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Department of Communications,  
Climate Action & Environment

# Ireland

## Long Term

### Renovation Strategy

#### 2017 - 2020



2017

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# 1. Introduction

The cheapest and cleanest energy is the energy that we do not use. This is why energy efficiency is at the heart of Ireland's action on energy emissions and climate change. We also know that energy efficiency has many valuable multiple benefits. Nevertheless, to realise the potential of energy efficiency for cost effective and accessible action on climate change, and make it the first step for everyone on the path to decarbonisation, a strategic approach must be taken.

This Long Term Renovation Strategy (LTRS), prepared in accordance with Article 4 of Directive 2012/27/EU on energy efficiency, is the next iteration of that process of strategic planning and implementation led by the Department of Communications, Climate Action & Environment (DCCAE). This process began with the Energy Policy White Paper, *Ireland's Transition to a Low Carbon Energy Future*. The White Paper was followed by Ireland's 4<sup>th</sup> National Energy Efficiency Action Plan (NEEAP) and the 1<sup>st</sup> National Mitigation Plan, both published in 2017 and both including measures set out in this LTRS. The next step will be taken in 2018 with the drafting of Ireland's National Energy & Climate Plan.

This LTRS consists of chapters on each of the three sectors of the Built Environment: residential, commercial and public. Where necessary, the statistical data provided in the first LTRS is updated. However, the main focus of this document is on demonstrating the significance of the measures underway in each sector and how they fit into a forward looking, strategic, framework that is focused on 2 things:

- maximising progress to Ireland's 2020 target of an improvement in energy efficiency of 20%
- preparing for the step change in effort, and depth of measures, required post 2020, while maximising the impacts of cost effectiveness of available government funding and regulatory action.

It should also be noted that fiscal measures, such as carbon tax, are forecast as necessary to achieve the greater levels of energy saving and carbon mitigation that will be required from the Built Environment post 2020.

## ***i. Energy efficiency in the Built Environment and climate targets***

Ireland has a national target of improving energy efficiency by 20% by 2020 which equates to making 31,925GWh of energy savings.<sup>1</sup> To date significant progress has been made towards achieving this target, with over 350,000 homes and over 3,500 businesses and public bodies having received Government funding to implement energy efficiency measures that are saving them an estimated €1billion annually.<sup>2</sup> At this point, Ireland is on a trajectory to achieve a 16% improvement by 2020, with a 12% improvement recorded at end 2016.<sup>3</sup> This trajectory has improved since the economic

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<sup>1</sup> National Energy Efficiency Action Plan 4 – this target includes energy efficiency in transport and energy networks

<sup>2</sup> SEAI, *Ireland's Energy Targets – Progress, Ambition & Impacts* (April 2016)

<sup>3</sup> SEAI, *Ireland's Energy Efficiency Projections 2017*

downturn, which saw severe cuts to grant funding and reduced demand for renovation across the economy. Since 2016 government funding for energy efficiency incentive schemes has increased again, with the capital allocation rising from €55m in 2016, to €75m in 2017, and €107m in 2018. Achieving energy efficiency improvements is critical for progress on our statutory EU obligation to meet 16% of our total energy demand from renewable sources by 2020. The lower the demand for energy, the easier it is to meet this demand with renewables.

Ongoing research by the Sustainable Energy Authority of Ireland (SEAI) for the Department of Communications, Climate Action & Environment (DCCAE) indicates that there is the technical potential to save a further 16,000GWh in the period 2021 to 2030<sup>4</sup>. However, this will require deeper, more expensive measures, as most of the gains from shallower measures will have been made. The measures set out in the sectoral chapters are focused on collecting the evidence base, and developing compelling options, for the least cost pathway to realising this potential.

A critical development since the first LTRS is the integration of energy efficiency modelling with emissions projections, led by SEAI through the development of a national energy model. This has done much to increase the understanding of the importance of using energy efficiency to tackle the enormous challenge that non-ETS emissions present for Ireland. Based on existing measures, greenhouse gas emissions from the Built Environment are projected to be about 17% of non-ETS emissions by 2030. This is not sufficient to place the sector on a low carbon trajectory and highlights the importance of developing a strategic framework that drives deeper energy efficiency and renewable heating deployment at scale. This is why a suite of innovative pilot measures are now underway across all 3 sectors so that new measures designed to incentivise and regulate action post 2020 are based on real world experience, meet consumer need, and grow industry capability.

## *ii. Strategic objectives*

The overarching strategic aim of Ireland's policy on energy efficiency and renovation of the built environment, and consequently, the overarching aim of this LTRS, is to ensure that we maximise the contribution that building renovation makes to setting Ireland on the path to decarbonising its Built Environment. Based on the experience and data we have gained from 'on the ground' implementation of policy in the 3 years since the first LTRS, and the increasing intensity of effort we can foresee will be required in the 2021-2030, the following strategic objectives have been defined for this LTRS. The section below highlights key measures relevant to each objective. All of the Exchequer funding for the actions identified here is subject to the on-going budgetary process. It must also be stressed the implementation, and potential expansion, of measures set out in this LTRS will have an increasing impact on our energy networks.

- **Embedding energy efficiency in government policy making – creating the evidence base and realising the multiple benefits:** Energy is an enabler of economic activity and social well-being. This is why it is critical that concrete data on the multiple benefits of energy efficiency is available to inform policy decisions on building renovation across areas as diverse as health,

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<sup>4</sup> Ref Unlocking the Energy Efficiency Opportunity

education, public sector reform, air quality, competitiveness, social inclusion and taxation. Key measures in this regard are:

- *The Warmth & Wellbeing Scheme* a joint energy and health policy initiative providing deep measures to people with chronic respiratory conditions and including a specialised research project to measure the health and wellbeing benefits of energy efficiency
- *Pre and post renovation Building Energy Rating* certificates to more accurately measure the increase in energy efficiency for individual houses
- *The Public Sector Energy Performance Monitoring and Reporting System* established by SEAI in 2009 providing a wealth of data to measure the progress to the target of a 33% improvement in energy efficiency by 2020 by over 330 public bodies and 4,000 schools

- **Embedding structured energy management – supporting decision making and enabling action:**

