APPENDIX A

Climate Change Update – Housing

Introduction

The construction industry is responsible for 20% of all global carbon emissions and with buildings requiring constant maintenance, demolition and rebuilding, coupled with an ever growing population this is a figure that is only going to increase. Additionally the average household in the UK emits 2.7 tonnes of CO2 every year from heating their home.

The Housing service directly manage over 10,000 properties across the Borough and have a pro-active Private Sector Housing team that support the owners and tenants in 12,000, properties of this tenure type.

It is essential that in order to support the objectives of the Climate emergency agenda, that the Housing service build on the work undertaken to date, to ensure that sustainability, energy and thermal efficiency, are at the root of all decisions made in respect of the buildings that are developed and maintained, by the Council.

Additionally, the opportunity to work with residents to educate and influence behaviour to assist in the reduction of waste, efficient use of heating and lighting and promoting community recycling initiatives, is equally important in the efforts to combat climate change. The Council provide home energy efficiency advice and work closely with third sector partners to support a wider opportunity to support those who are struggling to pay their rising energy costs.

Sustainability approach and achievements to date

Private Sector Housing

The Council provides Energy Company funded energy efficiency measures, such as heating and insulation for qualifying private residents by working in partnership with YES Energy Solutions, the previous supplier for the Hertfordshire Warmer Homes scheme. By working directly with YES Energy Solutions Dacorum has been able to offer this service to qualifying private residents throughout the pandemic and there have been a further 23 installations since July 2020.

The Council have been successful in applying for £1.477 million Sustainable Warmth funding (Green Homes Grant Local Authority Delivery 3) in partnership with the Greater South East Energy Hub, which will be available until March 2023. The funding is limited to properties with an EPC rated D-G and a household income of less than £30,000. A targeted mailshot sent in January/February 2022 to 11,000 households generated an additional 185 enquiries from residents.

In addition, we promoted the Green Homes Grant voucher scheme in 2020/21 and, after the scheme closed in March 2021, signposted residents to Energy Company and/or Green Homes Grant Local Authority Delivery funding where applicable.

The Council have written to landlords with privately rented properties with an energy rating below E regarding the minimum energy efficiency standards and advised on how they may comply. We routinely check the energy rating of a property and ensure there is compliance with MEES when responding to complaints from privately renting tenants and licencing Houses in Multiple Occupation.
In June 2019, we gave a presentation on Minimum Energy Efficiency Standards and ECO funding at the Landlords Forum. We have also raised awareness via the Private Sector Team's quarterly newsletter, social media and our website.

Dacorum has been the leading organisation, on behalf of the Hertfordshire Climate Change and Sustainability Partnership, to work alongside the Energy Saving Trust and become the first local authority to launch an energy efficiency app for residents. This is called the Hertfordshire Energy Advice Tool (HEAT) and is free for residents to download.

Existing Council Housing

In 2020/21 Dacorum were allocated £400,000 Green Homes Grant Local Authority Delivery Funding, £100,000 of which has been earmarked for improving the energy efficiency Dacorum Borough Council Housing at Squires Ride. The remainder has been made available to qualifying owner occupiers and private residents across the Borough via our partnership with the Greater South East Energy Hub. The funding is available until June 2022.

The Council were successful in securing £300,000 of Social Housing Decarbonisation funding to improving the energy efficiency of Dacorum Borough Council Housing at Northend. The work needs to be completed March 2023.

The Council secured Green Homes Grant vouchers to install loft insulation in to a number of qualifying Dacorum social housing properties before the scheme ended in March 2021.

The Council are currently exploring the opportunities to use external funding beyond 2022/23 to improve the energy performance of the housing stock. The majority of funding available for social housing is limited to those rated Energy Performance Certificate E – G. There are a few exceptions for non-traditional properties rated D, which need innovative measures. However, this does not apply to the majority of our EPC "D" rated homes and the Council have a small percentage of the stock below D at 4.23%. The Council are modelling the current energy savings trust data and will overlay the stock condition data to develop the ongoing investment strategy.

The Council have optimised the use of historic grant funding from, the Green Deal, Energy Company Obligation (ECO), Carbon Emissions Reduction Targets (CERT) and Community Energy Saving Scheme (CESP), along with its own capital funding, to undertake a raft of energy improvements to existing stock.

