

Sustainability Statement

Incorporating Renewable Energy Assessment



BKT Site, North Farm
Prepared for Clearbell Capital Ltd
March 2024



envision

The logo for 'envision' features the word in a lowercase, sans-serif font. Below the text is a graphic element consisting of two wavy lines: a green line on top and a blue line on the bottom, both curving from left to right.

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EXECUTIVE SUMMARY

1. This Sustainability Statement, incorporating a Renewable Energy Assessment has been prepared by Envision on behalf of Clearbell Capital Ltd (The Applicant) and is submitted in support of a full planning application seeking consent for the change of use of the BKT Site, North Farm Road from a printing business use (Use Class B2) to an indoor trampoline park (Use Class E(d)).
2. The primary purpose of this document is to explain how the scheme can meet with Turnbridge Wells Borough Council sustainability policies held within its local development framework.

Summary of Strategy

3. The scheme is expected to comply with the requirements of Core Policy 5 (Sustainable Design & Construction) by implementing the following measures:

Water conservation will be prioritised with all new sanitaryware meeting best practice efficiency limits;

The site is within a low flood risk area and the development does not further contribute to flood risk as there will be no increase in impermeable surfacing from the existing situation;

A renewable energy assessment has been undertaken, with a VRF condensing heat pump selected to provide renewable heating on site. In addition to the newly proposed renewable energy technologies, the existing gas connection will be stripped out and all lighting and ventilation systems replaced.

All external lighting will be highly energy efficient and designed to avoid light spillage. It has been designed in conjunction with ecological and security needs;

The contractor will be required to register the site with the Considerate Constructors Scheme to avoid nuisance and disruption;

Waste targets will be set through strip out and construction contracts and the contractor will segregate waste before disposal via a licenced waste contractor.

1 INTRODUCTION

1.1 Envision has been appointed by Clearbell Capital Ltd (the Applicant) to produce a Sustainability Statement, incorporating a Renewable Energy Assessment in support of a full planning application for the change of use of the BKT Site, North Farm Road from a printing business use (Use Class B2) to an indoor trampoline park (Use Class E(d)).

Scope

1.2 The primary purpose of this statement is to explain how best practice sustainable design and construction measures would be incorporated in the proposed development to ensure alignment with local planning policy.

1.3 This statement is structured as follows:

The remainder of this section provides a description of the site and the development proposals;

Section 2 provides a description of the main sustainability and energy policies relevant to the application;

Section 3 details the sustainable design measures incorporated into the design in line with the local development framework;

Section 4 provides a concluding summary.

Appendix 1 includes a renewable energy assessment.

Site Location and Existing Situation

1.4 The application site comprises a warehouse on the High Brooms Industrial Estate that has been used for a number of years by a commercial printing business. The use is understood to be Use Class B2. The site measures circa 0.55 ha and contains a warehouse building and associated external areas of car parking and servicing. The warehouse unit is of steel portal frame construction with brick elevations. The building has a ground floor, first floor, and first floor mezzanine level, which provide a total floorspace of 3,174 sqm GIA. Externally there is parking provision for approximately 40 vehicles.

1.5 The High Brooms Industrial Estate includes local industrial occupiers such as SIG, Brewers and Noble Wines. There are also leisure uses within the estate that have been granted planning permission including the 'Tigers Gymnastics Centre' at Unit 5, Chapman Way (application ref: 20/01310/FULL) and 'Chimera Climbing Tunbridge Wells' at Unit 3, North Farm Road (application ref: 14/504869/FULL).