A critical learning since the first LTRS is that even attractive financing options are not necessarily enough to spur people to overcome the difficulties they perceive with undertaking energy efficiency upgrades. There is still much work to be done in supporting decision making. After all, the success of energy efficiency ultimately depends not just on technologies (critical and all as they are), but primarily on individual people deciding to act. Building consumer capacity and appetite to act will inform ongoing work to tackle the critical barrier that is access to affordable financing. Key measures in this regard are:

- *Behavioural Economics Unit* established by SEAI in 2017 to provide analysis and advice for policy formation and scheme implementation
- Re-designed consumer friendly Building Energy Rating (BER) Certificates and the introduction of pre and post renovation BER's
- The EXEED programme supporting energy management certification for commercial energy users
- Public Sector Energy Efficiency Strategy embedding energy management in business planning and resource management

### ***iii. Regulation – making energy efficiency the norm***

Regulation also has a critical role to play in building capacity, particularly in the supply chain and among larger energy users. It is also an important tool for realising the multiple benefits of energy efficiency such as increased productivity, reducing energy poverty and tackling energy poverty. Key measures in this regard are:

- Energy Audits in the commercial and public sectors
- Energy Performance of Buildings Directive Recast (EPBD)

New Buildings:

The EPBD requires that all new buildings should be Near Zero Energy Buildings by 31st December 2020 and all buildings acquired by public bodies by 31st December 2018.

Existing Buildings:

The EPBD also requires that any existing building undergoing major renovation is required to be brought up to cost optimal level for energy performance. Irish building

regulations are currently being updated to reflect this and will take effect from 1<sup>st</sup> January 2019.

- Introducing minimum energy efficiency standards in the rental sector post 2020
- **Fabric first then fuel switching – enabling renewables and cost effective deep renovation**

This is a fundamentally important principle for renovation policy in Ireland. To successfully replace fossil fuels with less energy intensive renewable technologies, maintain levels of comfort and allow consumers to save money, it is essential that building fabric is also upgraded to the best possible standard. The key measures in this regard are:

  - *The Deep Retrofit Pilot scheme* a pilot scheme running from 2017-20, funding deep fabric upgrades and switching from fossil fuel to a minimum A3 BER
  - Introducing heat pumps and increased insulation grants to the existing Better Energy Programme
  - Deeper retrofit in the public sector, on a pilot basis in central government and schools 2017-18, to establish replicable procurement and works packages

#### ***iv. De-risking energy efficiency investment***

More renovation will happen when perceived barriers are reduced. This includes reducing the amount of uncertainty that exists or is perceived by stakeholders. This goal can be furthered in different ways. The [de-Risking Energy Efficiency Platform](#) (DEEP) provides a useful open source database for energy efficiency investments, performance monitoring and benchmarking. It has the potential to improve the understanding of the real risks and benefits of energy efficiency investments, based on market evidence and track record, and has the potential to be a very useful resource. DCCAE and SEAI will continue to work to make relevant market players aware of the DEEP as a resource and encourage its use by market players in Ireland. Recognising that risk and the barriers to renovation are also effectively reduced when approaches that can be replicated elsewhere are demonstrated, a number of key pilot demonstrator projects were instigated in Ireland in 2017. These include pilots for renovation in central Government public sector buildings, in schools and in the commercial and residential sectors. These pilots are covered in more detail elsewhere in this document

#### ***v. Stakeholder engagement***

Stakeholder input over the last 3 years has been essential to the development of the actions set out in this LTRS. This phase of stakeholder engagement on energy efficiency began with the development and drafting of the White Paper on Energy Policy through 2014 and 2015. This was followed by public consultations on the National Mitigation Plan. Concurrently, the LTRS was the subject of a dedicated engagement exercise, supported by the EU and led by the Irish Green Building Council (IGBC) under the *Build Upon* project. The recommendations<sup>5</sup> of the *Build Upon* project have been taken into account throughout the objectives and actions set out in this LTRS. In addition, SEAI seeks ongoing feedback and input from programme participants, policy makers, key stakeholders in

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<sup>5</sup> <https://www.igbc.ie/projects/buildupon/>

the energy sector, as well as undertaking consumer research. DCCAE recognises the critical importance of effective and consistent stakeholder engagement across all of the sectors in its remit. This process will continue as we prepare the National Energy & Climate Plan.

## 2. Residential Sector

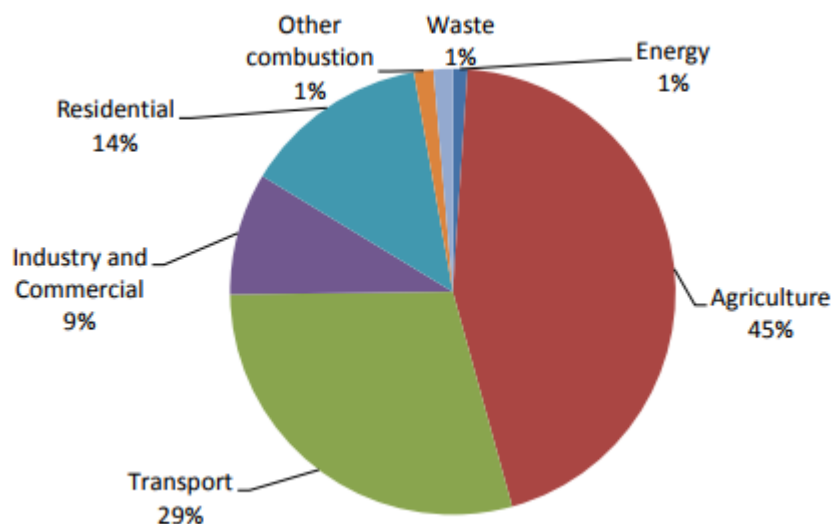
### *i. Introduction and context*

In Ireland energy efficiency renovation actions are designed to support energy efficiency upgrades to houses built before 2006. Building regulations introduced from that date are sufficient from an energy efficiency perspective. Therefore, the data previously given on the breakdown of the existing building stock does not need to be updated. Since its introduction over 350,000 households have availed of Government grant support under the Better Energy Programme, which is funded by DCCAE and operated by SEAI. The key objective of this LTRS for the residential sector is to motivate uptake of deeper energy efficiency measures in support of the greater deployment of low carbon heating technologies, while gathering data on the multiple benefits, particularly for health impacts.

