

## **Item 1 Appendix 1: Extract of Local Plan Update Policy EN1B – as consulted on during Autumn/winter 2023**

### **Operational Energy**

Operational carbon targets for new development are currently set by Building Regulations. The District's previous Policy EN1 (2014) required new major developments to go beyond Part L of the Building Regulations, however evidence suggests that this will no longer support Leeds meeting its net zero targets.

Building regulations include fabric efficiency standards such as maximum heat loss through walls, windows etc. (U values), as well as the type of heating system it is expected that buildings will use. Building regulations relate the predicted carbon emissions from a building to the heating system through the Standard Assessment Procedure (SAP) which must be used to calculate building performance. However, Part L does not calculate building energy use performance accurately. Therefore, Policy EN1B will focus on energy based metrics and require applications to calculate their predictive energy demands using modelling tools applicants to calculate the predicted energy demands (space heating demand and Energy Use Intensity targets) of the development using modelling tools.

In line with the Policy SP0, Policy EN1B requires new development to be operationally net zero by 2030. It is important to note that building regulations requirements and calculation methodology include regulated emissions only (made up of primary building services like heating, cooling and lighting). The total operational energy and carbon emissions from a development also include unregulated emissions (including computer equipment, fridges, washing machines, TVs, computers, lifts, and cooking, etc) which can comprise up to 50% of a building's total operational energy. Therefore, in order to be operationally net zero (regulated and unregulated), a development's energy needs will need to be met through renewable energy, be that through onsite and offsite generation with financial contributions as a last resort

As the national grid decarbonises, operational carbon emissions may become less useful over time in assessing the quality of developments in terms of energy efficiency and demand reduction. Other measures of building performance during operational phase become more important. EUI targets which describe a buildings operational energy demand (unregulated and regulated) targets on a maximum kWh/m<sup>2</sup>/year basis are one way of addressing this. EUI targets can be assessed at design stage through the planning process, as well as measured as-built and in-use to support monitoring and help address any performance gap. Such targets will require a focus on fabric efficiency of buildings. This is important as it future proofs the built stock of the District and will help avoid expensive retrofit in future years. This is further justified as reduced energy needs will lower the costs of heat and power for the occupiers/end users.

In addition to fabric efficiency, developers should consider passive design principles for new development including:

- Building orientation, layout and optimised shading to maximise winter heat gain and minimise summer overheating.
- High levels of thermal insulation and air tightness to reduce heat demand.
- Passive ventilation and cooling e.g. through optimised glazed area and associated solar gain, and use of natural ventilation in summer
- Hot water demand reduced e.g. by limiting shower flow rates.

New development will be expected to be 'fossil fuel free'. A significant carbon emitter of new properties is the installation of a gas boiler. The inclusion of a gas boiler would make it impossible to deliver a net zero operational energy development and for national and local decarbonisation targets, any gas boilers installed now will have to be replaced with a net zero compatible heating technology in the future. This will cause disruption and expense to the future owner or resident. Therefore, no gas boilers will be permitted within new development. Moreover, direct electric resistive heating is not supported as it is inefficient when compared to other heating sources (such as heat pumps) and can result in higher energy consumption and therefore higher energy bills for occupiers. Fossil fuel plants onsite may be seen as acceptable where:

- There are emergency and life safety issues, such as providing back up power in the healthcare sector or other emergency uses.
- There is a requirement for energy back up to essential functions in buildings and sites defined of critical importance.

In order to comply with Policy EN1B planning applications will be supported by energy statements (pre and post construction) that demonstrate how the development meets a net zero operational energy balance. This can be done using an approved building modelling software such as IES VE, SBEM and PHPP depending on the type of development, the outputs of which must be included in the planning application.

Up until the end of the transition period on 31<sup>st</sup> December 2026, applications will have to demonstrate how they have maximised fabric efficiency and onsite renewable energy generation with an aim to meet the transitional EUI and Space Heating Demand targets found within the policy. The Council understands that the heating technologies, supply chains and skill base may not currently be at the required national level to deliver all buildings in all locations to the standards detailed in the policy. However, this is a fast moving area and the development industry has told the council that it is committed to net zero so there is a need for a transition approach. In, in the interim, justification should be provided for why the requirements cannot be met. Once the transition period is complete by the end of 2026, applications will be expected to achieve a net zero operational energy balance by meeting the EUI's and Space Heating Demand within the policy and could be refused planning permission if not met. Where applications submitted after the 1<sup>st</sup> January 2027 that cannot technically or feasibly be delivered to net zero operational energy balance, a carbon offsetting financial contribution would be sought. Examples where a scheme may not be technically feasible may be where:

- Site constraints resulting in a lack of potential for on-site renewable energy generation equal to the buildings operational energy. This is most likely in high density schemes where the available roof space to deliver Photo Voltaic (PV) panels would not generate enough energy for the gross internal floorspace delivered.
- Historic buildings where energy saving measures may create unacceptable damage or loss to the building's historic character.