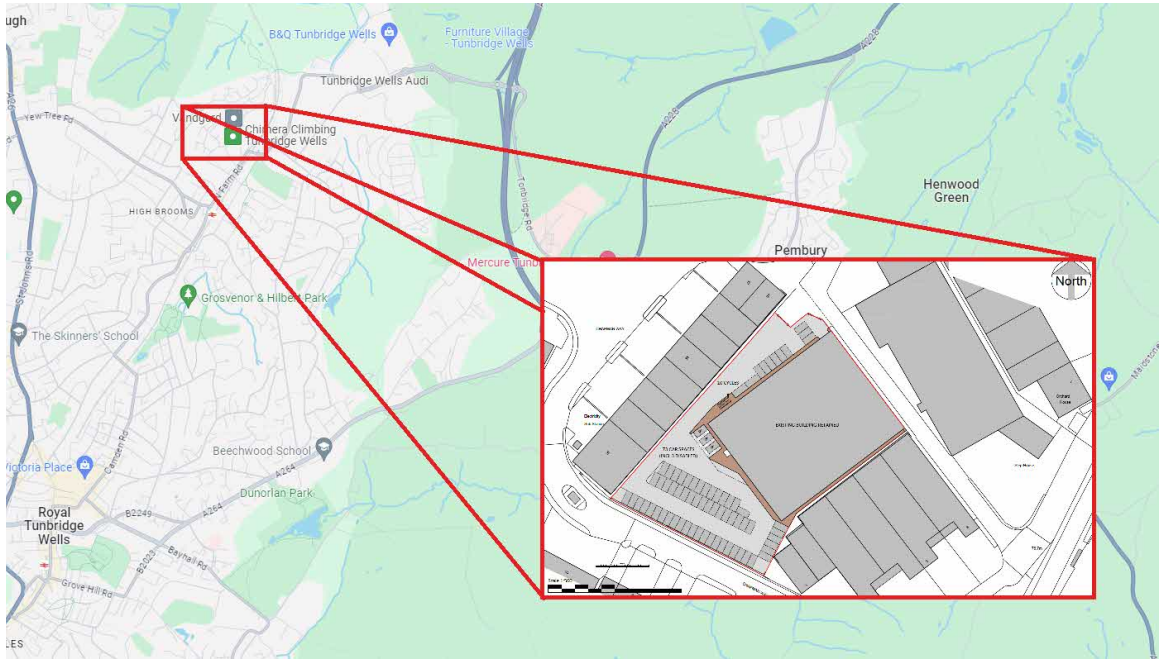


Figure 1.1 – Site Location

The Proposed Development

- 1.6 The planning application has been submitted to enable Air Hop to occupy the site as an indoor trampoline park. Air Hop is a business that successfully operated in Tonbridge between 2016-2021 as the Jump In Trampoline Park which welcomed up to 100,000 visitors per year to the site.
- 1.7 The proposal does not require any external works to the building. It includes landscaping works to deliver biodiversity net gain and works to facilitate car and cycle parking.

2 SUSTAINABILITY & ENERGY POLICY CONTEXT

2.1 Many definitions of sustainable development exist, although the common objective for all is the integration of economic, social and environmental issues to ensure a better quality of life for people today, without compromising the needs of future generations. A key mechanism for delivering the principles of sustainable development lies within the UK planning system, which is implemented through national guidance and local planning policies. A review of all the relevant policy, regulatory and energy guidance documents was undertaken to gain an understanding of the guiding requirements for sustainability.

National Planning Policy Framework

2.2 The National Planning Policy Framework was updated in December 2023 and sets out the government's planning policies for England and how these are expected to be applied. This revised Framework replaces the previous National Planning Policy Framework published in March 2012, revised in July 2018, updated in February 2019 and revised in July 2021.

2.3 The NPPF sets out a presumption in favour of sustainable development, and the need to support economic growth through the planning system. Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives):

an economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;

a social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering well-designed, beautiful and safe places, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and

an environmental objective – to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

2.4 The NPPF notes that the planning system should support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change. It should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure.

2.5 Furthermore, the NPPF sets out how local authority development plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term

implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures

Tunbridge Wells Borough Council Planning Policy

2.6 Tunbridge Wells Borough Council is working towards its Core Strategy Development Plan Document (adopted June 2010).

Core Policy 5 – Sustainable Design & Construction

2.7 The Borough Council will apply and encourage sustainable design and construction principles and best practice in order to combat avoidable causes of climate change and adapt to and/or mitigate already-unavoidable impacts of climate change, while also recognising the aim of Core Policy 4: Environment to conserve and enhance the unique urban and rural heritage characteristics of the Borough. All new developments will be expected to:

1. Make efficient use of water resources and protect water quality
2. Be located in accordance with the PPS25 sequential test, generally outside of the Borough's high risk flood zones; produce no negative effects on existing flood patterns; and, where necessary, apply mitigation and adaptation measures to reduce potential flood risk
3. Have regard to, and implement, South East Plan¹ renewable energy and energy efficiency targets, as well as wider carbon reduction targets
4. Manage, and seek to reduce, air, light, soil and noise pollution levels
5. Be designed to minimise waste creation and disposal throughout the lifetime of the development

¹ On 28 February 2013 the Secretary of State laid in Parliament a statutory instrument to partially revoke the Regional Strategy for the South East (modified to retain Policy NRM6: Thames Basin Heaths Special Protection Area), which came into force on 25 March 2013.

3 SUSTAINABILITY STATEMENT

3.1 This section includes a review of the scheme against the relevant policies in section 2 and identifies a series of practical measures that would be brought forward in design and construction which contribute to the developments’ sustainability.

3.2 The review is structured against the following thematic areas:




- Water Conservation;
- Flood Risk;
- Renewable Energy Assessment;
- Waste Management, and;
- Pollution.

Water Conservation Measures

3.3 Part 1 of Core Policy 5 requires development to; “Make efficient use of water resources and protect water quality”. The proposed development does not result in an intensification of floorspace on site, albeit B2/ B8 uses are generally low consumers of water. The development site is supplied water by South-East Water, which is considered to be seriously water-stressed.

3.4 Improved water efficiency in the retrofitted building is a key target for the applicant, with all sanitaryware to be upgraded in the building. The table below details indicative sanitaryware performance for all new fittings. The baseline (typical) standards against which performance is measured have been established by a range of published sources of information as detailed in BREEAM².

Table 3.1– Proposed Sanitaryware

Component	Baseline Performance	Proposed Performance	Improvement over baseline (%)
	6 litres flush	3.75	37.5%
	10 litres/minute	6	40%
	7.5 litres/bow/hour	5	33.33%

² Grant N, Thornton J. AECB Water Standards: Delivering buildings with excellent water and energy performance - Volume 2: The water standards technical background report (version 1.0.0). 2009.

	12 litres/minute	7	41.66%
	10 litres/minute	7	30%

3.5 The above table represents an example specification, which will be reviewed and updated during detail design. In addition, water sub-metering as appropriate will be integrated into the design

Flood Risk and Sustainable Drainage

3.6 Under emerging Policy EN 25, the proposed development site, situated in Flood Zone 1, is exempt from the requirement of submitting a flood risk assessment. This exemption is grounded in the specific conditions outlined within the policy, which stipulate that sites in Flood Zone 1 need to undergo a flood risk assessment only if they meet any of the following criteria: they are larger than one hectare; have been identified by the Environment Agency as having critical drainage problems; are recognized in a Strategic Flood Risk Assessment as being at increased risk of flooding in the future; or are potentially subject to other sources of flooding. The proposed development site does not fall into any of these categories, thus negating the need for a flood risk assessment.

Renewable Energy Assessment

3.7 The applicant is committed to reducing energy use through the change-of-use. All gas will be stripped from the building and replaced with all-electric systems, futureproofing the building for decarbonisation as the National Grid continues to decarbonise.

3.8 The retrofit strategy seeks to achieve two aims:

1. Reduce energy consumption through upgrade of lighting and ventilation, and;
2. Assess optimal renewable technology for integration into the development.

3.9 The strategy for the site is as set out in the ensuing section:

Lighting Strategy

3.10 This energy demand will be limited by the application of more efficient lighting, photocell daylight control and use of LED lighting throughout. The following lighting design requirements are therefore stipulated:

Table 3.2 –Lighting Datasheet

Lighting zone	Luminaire Lumens / Circuit Watt	Light Output Ratio	Photocell Dimming (Parasitic Power – W/m ²)	Occupancy Sensing (Parasitic Power – w/m ²)
Offices	130	1	No	Yes (0.25)
Ancillary Areas (Stairwell/WC/Store)	130	1	No	Yes (0.25)
Warehouse Areas	140	1	Yes (0.25)	Yes (0.25)