#### **Residential sector emissions**

While at 14% the residential sector is not the largest emitter in the non-ETS, it does require action and there is real scope for action to be taken.<sup>6</sup> This is the fundamental driver for policy on residential energy efficiency, and, in particular, for the transition away from supports for fossil fuel heating systems now in train.

*Figure 1: Emissions breakdown projection (Non ETS) by Sector for 2020 under With Additional Measures Scenario. – source EPA 2017 GHG Emission Projections Summary Report*



<sup>6</sup>[https://www.epa.ie/pubs/reports/air/airemissions/ghgprojections/EPA\\_2017\\_GHG\\_Emission\\_Projections\\_Summary\\_Report.pdf](https://www.epa.ie/pubs/reports/air/airemissions/ghgprojections/EPA_2017_GHG_Emission_Projections_Summary_Report.pdf)



## ii. Progress to date and future potential

Much of the energy savings forecast from the residential sector in the NEEAP will be achieved through relatively low cost, shallow, measures such as cavity wall, attic insulation and lighting upgrades. It makes financial sense to realise the potential of low cost measures first as these are also a good way of raising the awareness among householders of the benefits and accessibility of energy efficiency.

Research by SEAI forecasts the opportunity for a further 9,400GWh of energy saving potential in the residential sector in the period 2021-30. However, these savings will come from deeper measures such as external wall insulation and low carbon heating technologies, and therefore, will be more expensive to achieve. Nevertheless, it is critical to highlight that the emissions savings, much of them in the non-ETS sector, will also be greater. SEAI's work also shows that deeper measures become cost effective when combined in packages of shallow and deep measures.

## iii. Opportunities and challenges

Ireland has an unusual residential fuel mix compared to many EU Member States. The single largest fuel source is oil, which accounted for 34% of total residential fuel consumption in 2015. This is due to the fact that a large share of dwellings in rural areas does not have access to the gas grid and use oil fired boilers for space and water heating.

Figure 2: Residential energy by fuel type, 2015

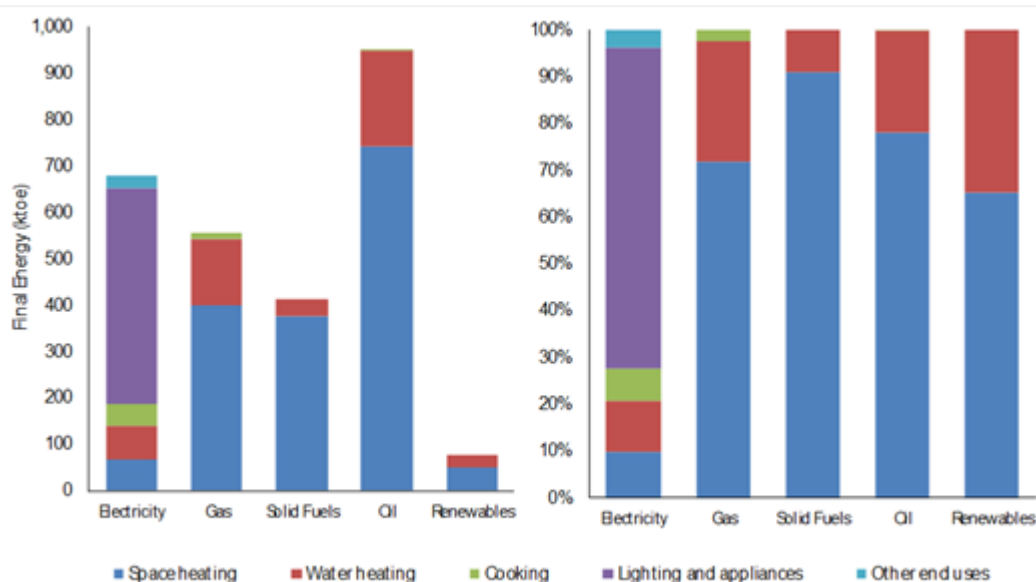
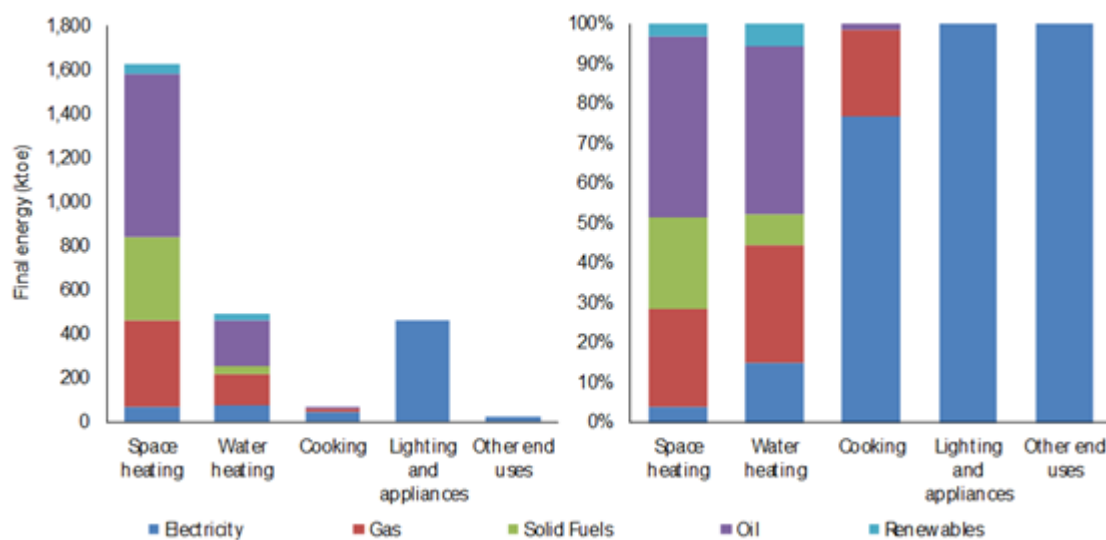


Figure 3: Residential energy by end use split by fuel type, 2015



Residential energy use increased by 5.2% in 2015 relative to 2014. When corrected for weather effects – 2015 was a colder year than 2014 – the increase in energy use was 3.5%. In 2015 the average household emitted 5.5 tonnes of CO<sub>2</sub> of which 61% came from direct fuel use in the home and the remainder from electricity use. Emissions in the residential sector were almost unchanged between 2015 and 2016 with a small increase of 0.1% or 0.01 Mt of CO<sub>2</sub>eq.

