Sustainability Statement

Torsion Care

1280 Century Way
Thorpe Park
Leeds
LS15 8ZB

Revision	Date
A	September 2023
B	February 2024
C	November 2024

Contents

1 Executive Summary

1.1 Torsion Care developments are designed to consider sustainability in accordance with the National Planning Policy Framework (NPPF) and the Local Authority's Local Plan.

1.2 Torsion Care developments are designed to achieve carbon emissions in line with Part L 2021 through the integration of good fabric performance and employment of low and zero carbon technologies.

1.3 Water efficiency is reviewed as part of the design of all Torsion Care projects, and a Part G compliant specification is applied to every new development, resulting in the lower water use target of 110litres/person/day.

1.4 Overheating is assessed on every new development in line with the latest Approved Document O.

1.5 Torsion Care developments aim to achieve a BREEAM certification and/or EPC rating A and above

1.6 Electric Vehicle charging is installed, along with future provision, in collaboration with the requirements of Approved Document S.

2 Typical Torsion Developments

Introduction to Torsion

Torsion Care are experts in delivering communities for people to live, building modern care homes and retirement living schemes of the future. Torsion Care offers a complete turn of key service for operators, whilst also developing for operation by our inhouse Operations Team, Torwood Care.

Our team are experts at finding land, obtaining planning permission, and constructing care facilities in a partnering approach with operators and investors. Our “building block” approach gives efficiency in proven operational buildings, whilst also allowing flexibility around bedroom sizes and wing lengths, which helps even the most difficult site to be accommodated.

Land sourcing and development

Our team of land assessors find land from a network of land agents, landowners, and developers. We assess land not only for buildability but its demographic location, access to local resource and services. We work closely with the Local Planning Authority on each development to ensure the building is complementary to the surrounding community, built on a safe and sustainable design for both construction and operation. Once local planning permission is granted, we work closely with our sister company Torsion Projects to build new, modern, and highly efficient care homes and retirement living complexes.

Operations

Torwood Ltd are the operational arm of Torsion Care for our Residential Care Homes. Our homes are designed to provide quality care to each and every individual, in a safe and comfortable home-from-home environment.

3 Sustainability Appraisal

3.1 Material Specifications

As part of Torsion's aims of objectives, each project would like to achieve a BREEAM rating. This philosophy is integrated from the very start of all our developments by considering every material specification in line with the BRE Green Guide.

The Green Guide is used to examine the environmental impact of construction materials commonly used across all forms of residential buildings including care homes.

In line with our philosophies and our commitment to BREEAM, Torsion's standard specification of materials consists predominantly of A+/A rated materials as designated by the Green Guide. Insulation, pitched roofs and external cavity walls are just some of the elements contributing to the A+ ratings achieved.

Table 1 below displays some of the typical material choices included within a typical Torsion Care Development.

Element	Green Guide build up (online)	Code	Green Guide Rating
Ground floor beam & block	Screed on insulation laid on grouted beam and block flooring	820140012	B
Internal upper floors	Structural topping on grouted beam and medium dense solid block flooring	807280037	A
Wall – External cavity – Brick	Brickwork outer leaf, insulation, blockwork inner leaf, cement mortar, plasterboard on battens, paint	806170615	A+
Wall – Internal partition (timber) non load bearing	Timber stud, plasterboard, paint	809760003	A+
Wall – Internal partition (masonry) load bearing	Medium dense solid block, plasterboard, paint	80918008	B
Windows	PVC-U window with steel reinforcement, double glazed	813100009	A
Insulation	Glass wool insulation – density 12kg/m^3	815320001	A+
Pitched roof	Timber trussed rafters and joists with insulation, roofing underlay, counter battens, battens, and concrete plain tiles	812410017	A+

Table 1

3.2 Responsible Sourcing

Torsion Group Ltd have worked tirelessly to establish a network of suppliers committed to the responsible sourcing of construction materials in line with Torsion's aims and objectives for sustainability.

Torsion Projects have a developed a Sustainable Procurement Plan which is considered in the appointment of all subcontractors and suppliers. Materials that will be used within the construction of the new Torsion Care developments will be certified against industry standards, providing assurance that materials have been sourced with sustainability in mind.

Forms of certification for responsible sourcing of materials can involve; BES 6001, FSC, PEFC and EMS.

