



BARRATT
— HOMES —

Counteswells, Aberdeen

Area N2 + N13

Planning Conditions –

23 Water Efficiency Statement

28 - Low and Zero Carbon Buildings



DAVID WILSON HOMES

WHERE QUALITY LIVES

Condition 23 of the approved Planning Permission in Principle, ref :P140438, for the masterplan at Counteswells states:

Development in any individual phase/block shall not commence until a water efficiency statement to illustrate the measures proposed to incorporate water saving technology, has been submitted to and approved in writing by the planning authority.

The measures contained therein shall thereafter be implemented, as approved - in order to ensure targets towards sustainability measures are met.

Sustainable Urban Design System (SUDS)

A design for SUDS has been prepared for the development and a detailed explanation of the design principles can be found in the Drainage Assessment prepared by Fairhurst Engineers. They follow the advice provided in CIRIA publication C723.

Barratt can confirm that all surface water drainage, including roofs and driveways will be connected to the detention basin located and operational due south east of the development site. This basin has been operational since earlier phases of development commenced and was designed with the intention of taking parcel IN2 N13 of which Fairhurst drawings packages will confirm all of which will provide an effective and proven two stage sustainable drainage solution for the proposed development.

CIRIA publication C723 looks to manage surface water runoff in a more natural way. This is achieved by managing rainfall close to where it falls and on or near the surface. SUDS design helps to Manage Water Quality, Improve Water Quality provide Amenity and Enhance Biodiversity.

Overall benefits resulting from a good quality SUDS design include more attractive places to live and desirability of living next to a managed wetland area, reduced maintenance costs when compared to traditional drainage schemes, reduced capital costs and the meet local and national guidelines on design.

SUDS also helps reduce the risk of floods by reducing the peak flow surface water runoff, reduce impact of developments on the water environment and can provide health and wellbeing benefits for those living nearby.

Condition 28 of the approved Planning Permission in Principle ref :P140438, for the masterplan at Counteswells, states:

that no development within any individual phase/block shall not be occupied unless a scheme detailing compliance with the Council's 'Low and Zero Carbon Buildings' supplementary guidance has been submitted to and approved in writing by the planning authority, and any recommended measures specified within that scheme for the reduction of carbon emissions have been implemented in full - to ensure that this development complies with requirements for reductions in carbon emissions specified in the City Council's relevant published Supplementary Guidance document, 'Low and Zero Carbon Buildings'.

Barratt Homes aim to design homes and places with the most current modern methods of construction (MMC) and also to ensure that we design and build to ensure our customers can reduce their annual heating and electricity running costs, lead lower-carbon lives and help lower the UK's greenhouse gas emissions that contribute to global warming. This is one of Barratt Developments Group mandates and one that as the largest housing developer in the UK, we are passionate in delivering alongside our great places to live mandate.

Every Barratt customer is provided with a demonstration by our Site Manager and Sales Advisor at handover to show how to operate the heating and electricity effectively and efficiently. All appliance user manuals are contained in the homeowners handover pack. The website link below takes homeowners to our customer care and online support, which is useful when settling into their new home.

www.barratthomes.co.uk/Help--support

Timber Frame Construction:

The proposed family homes on the development site will be constructed using timber frame construction which provides many benefits for both the developer and more importantly for the customer and end user.

Barratt take a 'fabric first' approach which is about designing homes that are not only energy efficient and low-carbon, but are comfortable and economical to run. Smart techniques in a home's fabric include air tightness, high levels of insulation and high performance windows and doors.

A 'fabric first' approach is a low risk, cost effective, fast and efficient way to achieve high levels of sustainability as outlined in the 2020 Domestic Technical Standards for Scotland. Further reductions in carbon dioxide (CO₂) emissions from new buildings will also assist in meeting targets within the Climate Change (Scotland) Act 2009.

Three key principles to achieve more energy efficient homes is improved thermal performance by improving the insulation specification in the walls, roof and below the ground floor slab, air tightness and thermal bridging. Improved acoustic performance is achieved as an offset from increased levels of insulation.

Timber is a renewable construction material which can create buildings with low embodied energy. The timber used on our kits is locally sourced from managed forests which help reduce the carbon footprint in terms of transportation to and from the factory. The kits are made under controlled factory conditions using regular component parts which help reduce waste whilst assuring quality 'off-site' manufacture which results in simplified 'on-site' speed of erection and reduce site waste.

The above processes help deliver an energy efficient building envelope for the customer.