This presents Ireland with a clear opportunity to not only improve energy efficiency, but also reduce carbon emissions and increase the rate of switching away from fossil fuel while also improving air quality. While it is clear *what* can, and should be done, the challenge of establishing and communicating *how* to do it has brought about a shift in Ireland’s policy approach since the last LTRS.

#### iv. Air Quality

Air quality is a critical issue informing energy efficiency policy making. The Environmental Protection Agency (EPA) has reported that burning of solid fuel is the biggest threat to good air quality in Ireland. The levels of particulate matter in the air, especially during the winter months can directly impact on our air quality and on our health. The predominant source of fine particulate matter is from the burning of solid fuel. Moving away from these fuels will have benefits for our health system as well as our climate and energy savings obligations. A National Clean Air Strategy is also being prepared by DCCA. <sup>7</sup>

<sup>7</sup> <https://www.dcca.gov.ie/en-ie/environment/topics/air-quality/national-clean-air-strategy/Pages/default.aspx>

## **v. Making a compelling case to householders**

Consumer research carried out by SEAI in 2015<sup>8</sup> found that the availability of low cost financing is not the primary factor in consumer decisions to act. Instead, householders are motivated by increased comfort and well-being, or discouraged by lack of understanding. 80% of householders have a basic awareness of the general benefits of energy efficiency. However, detailed knowledge of the deeper measures is lacking, with many finding it difficult to differentiate efficiency upgrades from general home improvement and overestimating the potential time and cost involved, while not appreciating the scope to reduce their energy bills. Disruption is also a de-motivating factor.

This work has also improved understanding of how pay-back times on energy efficiency influence consumer decision making. Householders do not typically regard investment in energy efficiency (particularly deep works) as a priority, preferring to pay down mortgages. The Economic and Social Research Institute's (ESRI) savings index recorded that 54% of consumers aged under 50<sup>9</sup> would use any surplus cash to pay down debt, including their mortgage. Where consumers *do* decide to invest in energy efficiency, it is typically on the basis that they will see a return on this investment within 5 years or less. However, payback on deeper works, which would likely require borrowing of a substantial sum at rates of 10% and above, could take 8 to 12 years.

This research clearly demonstrates that borrowing, even at a more affordable rate, will not provide the primary motivation to act. Rather, a compelling affordable financing package would be the enabler *after* the householder has taken the decision to act based on the advantages to them of improving the energy efficiency of their home. Therefore, building consumer appetite to make the investment decision for reasons of comfort and well-being will drive the development of low cost financing options. And it is absolutely clear that alternative funding options must be found. The Exchequer cannot grant aid the scale of renovation required to support the decarbonisation of the Built Environment. In addition, to the need for low cost private financing options to become widely available post 2020, Ireland also sees potential in using EU funds. However, there are constraints on Ireland's capacity to avail of this option under current fiscal rules.

## **vi. The rental sector**

There is also a very significant level of untapped energy saving potential in the rental sector, particularly in the lower cost accommodation sector. However, as set out in the Strategy to Combat Energy Poverty<sup>10</sup>, published by the Government in 2016, the 'split incentive', where landlords meet the cost of improvements, while tenants would reap the benefit continues to prove a very strong barrier to action. There is the additional risk that providing incentives for renovation would result in increases in rent levels as properties become more attractive, particularly for those people at risk of energy poverty.

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<sup>8</sup> <https://www.seai.ie/resources/publications/Behavioural-insights-on-energy-efficiency-in-the-residential-sector.pdf>

<sup>9</sup> <https://www.esri.ie/news/savings-index-falls-in-december-led-by-drop-in-peoples-ability-to-save-but-precautionary-saving-holds-up-during-christmas-season/>

<sup>10</sup> <https://www.dccae.gov.ie/en-ie/energy/topics/Energy-Efficiency/energy-costs/Pages/Energy-Poverty-Strategy.aspx>

In 2016, 497,111 households in Ireland were renting their home, an increase of 4.7 per cent on 2011. This accounts for almost 30% of all occupied dwellings in the country. Approximately 20% of rented dwellings have a BER (Building Energy Rating) of F or G, compared to the overall housing stock where 15% of properties have a BER of F or G. This implies that people in rented properties are at a significantly higher risk of fuel poverty than people living in owner occupied or local authority homes.

### ***vii. The historic built environment***

The historic built environment that comprises Ireland's cities, towns, rural villages and designed landscapes is a non-renewable resource and one that is essential to social and cultural sustainability. It is also a resource for the future that must be recognised and protected. Sustainable development requires the revitalisation of our historic cities and towns, taking advantage of the enormous potential they have to provide compact, multifunctional places in which to live, work and socialise.

Upgrading the thermal efficiency of the existing building stock presents a challenge, particularly where a building is of architectural or historical interest and built using traditional materials and construction methods. Unreasonable demands placed on the historic building stock in terms of performance, including energy efficiency, could lead to abandonment and dereliction; while inappropriate retrofitting measures may damage a building and cause it to fail. However, if properly conserved and upgraded, the existing stock of historic buildings could make a substantial and positive contribution to cultural tourism, sustainable development and climate action. Historic buildings can also provide high quality and desirable housing accommodation in both urban and rural locations.

The Department of Culture, Heritage and the Gaeltacht (DCHG) supports and encourages the appropriate reuse and adaptation of the historic building stock in line with the principles set out in our publications 'Energy Efficiency in Traditional Buildings' (2010) and 'Shaping the Future' (2012). DCCAE will work with DCHG to support further research on the subject, including the compilation of best practice case studies in energy retrofitting leading to the preparation and publication of guidance for designers, specifiers and installers.