All timber used on site will be sustainably procured and independently accredited by the FSC or PEFC in line with the BREEAM pre-requite. Other examples that align with Torsions Sustainable Procurement Plan can include British Gypsum wall board, Tarmac cement and aggregate, and Ibstock bricks, all of which have responsible sourcing certification.

3.3 Waste Management

Torsion Group use 'SmartWaste', an online environmental reporting tool designed by BRE to help the construction industry monitor and report on areas such as waste generation and management, site waste management plans, energy and water use, sustainable timber and material supply and carbon impacts from transport.

Each site is individually monitored, with utilities and transport recorded monthly, and waste off-site uploaded by our approved waste carriers along with tickets to provide full auditable trail for material movements.

The data collected from each individual site undergoes statistical analysis by the BRE who then use it to support the Waste Benchmark Calculator, from which every site is measured based on sector and size. Each of Torsion Care's sites are currently above the benchmark values for material diverted from landfill, with figures ranging from 97-100% for construction materials.

3.4 Flood Risk

All Torsion Care developments undergo thorough Flood Risk Analysis, to ascertain the Zone in which the site is located, and ensure any necessary mitigation measures are engineered into the design early doors.

Zone 1 flood risk is considered best practice for a positive sustainable development and would be well located for a site that is resilient to climate change.

3.5 Ecology

A full Ecological Assessment is undertaken for every development. These consider the impact the development may have on the habitat and species in the area and provides recommendations and mitigation methods for reducing the affects and/or improving surrounding areas.

In line with the BREEAM credentials, Torsion Care always target to have a positive increase in the Biodiversity Net Gain of a site and will develop brownfield sites where possible, striving to increase the levels of landscaping and biodiversity by the completion of a project.

Detailed methodologies for how this may be achieved are undertaken for each development site and submitted as part of our planning applications, ensuring our intensions for increased BNG are known commitments from the inception if every project.

3.6 Air Quality

An Air Quality Assessment may be undertaken if deemed necessary for the site, including detailed analysis of the current standards in the area, potential impacts the new development may have both during construction and in use, and most importantly, the mitigation measures that will be implemented to ensure minimal impact is caused to the development site and surrounding area.

3.7 Sustainable Travel

A Travel Assessment is undertaken for every new development to assess the impact of the new care home on the local highways and public transport network, and to advise on any mitigation methods that may be required.

Sustainable travel methods will be encouraged on all new developments, including cycling and the use of public transport, and will be considered as part of the report.

Every Torsion Care development includes new secure cycle storage with changing rooms and shower facilities made available in the staff area.

The reception area will also feature an interactive tablet for the use of all residents, visitors, and staff, to allow simple access to local timetables for public transport services.

The report will offer further detail on how the development will comply with any specific local authority policies in relation to sustainable travel.

3.8 Electric Vehicle Charging

Every new development is designed in line with Approved Document S 2021, ensuring the provision of EV charging points and the ability to retrofit EV charging points to further parking spaces as the ownership of electric cars increases.

As part of the external plan a typical care home aims to provide charging points to a minimum 4no bays, with priority location in the car park after the provision of disabled bays.

A full specification for the charging points can be reviewed in the M&E Specification and will be developed further during the detailed design stage.

3.9 Water Use

As noted in the M&E Specification every development is designed to comply with the requirements set out in Approved Document G 2015, with the estimated water consumption not to exceed 110litres/person/day.

This will be achieved in part by ensuring the consumption requirements of sanitary fittings does not exceed the following duties as listed in the below table 2.

Sanitary Appliance	Water Flow Rate
Wash hand basin	Taps flow rate limited to 3l/min
Sink	Taps flow rate limited to 4l/min
WC	4/2.6l dual flush
Showers	Limited to 6l/min
Bath	170litres
Domestic Dishwasher	1.25l/place setting
Domestic Washing Machine	8.17l/kilogram

Table 2

4 Design Response

4.1 Assessment Methodology

4.1.1 Part L Compliance- SAP & BRUKL Assessment

FutureServ undertake all design stage energy modelling on Torsion Care Projects, in line with the BRE and Approved Document L 2021. Using approved Apache software, the BRUKL/SAP report can provide a number of outputs, and based of the provided specification for this proposed development, FutureServ are able to assess the following areas for their calculations:

- Building regulations compliance, including:
- Carbon emissions (kg CO2/m2/year)
- Primary Energy Demand (kWh/m2/annum)
- Fabric Energy Efficiency (kWh/m2/annum)
- Energy usage per year (kWh/annum)
- Energy costs per year (£/annum)
- More detailed breakdowns by end use (space heating, water heating, cooking, lighting, appliances)

Each of these outputs can be used in different ways to analyse the performance of the building. The total regulated carbon emissions for the property are based upon:

- Space heating;
- Water heating;
- Electricity for pumps and fans;
- Electricity for lighting.