One of the first projects was in response to the opportunity to obtain attractive feed in tariff's (FiT) from the installation of solar photovoltaic (PV) panels, which aside from the ongoing revenue income, used renewable energy sources to generate electricity, for use in the schemes communal areas. **Seven** of the sheltered housing schemes had large solar PV arrays installed, which combined with the installation of Light Emitting Diode (LED) light

fittings have dramatically reduced the energy consumption at the schemes. LED light fittings have been installed to a number of other sheltered schemes and combined with the use of motion sensors, to reduce the energy consumption substantially.

In addition the street lighting columns, which are owned by the housing service have been subject to a programme of fitment replacements and just over 35% have been replaced with LED fitments.

Other investments have been targeted at those properties with a low Energy Performance Certificate (EPC) banding, whereby the measures would have significant benefit to the occupiers. To date we have installed External Wall Insulation (EWI) at **265 individual houses**, all of which were solid wall construction.

The estate based project at Summer Court, provided a number of sustainable improvements to **32 flats**, including solar photovoltaics, EWI and a biomass boiler, which has sufficient capacity to add additional blocks, in the future. The biomass boiler qualifies for Central Governments, renewable heat incentive (RHI), which was set up to encourage uptake of renewable heat technologies amongst households, communities and businesses. The Council receive payments for seven years following the installation.

Seaton Road, in the image below, had a similar whole house approach undertaken and works included, EWI, new roofs including upgraded loft insulation and the installation of solar photovoltaic panels, and new condensing boilers. The scheme also provided the opportunity for private owners to have EWI installed to their properties, enabling a number to have works undertaken, which were part grant funded, whilst also having the benefit of retaining the streetscape. The project was shortlisted for a National Housing Maintenance Forum award in 2015, for sustainability and innovation.

The upgrade of the block of **20 flats** in Longlands, in the image below, included EWI, solar PV and new double glazed windows to all properties and the communal areas, as well as providing six additional flats on the roof for social rent.

Properties located in off gas rural locations, have benefitted from a raft of improvements including, EWI and installation of air source heat pumps (ASHP) to **62 homes,** which also attract RHI**.**

Properties with cavity construction, have had cavity fill installed, to improve the thermal performance, and loft insulation has been installed to the majority of Council properties, to provide 300mm of cross laid insulation.

The capital investment programmes in the past five years have delivered 988 window replacements, with thermally efficient double glazed units, 6632 composite doors, which have an insulated core and 3941 condensing boilers with a Seasonal Efficiency of a Domestic Boiler in the UK (SEDBUK) rating of A, which save around 90% of the energy rated by the boiler. To put that in perspective, old boilers lose 35-40% of the energy they create.

The RHI from the biomass boiler and ASHP's bring in approximately £20K per annum and the FiT around £30K, which can be reinvested in other energy efficiency measures.

New Council Housing

The principal control documents are our Design Guide and Employers Requirements. These outline the requirements in respect of sustainability and energy performance, along with reference to supporting documents that provide specific criteria to achieve buildings that minimise the environmental impact.

National Housing Federation Housing Standards Handbook- This document outlines design detailing that should be considered. It covers areas like:

- Building orientation doesn't exacerbate excess heat gain or loss
- Balancing the size and thermal performance of windows for improving daylight and sunlight without excess heat gain or loss
- Ensuring that the amount of ventilation is adequate
- Heating systems are correctly sized for the amount of insulation and levels of air tightness
- Understanding how improved thermal insulation can assist with reduced noise transmission.

UK Green Building Council – Health and Wellbeing in Homes - This report discusses the mental, social and physical health and wellbeing of the people who occupy the homes we build. This aims to gather and distil the most compelling evidence and advice about building and neighbourhood design features which can enhance the health and wellbeing of residents.

Site Waste Management Regulations **-** Our Designers must be aware of and contribute to the preparation of the Site Waste Management Plan. In particular, schemes are designed in a manner that reduces waste.

Sustainability and Energy Strategy - In order to formulate a standardised approach to sustainability and energy efficiency in the construction of new homes we operate a staged approach as follows:

- Stage 1 - Passive Design Measures and Features. 'Be Lean'

New dwellings design adopt a 'Fabric First' approach and as such benefit from - low U-values, high standards of air tightness, beneficial use of daylighting and high levels of insulation to initially reduce the energy demands and associated CO_2 emissions of the building.

- Stage 2 - Passive and Active Energy Efficient Building Services. 'Be Clean'

In addition to passive 'Lean' measures, the dwellings include high standards of energy efficient building engineering services. These measures include the following: high efficiency

lighting design and associated controls, high efficiency fan motors, variable temperature and volume control of the heating systems.

- Stage 3Low/ Zero Carbon & Renewable Energy Provision ‘Be Green’

Over and above passive and active measures to achieve further overall reduction in CO_2 emissions. Air source heat pumps, photovoltaic panelling or other renewable technology are considered to reduce emission figures.

Design to maximise daylight and solar gain - Schemes are designed to maximise solar gain to assist overall energy performance while at the same time taking precaution against potential summer overheating.

Design to minimise noise nuisance - A high standard of sound insulation must be provided. Values will be in excess of current Building Regulation

Design to minimise whole life costs - Designers should consider life cycle costing techniques to justify selection of elements and services.

Design to comply with new planning policy requirements and introducing both active and passive EV charging points in line with our planning approvals.

Design to maximise value - Schemes should be designed to maximise value by considering the most efficient use of space (while not detracting from our minimum space standards) and by maximising the likely saleability of any sales element

Design to Reduce Construction Waste - Designers must consider opportunities for reducing construction waste at design stage when the potential for such is at its greatest. This can be achieved by using construction techniques that make efficient use of materials, minimise production waste and have recyclable waste streams.

Modern Methods of Construction - Appropriate solutions will be considered provided it can be demonstrated that the proposals are of genuine value. This is an area we are just starting to move into and have some sites in mind, which could benefit from this approach.

Examples of our Contractors approach

- Site cabins are all low energy with inbuilt PV panels and sensors for lighting etc.
- Waste segregation is rarely available on site due to space, so they often use a waste management company that sort each skip into the separate waste streams when offsite and provide a report showing where the waste was used or disposed of.
- Using the feedback from these reports benchmarks can be set for use on the next schemes
- Working with a number of the suppliers to reduce the amount of packaging that is used prior to site delivery
- Where packaging is essential suppliers are encouraged to collect it for re-use

- Sustainable procurement practices – buying only materials that can be proven to have been sustainably manufactured or sourced – the perfect example of this is timber with PEFC or FSC certification

- Part of our supply chain selection process includes the vetting of each company's environmental management processes/manual

St Peter's Court, a development of nine general needs two bedroom flats was built to the Passivhaus design standard and the Council have also working in partnership with Hastoe Homes on a Passivhaus project in Great Gaddesden, which is an off-gas village. Four new homes were officially opened in May 2018.

Where appropriate solar PV or solar thermal has been fitted to the new build schemes to generate energy for the communal facilities, as shown above in the image of Farm Place in Northchurch.

Proposals

- Align our actions to tackle Climate Change and Fuel Poverty, so one policy does not conflict with another. If we are to move away from fossil fuel based heating, we need to ensure we provide alternatives that are affordable to run.

- Consideration of the use of technology to assist in the management and use of energy in residents homes.

- Develop a Communications Plan or campaign, based on the "be lean, be clean, be green" principles to provide education and support to encourage all residents and contractors to play their part in preventing Climate Change.

- Focusing on constructing for the future, the use of more reliable and environmentally friendly materials and by improving understanding of embedded carbon and the ability of materials to be recycled.

- Ensure Minimum Energy Efficiency Standards are met for the Council owned stock

- Work with contractors and energy providers to access any available grant funding to supplement the capital investment programmes.

Private Sector Housing

- Use the Private Sector Stock Condition Survey to target our work to improve the energy efficiency of private sector housing.
- Continue to refer qualifying private households for Energy Company funded energy efficiency measures with the aim of all fuel poor households having a minimum of an EPC energy rating of “C” by 2030.
- Ensure Minimum Energy Efficiency Standards are met in the Private Rented Sector. The current Minimum EPC rating is an “E” and this is likely to rise to a “D” by 2025 and a “C” by 2030.