### ***viii. Measures***

The strategic focus of Ireland's policy on renovation is now on building the consumer appetite for energy efficiency through measures that support:

- switching from fossil fuel to renewable heating technologies
- gathering the data to make a robust business case for investment to realise the tangible multiple benefits of energy efficiency for individuals and the State
- building the case for low cost financing
- building the capacity of the supply chain, including for the historic built environment

#### *Expanding existing measures*

The Better Energy Programme consists of 3 grant schemes:

- Homes: grants for all householders who wish to install attic insulation, wall insulation, solar thermal heating, heating controls;
- Warmer Homes: free energy efficiency upgrades for people in or at risk of energy poverty, providing attic and cavity wall insulation, ventilation, draught proofing, lagging jackets, energy efficiency light bulbs and energy advice;
- Communities: for community energy projects, involving partnerships between residential, commercial and public buildings which is funded on a competitive basis.

Better Energy has been successful in creating awareness and engagement on energy efficiency and driving progress to the 2020 target.

However, the programme is now being developed to prepare for the switch away from fossil fuels that must become the norm post 2020. While heat pumps are already available under the Communities scheme, a dialogue is now underway with participating communities with a view to phasing out all supports for fossil fuel systems in 2019.

### ***ix. Introducing new measures***

We are at an important stage in developing our energy efficiency strategy. We have learned a lot from the measures in place. This has allowed us to identify the opportunities and challenges. Now we need to understand the best way to develop our measures to meet the needs of energy users and help them make the decision to act on energy efficiency.

The aim of the 2 flagship measures described below is to prepare a robust evidence base for how we transform our measures post 2020 to support the large scale undertaking of deeper measures and fuel switching, and realise the multiple benefits of energy efficiency, particularly for health and wellbeing. The outcomes of these pilot schemes will inform the design of measures to be implemented in the post-2020 period. This case must be made not only for increased Exchequer funding, but also for affordable commercial financing and EU funding.

- *Warmth and Wellbeing*  
This three-year pilot is providing energy efficiency improvements to the homes of older people and children suffering from chronic respiratory conditions. There is a lot of international evidence pointing to the health and wellbeing impacts that can result from improved energy efficiency. This joint policy initiative between DCCA and the Department of Health will test this in an Irish context and provide evidence and case studies which will highlight these benefits to people.
- *Deep Retrofit Programme*  
This programme aims to establish how best to support deeper levels of renovation in the residential sector, with a view to gaining practical experience of how to develop a residential energy efficiency offering post-2020. The programme will fund deep retrofits on groups of older homes to learn and inform how to best address the challenge of moving toward deeper renovation.

- *Enhanced Building Energy Rating documentation*  
More consumer-friendly Building Energy Rating documentation will be introduced to help householders to understand the results of their BER and how to improve the energy performance of their home. It will also include information on different measures and likely costs and will also feature the emissions levels associated with the dwelling more prominently to help raise awareness of these emissions and how they could be managed.

#### Planned measures

- *Rental sector – consultation in 2018*  
While grant schemes are already available to landlords, take-up has been low. The proposes to introduce minimum standards for energy efficiency in the rented sector from 2020, in consultation with stakeholder groups. Other countries such as the UK and New Zealand have recently introduced minimum energy efficiency standards for their rented properties. An analysis of the impact of such a regulation has been undertaken and will be published alongside a consultation document asking repondants to outline what supports might be necessary to enable this legislation to have the desired effect of improving the quality of housing for people who are renting while also contributing to minimising energy losses and GHG emissions from inefficient housing stock.
- *Building Regulations for major renovations*  
For domestic buildings undergoing major renovations there will be a requirement to meet the cost optimal level for energy performance which is likely to result in a B3 rating. A draft of the domestic regulations is due to be released for public consultation in the first quarter of 2018, and are likely to apply to all works commencing or taking place on or after 1st January 2019.

## 3. Commercial Sector

### *i. Introduction & Context*

Ireland has a diverse commercial building stock - described in more detail below. The objective of the Long Term Renovation Strategy (LTRS) for the commercial sector (for the purposes of this paper “commercial” should also be taken to incorporate the industrial sector) is to increase the level of awareness of the multiple benefits of energy efficiency among commercial decision makers and the advantages of reducing energy use leading to more investment and improved energy efficiency outcomes.

The commercial sector accounts for a significant proportion of energy use in Ireland and is central to economic growth and employment. Modelling indicates a primary energy demand in the commercial sector of around 18 Terawatt Hours (TWh). Among all sectors “Retail” has the highest energy demand at around 7 TWh, followed by “Offices”, “Hotel” and “Restaurant/Public House”. Although the number of buildings in “Hotel” is small compared to other sectors primary demand in this sector is comparable to Offices.<sup>11</sup>

There is considerable scope to achieve energy efficiency in the commercial building stock and in the activities within that stock. This will result in multiple benefits for those that invest to achieve those efficiencies while also reducing emissions. Research to date indicates the technical potential in the commercial sector is very considerable at up to 6.0 Terawatt hours (TWh) or 35% of the 2013 primary energy demand in the sector<sup>12</sup>.

Opportunities to enhance energy efficiency arise in different ways – through improved building fabric and fittings. Fitting enhancements can often be achieved easily and with short payback periods e.g. by upgrading to more energy efficient lighting that use a fraction of the energy. More efficient equipment including heating and cooling equipment can deliver significant energy efficiency gains as can process improvements. Longer term investment includes retrofit of existing building fabric which can be achieved by improving insulation or other improvements to the building fabric.

The key challenge is to highlight the potential and persuade decision makers within businesses of the merits of investing to improve (renovate) their building fabric, equipment and processes as well as improved energy management and associated behavioural measures to deliver these efficiencies and achieve the multiple benefits. While strictly speaking this strategy is focused on renovation measures to achieve improved energy efficiency that go beyond behaviour change i.e. fabric improvements, renovation and investment in more energy efficient equipment behaviour change should not be overlooked as progress on behaviour change, including improved energy management, is often an effective springboard to the more investment focused measures.

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<sup>11</sup> Source - Extensive survey of the commercial buildings stock in the Republic of Ireland (SEAI November 2015) P41.