BRUKL & SAP software is issued by independent software suppliers and checked and approved on behalf of government by the Building Research Establishment (BRE).

On completion of the building, an As Built BRUKL/SAP calculation will be undertaken to confirm the predicted calculations and compliance with Approved Document standards, as well as BREEAM credentials.

4.1.2 Passive Design Analysis

In addition to the government standard assessment, Torsion Care regularly undertake Passive Design Analysis at Concept Design stage. Passive design is one of the first steps in the Energy Hierarchy (Figure 1). The energy hierarchy aims to help steer the early design stages to reduce energy demand in a building and make system as efficient as possible, in advance of the installation of renewable energy technologies.

Passive Design is a design technique which uses the natural movement of heat, air, and light to keep internal conditions in a building comfortable. By using natural movements, there is a reduced need for energy consuming Active Design measures such as comfort cooling, heating exchanges, boilers etc.

Passive Design Analysis, undertaken by accredited M&E consultants in accordance with BREEAM credit Ene04, therefore reviews the proposed development to reduce the total heating, cooling, mechanical vent, and lighting demand the building may require.

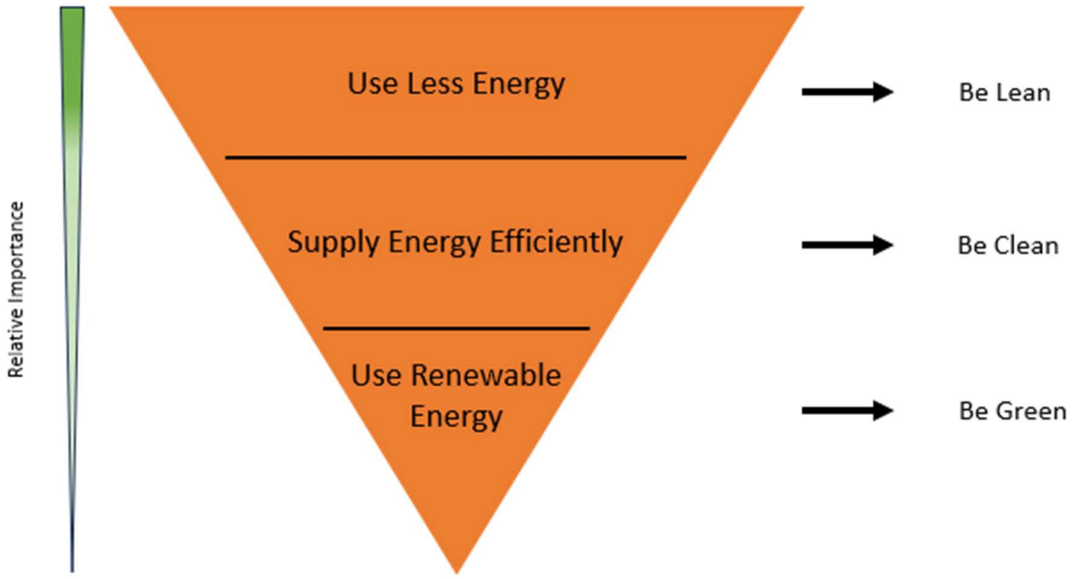

Figure 1

4.1.3 Low Zero Carbon Technologies

Following on from Passive Design analysis, many Torsion Care sites will also undergo a site specific Low Zero Carbon feasibility study to review any Active Design measures that would be beneficial in improving the sustainable credentials of the building. LZC feasibility studies are undertaken to establish the most appropriate recognised local low or zero carbon energy sources that are suitable for the development. The LZC study will cover;

- Energy generated from LZC energy source per year.
- Carbon dioxide savings from LZC energy source per year.
- Life cycle cost of potential specification, accounting for payback.
- Local planning criteria, including land use and noise.
- Feasibility of exporting heat/electricity from the system.
- Any available grants.
- All technologies appropriate to the site and energy demand of the development.
- Reasons for excluding other technologies.

