



## Part L – 2013: Conservation of Fuel and Power

Though predominantly the Environmental Engineering team's responsibility, calculating the energy performance of buildings requires extensive collaboration between professions; from lighting designers to structural engineers, and everyone in between.

Building Regulations Part L2 is the Approved Document that addresses these issues for non-domestic buildings (L1 considers dwellings). The output document (BRUKL) is issued to both Planning Authorities and Building Control to demonstrate compliance with the energy efficiency requirements.

Part L is the vehicle that the UK government is using to drive new development towards 'Zero Carbon' – the point at which buildings will offset the carbon they produce through operation. To pursue this optimistic goal, the last three revisions of the Part L Regulations have each lifted performance requirements in turn.

Part L provides minimum standards for both the building fabric and regulated energy consuming systems. These are modelled using the National Calculation Method (NCM) to produce a Target Emission Rate (TER) – the baseline, and a Building Emission Rate (BER) – the proposed development. The BER must be equal to or less than the TER to achieve Building Control approval. These are expressed in CO<sub>2</sub>/m<sup>2</sup>/yr.

Part L 2013 comes into force on 6th April 2014 (6 months late) and introduces an overall average 9% improvement on 2010 Regulations for non-domestic buildings. This has been achieved through improvements to the notional building specification, with the most significant changes listed opposite.

### Planning Issues & BREEAM

Many Planning Authorities require a specific percentage improvement on the TER. For example, major development in London must comply with the London Plan (2011), which requires the BER to achieve a 40% improvement on the TER (against Part L 2010); a challenging requirement.

It is likely that Planning Authority requirements will be revised in due course to capture the 2013 update, making these improvements even more challenging.

To achieve a BREEAM 'Excellent' rating under the 2011 criteria, the BER must achieve a 25% improvement on the TER. To achieve 'Outstanding', this improvement must be 40%.

### Key Aspects of Part L2

- The new methodology improves the values that the notional building is compared against
- A limiting window U-Value of 1.6W/m<sup>2</sup>k has been introduced
- Higher efficiencies are required for boiler systems
- Performance requirements have been introduced for air-to-air heat pumps
- Minimum efficiencies for heat pumps providing space heating have been introduced
- Energy Efficiency Ratios (EER) have improved for all cooling systems
- Specific Fan Powers (SFP) have improved for all air systems
- The SFP of kitchen extract fans must now be considered
- Lighting efficacy has improved to a limit of 60 luminaire lumens per circuit Watt.

### Summary

Part L 2013 improves the minimum energy performance standards required from new buildings.

Maximising energy efficient design is key, prioritising form and orientation. Reducing a building's energy demand before seeking to provide or use energy efficiently is key.

Though the limiting performance parameters (i.e. the backstop) remain unchanged, the notional building specification has improved. It is this uplift in the specification of the comparison building that achieves the 9% improvement over the 2010 regulations.

These changes are likely to increase construction cost and require greater attention to detail during construction. Part L 2013 and the forthcoming BREEAM 2014 are pushing the industry to higher performance.

Bigger changes are due in Part L1 and measuring the performance of dwellings. The introduction of the Target Fabric Energy Efficiency (TFEE) standard will encourage a 'fabric first' approach to design, reducing reliance on 'renewables'.

See the link below for further details:

[Planning Portal: Approved Document Part L 2013](#)