<sup>12</sup> SEAI (June 2015) ‘Unlocking the Energy Efficiency opportunity’

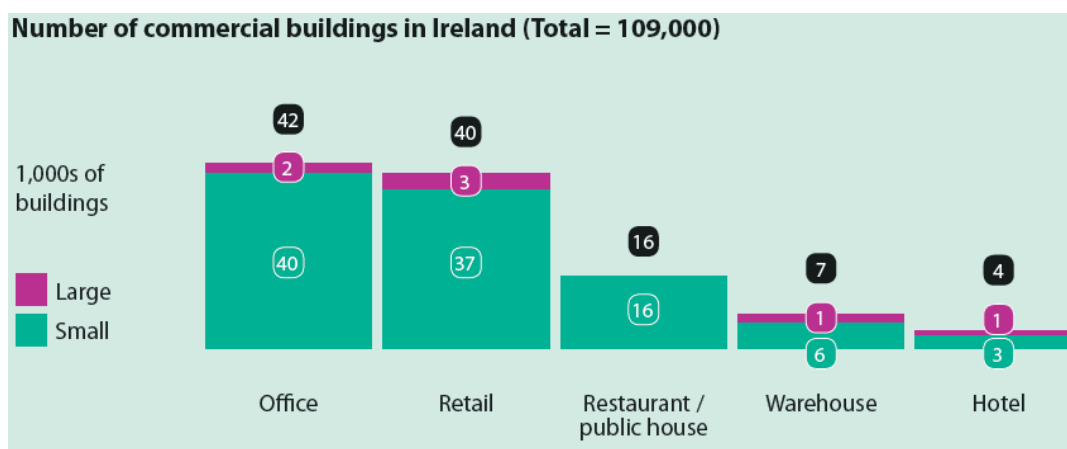
## ii. Overview of Commercial Building stock and potential

Based on the most recent available data (2015) there are circa 109,000 commercial buildings in Ireland. The commercial building stock broadly falls into five archetypes:-

- offices (42,000 buildings),
- retail premises (40,000),
- restaurants or public houses (Pubs) (16,000),
- warehouses, (7,000) and
- hotels (4,000).

Of the 109,000 commercial buildings, three quarters, (82,000) are either retail or offices. An overview of the composition of the commercial stock is provided in the chart below<sup>13</sup>.

Figure 4: Commercial buildings in Ireland (source SEAI 2015 – Extensive Survey of the commercial building Stock in the Republic of Ireland)



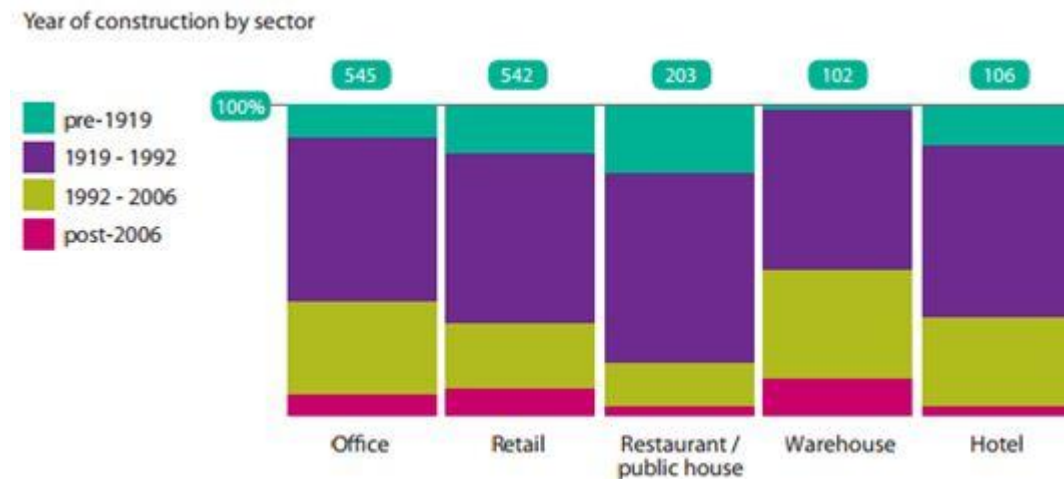
The age profile of the commercial building stock is outlined below. More than 50% of the buildings surveyed and modelled were constructed in the period 1919-1992 before more efficient building standards applied<sup>14</sup>. This shows that for the existing building stock there remains a significant challenge for many commercial buildings to become more energy efficient but that significant upgrade potential exists.

<sup>13</sup> Source - Extensive survey of the commercial buildings stock in the Republic of Ireland (SEAI November 2015)

<sup>14</sup> SEAI 'Extensive Survey of the commercial buildings stock in the Republic of Ireland' pp 33.



Figure 5: Survey results for selected building profile variables



[Source SEAI 2015 – Extensive Survey of the commercial buildings stock in the Republic of Ireland](#)

The SEAI Report pointed to some specific opportunities for renovation to improve energy efficiency in the commercial sector and notes:-

- There is a high incidence of buildings in which relatively basic upgrades could lead to significant energy savings;
- More than 70% of buildings were not fitted with efficient low energy lighting;
- In some sectors, particularly the retail and the restaurants/public house sectors, windows were only single glazed.

Other research, in particular ‘*Unlocking the Energy Efficiency Opportunity*’<sup>15</sup> and ‘*Survey of consumer behaviour in the commercial sector in the Republic of Ireland*’<sup>16</sup> (published 2015) provide further relevant insights.

Key renovation measures applicable to the commercial and industrial sectors are discussed in more detail in the “Unlocking the Energy Efficiency Opportunity” Report – which compares them in terms of their energy saving potential and investment costs. These are summarised in the chart below. The main options include improvements to building fabric ranging from low cost draught proofing, to roof and wall insulation or more energy efficient glazing. Building systems renovation opportunities range from lighting upgrades to more efficient heating or air conditioning systems and extend to more energy efficient appliances.