The specified LZC technologies must be shown to provide a meaningful reduction in regulated carbon dioxide emissions, assessed against a base case model that includes any passive design or free cooling measures incorporated into the building.

The LZC study is undertaken by an accredited member of the Chartered Institute of Building Services Engineers (CIBSE) and/or be an accredited energy assessor.

4.2 Design Philosophy

Several improvements have been made across the specification in order to improve the energy efficiency of our buildings above the minimum standards expected. Key improvements that have been incorporated into Torsion Care's sustainable energy provision include;

- Air source heat pumps with electric boost, for both heating and hot water.
- Natural ventilation where possible to reduce the building demand.
- Improved design air permeability from building regulation standards.
- Consideration of PV panels to all suitable roof areas.
- LED lighting including automatic on/off via PIR sensors in circulation areas.
- A mix of mechanical heat recovery and extract only with SFP between 0.5 & 0.9.

4.3 Fabric Improvements Part L 2021

Torsion have improved the minimum standards for building fabrics across all their new developments. These fabric improvements reduce the space heating requirements upon a building. The improvements are made via a variety of upgraded material efficiencies and where possible increasing insulation thicknesses. The glazing specification is also improved, offering improved thermal properties whilst also considering solar gains. Table 3 displays some typical improvements made across each of their developments, which are then tailored to each individual property.

Element	Minimum Standard	Example Improved Standard
Walls	0.26 W/m^{2}K	0.26 W/m^{2}K
Roof	0.18 W/m^{2}K	0.11 W/m^{2}K
Floors	0.18 W/m^{2}K	0.16 W/m^{2}K
Doors	1.6 W/m^{2}K	1.4 W/m^{2}K
Glazing	1.6 W/m^{2}K	1.4 W/m^{2}K
Air Permeability	8	4

Table 3

Careful management during construction to ensure a quality build also contributes to an improved air permeability score for the building. A target air pressure rating of 4m^3/hr.m^2 is set which can often be excelled once tested, which once combined with improved thermal bridging details results in much lower heat loss throughout the new building.

4.4 Building Services and Renewable Energy (LZCT)

The systems used in a property to supply hot water and heating, as well as control it, are important to the overall energy demand of a property. AD-L 2021 includes requirements for efficiency and controls of such equipment, including space heating, water heating, ventilation, and lighting.

The design of building services which provide space heating and domestic hot water, ventilation, and lighting, must be considered in a holistic way in order to avoid unintended consequences and to maximise the benefits from such systems.

Following extensive experience based on detailed Passive Design Analysis, LZC Technology Feasibility Studies, and comprehensive BRUKL/SAP calculations, Torsion Care propose the use of the following technologies which not only comply with government standards, but surpass the minimum base line helping achieve BREEAM ratings and meet the needs of local authority policies;

- Air Source Heat Pump technology – every care home is run from a central ASHP compound delivering community heating services to the full building, ensuring the dwellings meet our high sustainability standards whilst offering individual services to new homeowners.
- Photovoltaic panels where suitable, to support the building and reduce the pull on the main grid.
- No gas – All new Torion Care developments run on electricity only with no reliance on gas.

Smart meters will be installed on all properties, providing:

- Real time information on energy use both in terms of consumption and cost.
- Occupier can manage their energy, save money, and reduce carbon emissions.
- Smart meters will also allow for easier switching between suppliers.
- Facilitate a more reactive, price driven, demand-response.
- End estimated billing and eliminate the need for meter readers to visit premises.

5 Conclusion

This sustainability statement has been produced to support Torsion Care new build care home developments.

The strategy sets a high standard of overall sustainability with measures that include;

- Improved building fabric specifications, with U values better than government standards.
- Responsibly sourced materials via our trusted supply chain.
- Striving for BREEAM certified projects.
- EPC rating of A on every development.
- Materials in line with the BRE Green Guide A/A+ ratings.
- Thoughtful landscaping plans, striving to increase Biodiversity Net Gain on all developments.
- The production of impact assessments for any noise, air quality, ecology, and travel effects that the new development may pose, along with mitigation measures.
- The promotion of sustainable travel via cycle storage and changing facilities, EV charging points, and accessible timetables for public transport.
- Building services provided by electricity only, and supported by renewable technology such as PV panels where possible.
- ASHP technology in all buildings.
- Passive design measures such as natural ventilation where possible.