In such circumstances robust justification for not achieving an operational net zero energy balance will be required which balances the need for the development against its additional carbon emissions that will conflict with Policy SP0.

Following the end of the transition period in 2026, applications that cannot generate the renewable energy demand of the development onsite will be expected to financially offset the

residual energy requirement. The offset value will be calculated using the following methodology:

$$\text{Shortfall between annual energy and renewable energy generation onsite (kWh/m}^2\text{)} \times \text{cost of PV installation offset figure}$$

The financial offset multiplier is linked to the Government’s solar photovoltaic cost dataset and the cost per kW for 10-50 kW installations. The Council will provide an annual update of the offsetting value to reflect any amendments to the Government’s cost dataset with. As of September 2023, the offset price would be £1.35/kWh/yr, although this figure will have been updated upon adoption of offsetting in 2027.

Financial contributions collected through offsetting will go towards renewable energy generation installations and projects to improve energy efficiency. These will include:

- Upgrading and retrofitting of existing housing stock
- Generating and supporting renewable and low carbon energy and heat projects
- Energy projects for community buildings
- Carbon sequestration projects (including tree planting)

The above projects are not exhaustive, and liable to change as the Council continues to support and introduce new projects. The annual sum of offset contributions received will be monitored through the AMR, which will also detail the projects that receive financial assistance through this mechanism.

#### EN1 B: OPERATIONAL ENERGY

**Up to the 31<sup>st</sup> of December 2026**, all new development must:

- Minimise energy demand through passive design principles including fabric efficiency measures,
- Maximise renewable energy onsite to attempt to deliver an annual net zero energy balance (including regulated and unregulated emissions) and
- Ensure on-site plant (e.g. heating, cooking, generator) are fossil fuel free, with the exceptions of emergency uses and uses where backup energy generation is deemed essential.

In order to achieve the above, applications will meet the following Transitional Energy Use Intensity (EUI) and Space Heating Demand targets:

Development Type	Energy Use Intensity Target (kWh/m <sup>2</sup> /year)	Space Heating Demand (kWh/m <sup>2</sup> /year)
Housing (including student accommodation)	40	30
Commercial (Offices, retail, hotels, education)	75	30

Leisure	100	30
Industrial	110	30
Research Facility	150	30

Where the above standards are not met, applicants will be expected to demonstrate the technical or policy factors that cause non-compliance, including evidence as to how they have maximised attempts to meet the target EUI and space heating demand figures.

Planning applications need to be supported by energy statements (pre and post construction) that will also demonstrate how the development seeks to maximise renewable energy opportunities onsite.

**From January 2027**, all new development must demonstrate how it will achieve a net zero operational energy balance. In order to achieve this, developments will use the following hierarchy:

- Minimise energy demand through passive design principles including fabric efficiency measure,
- Maximise renewable energy onsite to and attempt to deliver an annual net zero energy balance (including regulated and unregulated emissions),
- Ensure on-site plant (e.g. heating, cooking, generator) are fossil fuel free, with the exceptions of emergency uses and uses where backup energy generation is deemed essential.
- Subject to a demonstration of technical or policy constraints, provide offsite financial contribution to deliver the remaining energy imbalance off site.

In order to achieve the above, applications will have to meet the following Net Zero Operational EUI and Space Heating Demand targets:

Development Type	Energy Use Intensity Target (kWh/m <sup>2</sup> /year)	Space Heating Demand (kWh/m <sup>2</sup> /year)
Housing (including student accommodation)	35	15
Commercial (Offices, retail, hotels, education)	55	15
Leisure	100	15
Industrial	110	15
Research Facility	150	15

Planning applications need to be supported by energy statements (pre and post construction) that demonstrate how the development delivers a net zero operational energy balance.

Developments that will be exempt from this policy are:

1. Buildings exempt from building regulations
2. Alterations and extensions to buildings of up to 1,000 square metres
3. Ancillary buildings that stand alone and cover an area less than 50 square metres
- 4 Buildings which have an intended life of less than two years
- 5 Gypsy and Traveller and Showpeople pitches and plots

For all such exceptions development must show how efforts to reduce carbon emissions have been considered, in accordance with current good practice.