Ventilation Strategy

- 3.11 The ventilation strategy will be designed to meet with occupant and client requirements across the activity zones in the development, whilst maintaining the energy efficiency needed to lower carbon emissions. The following strategy is proposed:

Table 3.3 – Summary of Ventilation Strategy

Ventilation Zone	System	Specific Fan Power	Heat Recovery (Efficiency)
Office	Supply/Extract AHU	1.4	85%
WC	Extract Only (Remote)	0.3	No

Renewable Technology Analysis

- 3.12 An analysis of low carbon/renewable technologies was undertaken to determine which would be suitable for application in a development of this size and nature – this is provided in Appendix I. The renewable systems deemed to be the most suitable is an air-source heat pump providing renewable heating throughout the site.
- 3.13 The low-carbon/renewable energy proposed for the development is an air-source heat pump (ASHP) serving the serviced office areas within the buildings. ASHPs with the following specifications have been assumed:

The proposed ASHP is a conventional VRF air source heat pump system and will serve the office areas;

The ASHP will be selected to operate on R32 or R410a which is an F-Gas compliant refrigerant;

Cooling plant will have a minimum Energy Efficiency Ratio (EER) of 4³ and SEER of 7;

The ASHP will have a minimum COP of 5 for heating;

³ No EER available on system selection at present. To be ratified at detail-design.

HVAC system controls installed will be operating efficiently and to include automatic monitoring and targeting with alarms for out of range values as well as local time and temperature control.

- 3.14 The back-of-house heating will consist of direct electric heating, and hot water will be provided by instantaneous point of use.

Pollution Control

- 3.15 Any new development can potentially lead to detrimental environmental effects; as is the nature of construction. These potential effects have been considered during the planning stages of this proposal. The development mainly involved internal modification and the introduction of additional landscaping, and therefore the potential for impacts is generally reduced.

Air Quality

- 3.16 The site is not located within an Air Quality Management Area (AQMA). The existing building uses gas led systems, however the refurbishment strategy is proposing no on-site fossil fuel combustion as all space and water heating will be provided by an electric-led heating and hot water strategy. This supports local air quality.

External Lighting

- 3.17 The site is considered to be within an urban area and is considered to be in Zone E4 – Urban area, characterised as having ‘high district brightness’ according to the Institute of Lighting Engineers Guidance Notes for the Reduction of Obtrusive Light (2021). This sets limits for vertical illuminance and upward light ratios (ULR).
- 3.18 The development’s lighting strategy will ensure that it does not have adverse effects at night-time. Although a detailed lighting scheme for the site that ensures it minimises light pollution has not yet been undertaken the following measure are expected to be incorporated:
 1. External lighting will be designed in compliance with Table 1 and accompanying notes of ILE Guidance Note for reduction of obtrusive light.
 2. All non-safety/security lighting will be automatically switched off between 2300hrs and 0700hrs.

3.19

Reducing Waste and Prioritising Sustainable Material Selection

- 3.20 Part 5 of Core Policy 5 requires development to; “Be designed to minimise waste creation and disposal throughout the lifetime of the development”. The commitments proposed to meet with this policy are set out as follows:

Table 3.4 – Waste Commitments

Type	Target	Summary
Strip-out waste materials	Target 95% diverted from landfill for reuse, recycling or recovery.	The Site will aim to minimise all construction, demolition, excavation, and municipal waste throughout the development. A pre demolition audit will be undertaken

(non-hazardous)		which considers materials arising from demolition and opportunities for direct reuse, recovery and recycling.
Construction waste materials	Minimum of 95% diverted from landfill for reuse, recycling or recovery.	The design will aim to minimise materials used on site, through designing out waste and reuse where possible. Waste targets will be set through the main contractors Employers Requirements, which will align with these targets.
Municipal waste	Minimum 65% recycling rate by 2030.	Sufficient waste storage has been made available in line with best practices and appropriate labelling and signage will be available. This will facilitate the segregation and management of waste. The development will support the separate collection of dry recyclable streams, including card, paper, mixed plastics, metals and glass), food waste and other waste.

Sustainable and Responsibly Sourced Materials

3.21 The contractor will be required to produce a sustainable procurement plan for the project, which will set out procedures for material management and purchasing requirements to be adopted by their sub-contractors. The following objectives and strategic targets have been set to guide sustainable procurement activities, based on a review of the relevant risks and opportunities identified against a range of social, environmental and economic issues (following guidance set out in BS8902:2009 Responsible sourcing sector certification schemes for construction products – Specification):

1. All timber and timber-based products to be used in construction, either as part of the fixed structure or for temporary construction activities, will be legally harvested and traded timber as per the UK Government's Timber Procurement Policy (TPP).
2. Materials will be specified from manufacturers with Environmental Product Declarations (EPDs) where feasible, helping to reduce the environmental impacts of the scheme and allow for a greater understanding and refinement of the site's WLC emissions.
3. Preference will be given to the procurement of construction materials for the main building elements and finishes, where feasible, from suppliers who comply with one or more of the following standards:-


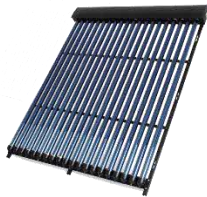




BES 6001 Framework Standard for Responsible Sourcing
 CARES Sustainable Constructional Steel Scheme
 Eco Reinforcement Responsible Sourcing Standard, Steel Products for the Reinforcement of Concrete
 FSC/PEFC/SFI
 Certified Environmental Management Systems (e.g. ISO 14001)

4. Where possible, materials will be procured from local sources, supporting the local economy, and provide opportunities to small and medium-sized enterprises.

5. Consideration will be given during the design and construction stages to using less resources and reducing energy consumption through innovative solutions.
6. Ensure that fair contract prices and terms are applied and respected, and that ethical, human rights and labour standards are met.

4 CONCLUSION

- 4.1 This Sustainability Statement, incorporating a Renewable Energy Assessment has been prepared by Envision on behalf of Clearbell Capital Ltd (The Applicant) and is submitted in support of a full planning application seeking consent for the change of use of the BKT Site, North Farm Road from a printing business use (Use Class B2) to an indoor trampoline park (Use Class E(d)).
- 4.2 The scheme is expected to comply with the sustainability policies held within Tunbridge Wells Borough Local Development Framework by implementing the following design and construction measures:
- Water conservation will be prioritised with all new sanitaryware meeting best practice efficiency limits;
 - The site is within a low flood risk area and the development does not further contribute to flood risk as there will be no increase in impermeable surfacing from the existing situation.
 - A renewable energy assessment has been undertaken, with a VRF condensing heat pump selected to provide renewable heating on site;
 - i. In addition to the newly proposed renewable energy technologies, the existing gas connection will be stripped out and all lighting and ventilation systems replaced.
 - All external lighting will be highly energy efficient and designed to avoid light spillage. It has been designed in conjunction with ecological and security needs
 - The contractor will be required to register the site with the Considerate Constructors Scheme to avoid nuisance and disruption;
 - Waste targets will be set through strip out and construction and the contractor will
- 4.3 The development is therefore deemed to be in accordance with the requirements of Core Policy 5 (Sustainable Design & Construction) within the Tunbridge Wells Borough Local Development Framework.

	Typical Lifetime	Maintenance	Land & Space Requirements	Operational Impacts	Adopted in Development?
 <p>Solar Photovoltaic (PV) Panels</p>	25	Low	<p>PV is typically installed on available roof-space so little to no impact on land use.</p>	<p>Proportionately large arrays may need electrical infrastructure upgrade (0.5 MW+)</p> <p>PV arrays are typically maintenance free and panels are self-cleaning at angles in excess of 10 degrees. Provision for access to solar panels installed on flat roofs needs to be incorporated into the design of PV arrays layout as well as inclusion of spaces for inverters within the development. Quality of PV panels varies dramatically.</p>	<p>Not Adopted</p> <p>The roof is free from shading and generally flat which is well suited for PV installation.</p> <p>However, it is unknown if the existing structural frame is suitable for the retrofit of PV. The uniformly distributed load of PV panels is 0.13 kN/m² and it has been determined the roof is likely not possible to take loadings until further structural investigations are undertaken.</p>
 <p>Solar Thermal</p>	25	Low	<p>Solar thermal panels are typically installed on available roof-space so little to no impact on land use.</p> <p>Requires hot water cylinders that link to system and requires additional energy.</p> <p>Due to amount of roof space required and distance from tank to panels, less suitable for dense developments or high-rise buildings.</p>	<p>Note above with regards to maintenance of solar thermal panels. Biggest reductions achieved by people who operate their hot water system with consideration of the panels.</p>	<p>Not Adopted</p> <p>Although technically feasible the distance for runs from the roof limit is suitability. It would not offer significant carbon emission savings relative to the cost and complexity of installation.</p>
 <p>Air-Source Heat Pumps</p>	20	Medium	<p>No need for external ground works, only a heat pump unit for the air to pass through.</p> <p>Minimal external visual evidence if located in plant enclosure.</p>	<p>Vital that ASHP model selected has been proven to maintain performance at the low temperature and high humidity conditions of the British winter.</p> <p>May need immersion backup where employed for hot water generation.</p> <p>Highly reliable and require virtually no maintenance.</p>	<p>Adopted</p> <p>ASHPs are potentially viable for the development and are capable of providing a significant portion of the building's energy from effectively a renewable source, as for each kW of electricity in excess of 3kW of heating will be extracted. These offer high COPs. Each ASHP would need to be located on the at ground level. The ASHP will meet with the client requirements for both heating and cooling options to the office areas.</p>
 <p>Ground Source Heat Pumps</p>	20	Low	<p>Require extensive ground works to bury the boreholes that extract the low-grade heat from the earth.</p> <p>They therefore require a large area for horizontal burial (40-100m long trench) or a vertical bore (50-240m) which is considerably more expensive but can be used where space is limited.</p>	<p>May need immersion backup for hot water.</p> <p>Maintenance issues if components of ground bore hole fail.</p>	<p>Not Adopted</p> <p>A ground source heat pump offers high COPs but has not been identified as a feasible renewable technology for providing space heating to the development as;</p> <p>There is unlikely to be the required area for horizontal system and vertical boring would be significant to provide the loads required.</p> <p>High groundwater may prevent the use of open loop systems, which require permitting.</p>
 <p>Wind Turbines</p>	25	Medium	<p>Smaller models (<6kW) can be roof mounted. Must be higher than surrounding structures/trees. Planning permission required.</p>	<p>Annual services required.</p> <p>Turbines rated in excess of 5kW may require the network to be strengthened and arrangements to be made with the local Distribution Network Operator and electricity supplier.</p>	<p>Not Adopted</p> <p>The restricted nature of the site, coupled with the noise, aesthetic (planning) make this system impractical and unviable.</p>
 <p>Combined Heat & Power (CHP)</p>	25	High	<p>CHP systems require a plant room and possibly separate energy centre for large developments. Require a flue to effectively disperse pollutants. This is best to rise to a minimum of 2m above the roofline of the tallest building.</p>	<p>Require operational support and maintenance. Can produce proportion of electricity which can help in lowering energy demand. Emissions of oxides of nitrogen – ~80-100mg/kWh.</p>	<p>Not Adopted</p> <p>As the grid continues to decarbonise, the carbon offset offered by CHP will reduce, resulting in the system actually emitting far more carbon than other systems as the heat efficiency is typically around 50%, i.e., an inefficient gas-fired boiler.</p>



20

High

Biomass boilers require a plant room and possibly separate energy centre for large developments.
 Require a flue to effectively disperse pollutants. This is best to rise to a minimum of 2m above the roofline of the tallest building.
 Fuel store/delivery vehicle space will be required. This should be maximised to reduce fuel delivery frequency.

Normally run-on biomass but can also work with biogas.
 Require some operational support and maintenance.
 Fuel deliveries required.
 Boiler and fuel store must be sited in proximity to space for delivery vehicle to park.
 Issues with rights to dig up roads, etc (for heat networks).
 Emissions of oxides of nitrogen – ~80-100mg/kWh.

Not Adopted
 Burning of wood pellets releases high NOx emissions and there are limitations for their storage and delivery within a development of this nature.