In-line Photovoltaic Roof Panels:

As per earlier phases of Counteswells, Barratt will Install Viridian PV1 in-roof Solar Photovoltaic panels in full compliance with Section 6 – Energy Scottish Building Standards.

The solar panels will generally be located on the most southerly facing roof slope of the dwelling and in accordance with the overall development design prepared by our group supplier - Eco2Solar.

Each house type will have the required number of PV panels as outlined in the SAP calculations which have been prepared for each of our standard house types from the Caledonia 2020 Range. All of which have STAS approval and conform fully with the 2020 Scottish Building Standards of which hwe have STAS approval.

The solar PV's will generate electricity for the homeowner during the day. Any electricity generated during daylight hours and not used will be fed back to the national grid. Pay back tariffs are no longer offered to the customer.

High Performance Windows and Doors:

The fabric first approach continues with the specification of pvc-u window frames and doors which help improve the thermal performance and air tightness of the dwelling.

The low maintenance of the pvc-u components also improves the overall lifecycle costs for the end user. Due to the advances in recycling, pvc-u building components have been recognised by the industry as a sustainable product. The material can be re-cycled up to 10 times throughout its lifecycle, without any loss in quality.

The Group supplier of our window frames 'Eurocell' operates its own pvc-u recycling plant. In 2018 Eurocell were able to produce 12,500 tonnes of products made from recycled material at its Midlands-

based plant thus creating an endless 'closed loop' of re-cycling and re-use of window frames for the industry.

Gas Central Heating:

Energy efficient 'A' rated gas fired combi boilers are installed in all our dwellings to provide central heating and hot water facilities in our houses in full compliance with Section 6 - Energy of the 2020 Scottish Building Standards. The central heating system to be capable of maintaining a temperature of 21 degrees C in at least 1 apartment and 18 degrees C elsewhere, when the outside temperature is -1 degrees C.

Eco and Standard Hot Water Cylinders are installed on the larger detached dwellings were required.

Independent time and temperature control of heating and hot water circuits to be provided with a boiler interlock to ensure that the boiler and pump only operate when there is a demand for heat. For large dwellings with a floor area over 150m², independent time and temperature control of multiple space heating zones are installed. Each zone (not exceeding 150m²) should have a room thermostat and a single multi-channel programmer or multiple heating zone programmers.

Low Voltage Lighting:

Energy efficient low voltage lighting is fitted as standard in all new houses. They provide the customer with a long life product which needs replacing less frequently and costs less to run by using less electricity.

LED light fittings are offered as a customer extra and provide an alternative to the low voltage pendants and fluorescent light fittings. They are popular and often specified in kitchens and bathrooms.

Low Flush Sanitary Appliances:

Twyford 'Energy' E100 close coupled premium toilet pans are fitted as standard in all our houses. These use the 'Flushwise' system which offers an environmentally friendly water saving flush of 4/2.6 liters.

Integrated Kitchen Appliances:

The houses will be fitted with energy efficient integrated kitchen appliances which help to play an important role in allowing our customers to achieve greater energy performance and efficiencies in their homes.

The group supplier of our integrated home appliances is Electrolux and they are a company who are tackling climate change by reducing greenhouse gases in the production of their appliances by the use of more re-cycled materials within their products. They are eliminating the use of harmful materials from their production processes and have a list of restricted materials such as harmful chemicals which are banned from their products.

More energy efficient electrical appliances such as washing machines, dishwashers and fridge freezers help customers reduce energy bills and thus reduce their carbon footprint over the lifetime of the appliance. 'A++' rated appliances use less water and cleaning products when washing clothes and dishes. By simply reducing the temperature when washing a load helps reduce the amount of electricity used within the home. Appliances with timers can be set to use power during the day when the source of electricity within the home is being generated by the PV's is another means to help reduce energy bills and living a more sustainable lifestyle.

EPC - Energy Performance Certificate:

Each customer will be provided with a copy of the Energy Performance Certificate for their individual house plot. This is generated using the SAP calculation for each of the house types and is plot specific.

The information shows the Energy Efficiency Rating of the house and the 'Estimated energy costs for your home for 3 years'.

The certificate also outlines the Environmental Impact (CO2) Rating of the house and shows the effect of undertaking all of the improvement measures listed within the recommendations report. The installation of Solar PV panels provides the customer with an opportunity to achieve this target.

Remodeling groundworks:

The carbon footprint on the site is reduced by remodeling the groundworks. This allows material to be retained on site, which reduces the amount of lorry loads of excess material to be removed off site. This has environmental benefits and is promoted on all new development sites from an early design stage.