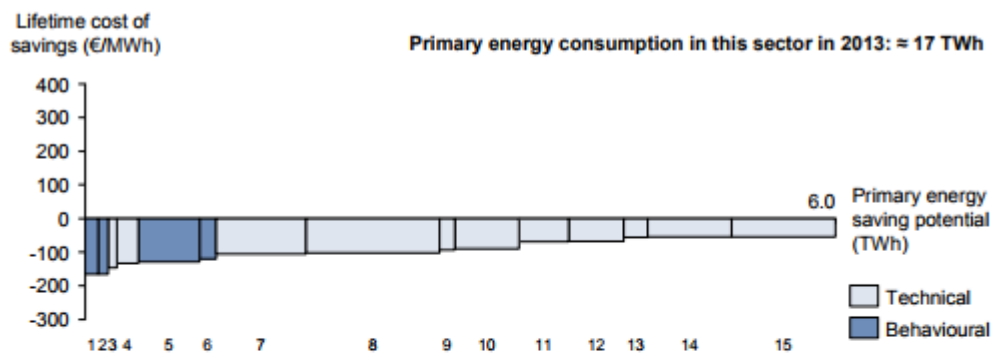
<sup>15</sup> SEAI (June 2015) ‘*Unlocking the Energy Efficiency Opportunity*’

[https://www.seai.ie/Publications/Statistics\\_Publications/Energy\\_Modelling\\_Group\\_Publications/Unlocking-the-Energy-Efficiency-Opportunity-Main-Report-.pdf](https://www.seai.ie/Publications/Statistics_Publications/Energy_Modelling_Group_Publications/Unlocking-the-Energy-Efficiency-Opportunity-Main-Report-.pdf)

<sup>16</sup> SEAI (November 2015) ‘*Survey of consumer behaviour in the commercial sector in the Republic of Ireland*’

[http://www.seai.ie/Publications/Energy\\_Policy\\_Publications/Energy\\_Modelling\\_Group\\_Publications/Survey-of-Consumer-Behaviour-in-the-Commercial-Sector-in-the-Republic-of-Ireland.pdf](http://www.seai.ie/Publications/Energy_Policy_Publications/Energy_Modelling_Group_Publications/Survey-of-Consumer-Behaviour-in-the-Commercial-Sector-in-the-Republic-of-Ireland.pdf)

Figure 6: Primary Energy Consumption 2013

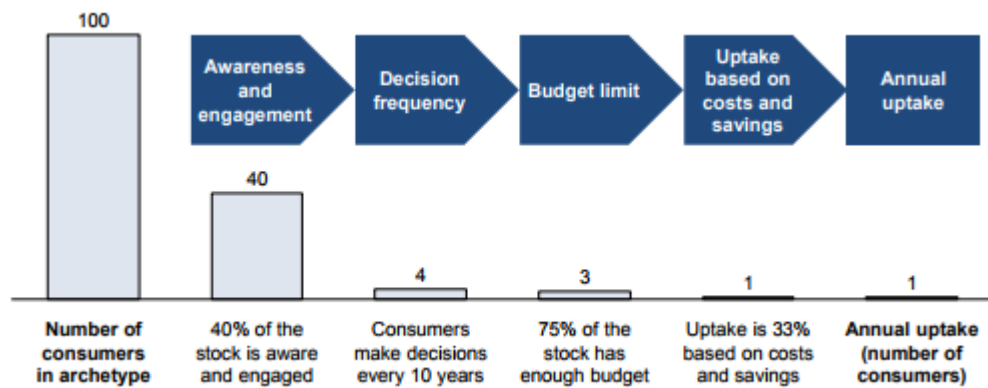


Measure	PE saving (TWh)	Measure	PE saving (TWh)
<b>Total technical measures</b>	<b>5.15</b>	14. Energy efficient glazing	0.67
3. Energy efficient appliances - Refrigeration	0.07	15. Heat pump	0.82
4. Draught proofing	0.17		
7. Roof insulation	0.71	<b>Total behavioural measures</b>	<b>0.80</b>
8. Energy efficient lighting with lighting control	1.11	1. Turn off lights for extra hours	0.10
9. Cavity wall insulation	0.12	2. Enable standby features on all PCs and monitors	0.08
10. More efficient air conditioning	0.51	5. Reducing room temperature	0.49
11. More efficient boiler with heating control	0.39	6. Reducing hot water use	0.13
12. Solid wall insulation	0.44		
13. Energy efficient appliances - Office equipment	0.19	<b>Total</b>	<b>5.95</b>

Part of the challenge is the diverse nature of the commercial sector, with businesses of different sizes and activities. The diversity of the sector means that tailored sectoral approaches are most likely to deliver the best results.

A further element of challenge is the limited window of opportunity. This is perhaps best illustrated by the diagram below from the “Unlocking the Energy Efficiency Opportunity” report. It shows that for any target group (such as commercial decision makers) who could decide to invest in an energy efficiency renovation or upgrade – only a subset, often a minority, will be aware of or engaged with the opportunity. Of those, because the opportunity for such investments is often cyclical, only a fraction will be in a decision making situation in a given year. A subset of those will have, or be able to access, adequate budget and consider the investment worth making – leading to a comparatively small number actually making the investment. Clearly a focus on growing the “Aware and Engaged” Cohort offers significant potential to increase the level of renovation.

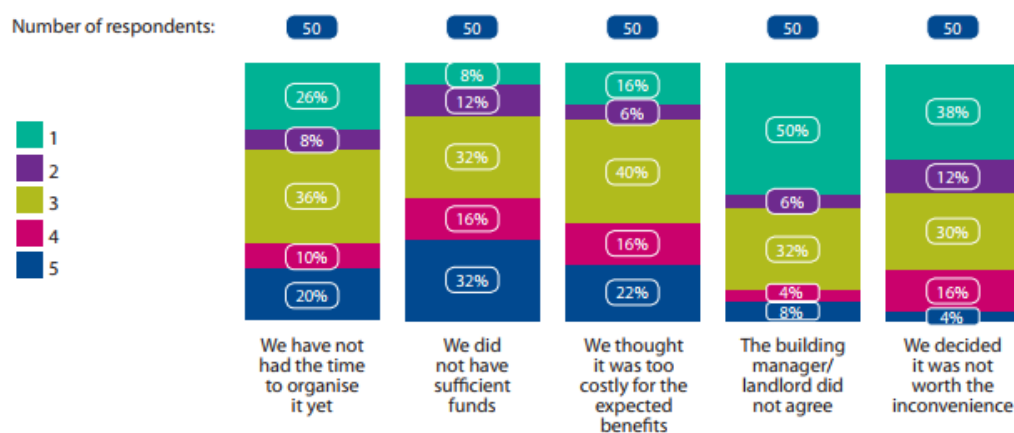
Figure 7: Worked illustrative example of decision making process



In the large industry sector represented by the LIEN (Large Industry Energy Network) energy is often a key business operational consideration and is generally a high priority. Typically this sector is actively aware of and engaged with energy efficiency opportunities. However, when it comes to achieving efficiencies in the wider commercial sector i.e. in Small and Medium sized businesses (SMEs) energy efficiency is not necessarily a priority. This can be due to a variety of factors such as lack of time, expertise, priority or resources or perceived poor cost to benefit ratio. This is illustrated in SEAI research (Survey of consumer behaviour in the commercial sector conducted in 2015) which provides further insights to impediments to making fabric improvements. The chart reproduced below illustrates some of the findings.

