

Opening Statement by Sean Armstrong, Senior Adviser, Building Standards, Department of Housing, Planning and Local Government

Chair, Members.

Good morning and thank you for the opportunity to address the Joint Committee on Housing, Planning and Local Government on this topic of Energy Efficient Housing. I am joined by my colleague, Mr Alyn Deane, Principal Officer, Building Standards.

At the outset Chair, I would like to say a few words about Project Ireland 2040 (PI2040) which the Government launched last year. Project Ireland 2040 is the overarching planning and investment framework for the social, economic and cultural development of Ireland. It includes a detailed capital investment plan for the period 2018 to 2027 - the €116 billion National Development Plan, or NDP - in support of a long-term transformational spatial strategy – the National Planning Framework, or NPF, with a time horizon out to 2040.

The aligned and shared vision of the NPF in tandem with the NDP represents a joined-up planning and investment strategy for Ireland's future growth and development, focused on a series of ten shared national outcomes. It includes a number of ambitious climate action objectives specific to the built environment sector, including delivering more sustainable growth of compact and connected cities, towns and villages. **Greater energy efficiency is a key benefit of this type of compact growth.** Higher density residential development tends to comprise smaller units, which require less energy to heat. Multi-story and terraced buildings in close proximity require less energy and make renewables-based systems of energy distribution such as district heating, or area-wide technology upgrades, more feasible.

Housing

Over the past few months we have been engaging very proactively with DCCAE on the preparation of the new All of Government Plan to Tackle Climate Disruption across multiple areas, including in particular the Built Environment and we are driving a number of actions that will contribute to energy efficient housing.

The retrofitting of existing dwellings is the responsibility of the Department of Communications, Climate Action and the Environment and we support this policy in a number of ways.

The Department of Housing, Planning and Local Government has responsibility for setting energy performance standards for new homes and those undergoing major renovation.

In Ireland, approximately 40% of total energy produced is used in the building sector. The Energy Performance of Buildings Directive sets ambitious goals for energy efficiency and renewables in buildings by requiring Nearly Zero Energy Building or “**NZEB**” performance for new buildings from 31st December 2020. In addition, the Directive also requires that Major Renovations to existing buildings are completed to a cost optimal level, where it is feasible. The implementation of NZEB is a key action for the built environment in contributing to Ireland’s National Low Carbon Transition and Mitigation Plan.

NZEB – New dwellings

I will focus first on what we are doing to achieve NZEB in new dwellings. We have progressively updated standards relating to the Conservation of Fuel and Energy in Dwellings over the last decade, with the aim of improving the energy and carbon dioxide emissions performance of all new dwellings to “NZEB” performance levels. Because of this, the final step on the NZEB journey is not as significant as it might otherwise be.

Many of the techniques introduced in 2007, such as mandatory renewables for new dwellings and more energy efficient boilers, have effectively eased the transition and minimised the additional costs and effort required at this stage to achieve the NZEB performance for dwellings.

Last month Minister Murphy signed the European Union (Energy Performance of Buildings) Regulations which represent an improvement of 70% in energy and carbon dioxide emissions performance over 2005 standards, for all new dwellings commencing construction from November this year, subject to the necessary transitional arrangements.

Cost of NZEB in new dwellings

A modelling and cost study was carried out to estimate the cost impact of NZEB. The average uplift in cost across all dwelling types modelled was 1.9%. When compared with the energy savings to the occupants over the lifetime of the house, this delivers real value, benefiting people's lives by bringing comfort and convenience, mitigating against energy poverty and ill health as well as providing the societal benefits of lower carbon emissions.

Under the previous regulations a typical new dwelling is built to an A3 Building Energy Rating (BER). The NZEB requirements will equate to an A2 BER. This represents a 70% improvement in energy efficiency and a 70% reduction in CO₂ emissions compared to 2005. It also introduces 20% renewables as a percentage of the total building energy use. An analysis of CSO data shows that 97% of dwellings built since 2015 have achieved an A rating.

Heating Systems

The NZEB requirements make it more attractive for builders and homeowners to further incorporate renewable technologies and move away from traditional fossil fuels. The Central Statistics Office analysis of Building Energy Rating data demonstrates this shift away from fossil fuels; the installation of oil boilers has dropped from 36% to 5% in new dwellings, and electrical systems make up 38% of heating systems in new dwellings with this percentage growing steadily each year.

This regulation is set at cost optimal levels, it is performance based and technology neutral. The cost optimal level performance is the best energy performance that can be achieved in a building for the lowest lifetime cost when both capital costs and operating costs are accounted for over a 30 year period.

The availability of a choice of different energy systems delivers economic benefits including competition and choice for consumers. It is a matter for the designer to choose the most suitable technologies to achieve the required performance. The cost optimal calculations are reviewed every 5 years and regulations will be amended if performance levels deviate

off cost optimal. This regular assessment and flexibility provides opportunities to capture the benefits of innovation and economies developed in industry over time in regulations.

It is estimated that the cumulative improvements to regulations mean that a dwelling built to the 2011 Part L regulations requires 90% less energy than the equivalent dwelling built in 1978 to deliver the same standards of heat, hot water and light. This shows the very significant progress that has already been made in the standards for new buildings.

Major Renovations

In relation to existing buildings the challenge is inevitably more difficult. The Energy Performance of Buildings Directive requires that where buildings are undergoing Major Renovation, the whole building should be brought up to a cost optimal level, in so far as this is technically, functionally and economically feasible.

Our technical guidance documents provide detailed guidance on how this can be achieved in practice for buildings undergoing a Major Renovation. The performance levels have been set to be proportionate to the original cost of works and ambitious but realistic so as not to create an unintended barrier to renovation.

Of course building regulations will not increase renovation rates in themselves, but they will ensure that when renovations are carried out they are carried out to this level – typically equivalent to a B2 Energy rating.

Social Housing

In relation to social housing, funding of some €128 million has been provided from 2013 to end-2018 to improve energy efficiency and comfort levels in almost 68,000 local authority homes. In addition, energy efficient measures have been incorporated into the 9,000 plus vacant social housing units that have been returned to productive use since 2014. This effectively means that approximately 50% of our social housing stock has been energy retrofitted. While energy efficiency activity had traditionally been focused on the refurbishment of vacant properties, the current energy retrofitting programme launched in 2013 was

aimed more broadly at the social housing stock, in particular to improve the energy efficiency of older apartments and houses by reducing heat loss through the fabric of the building, in order to improve comfort levels and address issues around fuel poverty. This programme has 2 Phases. Phase 1 focused on the lower cost improvements such as cavity wall and attic insulation. Phase 2 is now targeting higher cost measures– for example fabric upgrades and glazing etc. There are significant costs associated with this deeper retrofit – we estimate up to €1.8 billion to upgrade 60,000 social dwellings to a B2 rating – a typical cost of €30,000 per dwelling.

In addition to the areas I've just outlined we are supporting Local Authorities who are taking a strong leadership role in piloting one-stop-shops for retrofit in conjunction with the SEAI.

We are working very hard to meet housing demand, both in relation to new build and in the private rented sector. We have ambitious targets in terms of the quantity, type and location of homes to be delivered and we are also ambitious for climate action including energy efficient housing. Through our building regulations we are ensuring that the quality of the homes we are building for future generations continues to achieve the high standards we are setting for decarbonising our built environment.

We are happy to address any questions the Committee may have.

Thank you.