrication site) comprises 18 new residential units designed with a fabric-first, low-carbon approach. This Energy Statement supports the planning application, demonstrating compliance with Bridgend's Replacement Local Development Plan (RLDP) policies on sustainable design and energy. In particular, it addresses Policy ENT10: Low Carbon Heating Technologies for New Development, which requires major developments to incorporate the most sustainable heating/cooling systems via an "Energy Masterplan," and to follow a strict sequential approach in selecting heating technologies. The strategy also aligns with related RLDP policies on climate change mitigation and sustainable design, ensuring the scheme contributes to Bridgend's and Wales' carbon reduction goals.

Under Policy SP4 of the RLDP, all development must make a positive contribution towards tackling climate change – for example by reducing energy demand, maximising energy efficiency, and integrating low/zero carbon energy generation. The proposed scheme delivers on these requirements through high-performance building fabric, on-site renewable energy (ASHP Cylinders and solar PV), and efficient electric heating, thereby supporting Bridgend's aspiration for all new homes to be net-zero carbon in operation. In line with Policy SP3: Good Design and Sustainable Placemaking, the development's design prioritises sustainability and climate resilience from the outset.

Furthermore, the project will achieve EPC A rating for all homes – reflecting the highest energy performance band – in line with Welsh Government WDQR standards and local ambitions for new social housing to exceed minimum standards and support the transition to net zero carbon.

The following sections present the Sequential Assessment of Heating.

Sequential Assessment of Heating Technology

CASTELL GROUP
Property Development Specialists

Planning Policy ENT10: reads as follows:

Low Carbon Heating Technologies for New Development

1. *The LDP has an aspiration for all new homes to be net zero carbon in the first instance. New major development must:*
    1) *Be accompanied by an 'Energy Masterplan' that demonstrates that the most sustainable heating and cooling systems have been selected. This must include consideration of the proposed system as a whole, including the impact of its component materials on greenhouse gas emissions.*
    2) *Demonstrate that heating systems have been selected in accordance with the following sequential approach:*
        a) *Connection to an existing heat network or installation of a new heat network or connection from the point of occupation (If installation or connection is not feasible or financially viable, then development must be designed so as not to prejudice any future installation or connection to a District Heat Network);*
        b) *If criterion 2a) is not technically feasible or financially viable, employing sustainable alternatives to heat networks such as individual renewable or communal renewable or low carbon installations must be considered;*
        c) *If criteria 2a) and 2b) are not technically feasible or financially viable, installation of Hybrid heat pumps must be considered;*
        d) *If criteria 2a), 2b) and 2c) are not technically feasible or financially viable, installation of electric only heating systems must be considered;*
        e) *If none of the above are technically feasible or financially viable, development can then seek to connect to the gas network.*

a) Connection to a Heat Network

There is currently no existing district heat network infrastructure in the vicinity of the site. The Caerau minewater project, previously explored within Bridgend County Borough, is not operational and does not extend to Maesteg. Establishing a new heat network for an 18-unit scheme would be technically disproportionate and financially unviable.
Conclusion: *Criterion 2a is not feasible*.

b) Individual Renewable or Low Carbon Installations

Given that a heat network is not an option, we have advanced to Criterion 2b and are proposing a highly sustainable combination of technologies:

- **Air Source Heat Pump (ASHP) Cylinders**
  Each dwelling will be fitted with a Dimplex Edel air source heat pump cylinder. These units extract heat from the ambient air to generate domestic hot water efficiently, achieving a Coefficient of Performance (COP) of ~3.4. This means they use roughly 70% less energy than direct electric immersion heaters. As compact, self-contained systems, they are suitable for individual units, reliable, low maintenance, and significantly reduce carbon emissions.

- **Solar Photovoltaic (PV) Panels**
  The scheme will incorporate roof-mounted PV panels for each dwelling, generating clean, renewable electricity on-site. This will help power household appliances and partially offset the energy used by the ASHPs and panel heaters, further reducing the carbon footprint and utility costs.

- **Electric Panel Heaters**
  Highly insulated homes with low heat loss require minimal active heating. Each home will include modern electric panel heaters with smart thermostatic controls to provide supplementary space heating. When paired with the PV and ASHP systems, this solution becomes an efficient, low-carbon, and practical method of heating that avoids fossil fuel use entirely.

This package meets the intent of ENT10 2b achieves EPC-A, and demonstrates the adoption of sustainable, individual renewable and low-carbon technologies tailored to the scale and needs of the development.

c–e) Remaining Criteria

As the development satisfies Criterion 2b, there is no requirement to progress further through the sequential test. Nonetheless, for completeness:

- c) Hybrid Heat Pumps: Not necessary as we are meeting energy and carbon targets through non-hybrid, all-electric systems.

- d) Electric-only Systems: Though electric radiators are included, these are *supplementary* to the primary low-carbon ASHP and renewable PV technologies, not standalone.

- e) Gas Connection: The development will be entirely gas-free, eliminating direct on-site carbon emissions and future-proofing against policy changes.

Conclusion

The proposed energy strategy - combining ASHP cylinders, solar PV, and electric panel heaters within a high-performance thermally efficient building envelope - satisfies both the Energy Masterplan and sequential heating selection requirements of Policy ENT10. The approach reflects best practice in sustainable design, responds directly to local and national policy aspirations, and ensures the delivery of low-carbon, future-ready homes in Bridgend County Borough.