While in some cases the decision needed manager or landlord approval, and could account for some 22% of cases<sup>17</sup>, more significant impediments is not perceiving energy as a priority, lack of time to organise it, the renovation being considered too costly for the expected benefits and inadequate resources.

Figure 8: Survey results



Q13: How relevant are the following factors in describing why your organisation has not taken action to reduce energy use through fabric improvement? (1=Not at all relevant, 5=Very relevant)

<sup>17</sup> Up to one third of businesses were rented and typically in two thirds of cases the tenant was not the investment decision maker – so some 22% of businesses are tenants not in a position to invest.

### ***iii. Progress to date and Measures currently in place***

While there has been significant progress on energy efficiency in the commercial and industrial sector – especially in the large industry sector - capacity for further energy efficiency in the commercial sector remains substantial.

The key energy efficiency measures and supports currently in place in Ireland in the commercial sector are described in more detail in Ireland's 4<sup>th</sup> [National Energy Efficiency Action Plan](#) (April 2017). These include,

- continued support for the Large Industry Energy Network (LIEN),
- the promotion of the EXEED initiative,
- Energy Audits for larger enterprises,
- encouragement for the upgrade of equipment through the ACA Scheme and
- SME supports.

In addition the Environmental Protection Agency (EPA) operates the *Green Business Programme* identifying potential cost savings for businesses<sup>18</sup>. Besides government support measures there are also private and commercial sector actors working to promote energy efficiency in the commercial sector – including through Energy Performance Contracting and the Energy Efficiency Obligation Scheme. A key issue across all of these initiatives is how to make more decision makers aware of the opportunity and helping to persuade key decision makers that the upgrade, renovation or investment is worthwhile.

### ***iv. Strategic Approach***

For this Long Term Renovation Strategy a three stranded approach is being adopted for the commercial sector as outlined below.

1. Consolidate and build on existing effective initiatives that are working.
2. Broaden the base – growing the “Aware and Engaged” cohort – by building greater awareness of the multiple benefits of energy efficiency and the supports available to achieve it - leading to improved appetite to renovate.
3. Research and engagement to develop further initiatives and enhance the effectiveness of Strand 2 above to broaden the engagement base and increase renovation action.

#### **Strand 1 – Consolidate and build on existing effective initiatives**

Ireland is fortunate to have developed some very effective and innovative energy efficiency initiatives in the commercial sector – particularly for larger energy users. These have worked well

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<sup>18</sup> EPA (2017) <http://greenbusiness.ie/wp-content/uploads/2017/08/EPA-NWPP-Annual-Report-2016.pdf> PP 9  
Information about the various programmes, including Case Studies, can be found at this link [green business](#).

and are delivering impressive energy efficiency outcomes. Our priority in this strand is to consolidate this progress and to examine the potential to enhance these initiatives to deliver greater and wider impacts.

The key focus under this strand is on continuing and building on the work done to date with the larger commercial energy users through the LIEN and more broadly through EXEED initiatives (described below) and working with other stakeholders to develop new supports and initiatives to encourage more of the smaller and medium enterprises, and where possible more micro businesses, to invest to renovate to achieve beneficial energy efficiency outcomes.

**Large Industry Energy Network (LIEN)** The Large Industry Energy Network (LIEN) illustrates how networking, co-operation and dialogue between large energy users, with the right support structures, can yield substantial dividends. Energy Efficiency efforts within the LIEN - which accounts for 55% of Ireland's industrial primary energy requirement - has resulted in significant energy savings<sup>19</sup>. In real terms, this has resulted in estimated savings for 2015 of €25 million or 147,000 tonnes of emission for LIEN members<sup>20</sup>.

**EXEED** The EXEED programme (Excellence in Energy Efficiency Design) is an initiative developed by SEAI. The EXEED Certified program aims to influence and deliver new best practices in energy efficient design management. Participation enables organisations to establish a systematic approach to design, construction, and commissioning processes for new investments and upgrades to existing assets. As much of the energy requirements of a building or process is locked in at the design stage the EXEED initiative provides an opportunity to design in efficiencies from the start and recognises where this has been achieved with certification. The process applies a standardised process in energy efficient design management and is applicable to any sector, organisation or project. Details are available on the [SEAI website](#).

Results achieved recently by EXEED participants show projects are achieving impressive efficiency improvements. This is leading to a growing interest in the initiative including amongst small and medium enterprises. To support this further potential the level of investment in EXEED is being very significantly increased for 2018.

## **Strand 2 – Broaden the Awareness and Engagement base to increase renovation uptake**

The focus to date has been on where most impact can be made – and successful energy efficiency impacts are being made in the industrial and larger commercial energy using sectors. Achieving the level of potential needed necessitates broadening the focus to grow the awareness and engagement base including engagement by more medium and smaller commercial entities.

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<sup>19</sup> [http://www.seai.ie/Your\\_Business/Large\\_Energy\\_Users/LIEN/](http://www.seai.ie/Your_Business/Large_Energy_Users/LIEN/)

<sup>20</sup> <http://www.seai.ie/LIEN-Report/>

Research indicates that outside of the industry and large energy using sectors awareness of the importance and advantages for businesses of improved energy efficiency is low. When it comes to fabric improvement the SEAI 2015 research shows most companies do not consider energy a priority and do not think they need to reduce energy use. This ranges from three quarters (74%) of medium companies – with 10-50 employees - to four fifths (80%) of small companies with less than 10 employees. With so many companies rating energy as such a low priority there currently no more than a modest demand for energy efficiency and associated renovation.

There is therefore significant value and additional impact to be gained by communicating more widely the multiple benefits of energy efficiency leading to increase the level of investment in renovation. In tandem looking at how renovation can be better supported to make it easier or more attractive to renovate. