

Boorley Green Gateway

Vistry Homes Southern

Technical Note - Policy ESD 6

14th August 2026

Revision 1

Preface

- 1.1. Written by AES Sustainability Consultants on behalf of Vistry Homes Southern, this statement has been prepared to address the comments from the case officer with regards to the commercial units at Boorley Green Gateway, in relation to Policy ESD 6.

With regards to the non-residential development, the submission of the Energy Statement (rev 1) is noted, however whilst it comments on why green roofs have not been provided, it does not comment on why rainwater harvesting and greywater recycling are not provided, as required by ESD2 of the Environmentally Sustainable Development SPD. It also does not demonstrate that the retail block achieves a 15% carbon dioxide emissions reduction via local low/zero carbon energy, as required by ESD6 Carbon Dioxide Reduction of the SPD. Reference is made to a possible use of use of Air Source Heat Pumps and this would only equate to a 4.7% reduction in CO₂ emissions. I appreciate Vistry have only built the building to shell only and that the fit-out is being carried out by others, however sufficient information still needs to be provided to demonstrate full compliance with the condition.

Policy ESD 6

- 1.2. Condition 22 of the outline permission, F/19/86233 requires that non-residential development meet the relevant essential requirements in the Eastleigh Borough Council's adopted Environmentally Sustainable Development Supplementary Planning Document, adopted March 2009. Policy ESD 2, as well as Policy ESD 7 which it refers to are listed below

ESD 6 Carbon Dioxide Reduction (Small Scale zero/low carbon technologies)

The Council requires all buildings in new residential development of 10 dwellings or more to achieve*:

- Up to the end of 2011 at least one Code Ene 7 credit (10% carbon dioxide emissions reductions via local low/zero carbon energy)
- from January 2012 two Code Ene 7 credits (15% carbon dioxide emissions reductions via local low/zero carbon energy)

The Council requires all new non-residential and multi-residential development (over 1000 sqm of external floorspace) to achieve*:

- at least two BREEAM Ene 5 credits (10% carbon dioxide emissions reductions via local low/zero carbon energy)
- from January 2012 all three BREEAM Ene 5 credits (15% carbon dioxide emissions reductions via local low/zero carbon energy)

BREEAM Credit Ene 5

- 1.3. The policy refers to the BREEAM Ene 5 credit, however the Ene 5 credit now refers to cold storage rather than low and zero carbon energy. The replacement credit in the latest versions of BREEAM is credit Ene 1. Compliance has therefore been assessed under credit Ene 1 instead.
- 1.4. The commercial units achieve 12 out of a possible 12 Ene 1 credits, the maximum possible score, and far exceeding the requirement to achieve two or three credits.

Policy ESD 6 Response

Shell Only Development

- 1.5. Shell only and shell and core developments were initially pioneered as developers were building units to a full fit out specification with all services and fittings installed, only for these to be ripped out by the incoming occupier so that they could install different systems which better fit their needs. This resulted in not only wasted time and money, but also wasted materials with their own embodied carbon and energy now contributing to waste and potentially landfill.
- 1.6. Shell only developments are therefore constructed as an empty 'shell' with all mechanical and electrical services, including renewables, to be installed by the incoming occupier.
- 1.7. Vistry has constructed the commercial units at Boorley Green Gateway to shell only, so that they are flexible for use and the fit out is chosen by the incoming occupier. Installation of renewables is therefore not included as part of the scope of works.
- 1.8. The above approach is widely used, and is recognised by BREEAM, impacting the way that credits are assessed. For a shell only assessment there are no credits that can be obtained from the installation of renewables, therefore making compliance with Policy ESD 6 impossible.

Alternative Approach

- 1.9. Although compliance with Policy ESD 6 is not possible as the policy has not taken shell only developments into account, Vistry has in good faith sought to comply with the intention of the policy. The commercial units not only achieves an equivalent reduction in carbon emissions, but achieve over double the required reduction as further detailed within this statement.
- 1.10. The commercial units also achieve all 12 applicable energy credits, far exceeding the minimum requirements of Policy ESD 6.

Fabric First Approach

- 1.11. As the energy hierarchy demonstrates, designing out energy use is weighted more highly than the generation of low-carbon or renewable energy to offset unnecessary demand. Applied to the development, this approach is referred to as 'fabric first' and concentrates finance and efforts on improving U-values, reducing thermal bridging, improving airtightness, and installing energy efficient ventilation and heating services.

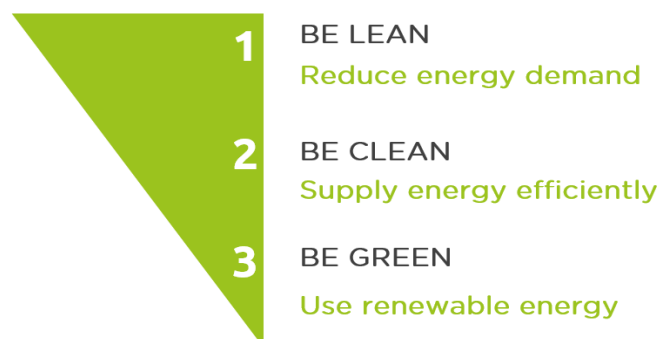


Figure 1. The Energy Hierarchy

- 1.12. This approach has been widely supported by industry and government for some time, with the Zero Carbon Hub and the Energy Savings Trust, having both stressed the importance of prioritising energy demand as a key factor in delivering resilient, low energy buildings.
- 1.13. As can be seen in figure 1, using renewable energy is the last step of the energy hierarchy, and should not be prioritised above energy demand reduction and supplying energy efficiently. Resorting straight to renewables has several ill intended consequences including:
- Increased upfront costs and bills for occupiers.
 - Increased embodied carbon from oversized or unnecessary systems
 - Increased energy demand when renewables are not generating which is often at times when the carbon content of grid electricity is at its highest. For example, PV panels have far less benefit in winter when electricity demand is highest and the proportion of grid electricity coming from fossil fuels is likely to be higher.
 - National grid capacity being unable to cope with higher demand during non-generating hours or benefit from excess electricity generation during peak generation hours.
 - Less overall benefits as renewables are simply offsetting energy demand which could have been avoided.
 - It is difficult to retrofit building fabric after construction, whereas renewables can often be 'bolted on' at later stages.
- 1.14. Vistry has therefore taken the most sustainable approach to construction in ensuring that the required carbon reductions are 'built in' and not subject to the decisions of the incoming occupiers.

Carbon Reductions Achieved – Building Regulations 2013

- 1.15. The table below demonstrates the reductions achieved by each of the retail units. Each of these reductions is in excess of the minimum 15% required by policy.

Table 1. Reduction in CO₂ emissions achieved over Building Regulations Part L 2013

Space	Building Emission Rate (kg CO ₂ /m ²)	Target Emission Rate (kg CO ₂ /m ²)	%-reduction
Retail Unit 1	24.5	45.1	45.68%
Retail Unit 2	24.2	40.5	40.25%
Convenience Store	19.7	30.8	36.04%

Potential Carbon Reductions – Building Regulations 2021

- 1.16. A Part L assessment requires a mechanical and electrical services specification to be included in order to be able to calculate the likely carbon emissions. In order to assess a shell only building the assessor is required to assume a 'reasonable' services specification that could be installed by the incoming occupier in order to achieve Building Regulations compliance.
- 1.17. An air source heat pump has been assumed as the most likely system that could be installed by an incoming occupier to achieve Building Regulations requirements. Under the 2013 assessment the proportion of the carbon reduction contributed from the air source heat pump is around 5%.
- 1.18. Building Regulations 2013, which these buildings are assessed under, uses outdated carbon factors, which assume that grid electricity is powered primarily by coal power stations with an emission factor of 0.519

kgCO₂/kWh. A 2013 Building Regulations assessment therefore favours gas over electricity. There are now no coal fired power stations which supply the national grid, and the carbon factor is much lower, averaging 0.139 kgCO₂/kWh.

- 1.19. Air Source Heat Pumps are powered by electricity, and so by applying the updated carbon factors to the assessment, the carbon reduction achieved would far greater, again exceeding the 15% reduction required by the policy. These calculations are presented in more detail in the following table.

Table 2. Additional reduction in emissions from ASHPs using Building Regulations 2021 emission factors for grid electricity.

Total Heating and Cooling demand (kWh)	7053
2013 Electricity Emissions Factor (kgCO ₂ /kWh)	0.519
2013 Emissions from ASHPs (kgCO ₂)	3,661
2021 Electricity Emissions Factor (kgCO ₂ /kWh)	0.139
2021 Emissions from ASHPs (kgCO ₂)	980
Additional Reduction in Emissions (kgCO ₂)	2,681
Total Floor Area (m ²)	580.1
Additional Reduction in Emission Rate (kgCO ₂ /m ²)	4.62
Target Emission Rate (kg CO ₂ /m ²)	30.8 – 45.1
2013 % reduction from ASHPs in comparison to gas	~ 5%
Additional % reduction using 2021 emission factors	10 – 15%
Total % Reduction from ASHPs using 2021 emission factors	15 – 20%

- 1.20. In summary, although the exact wording of the policy has not been complied with due to the policy wording being out of date and not applicable to shell only assessments, Vistry have complied with every possible intention of the policy and have taken a more sustainable approach to the policy than required.

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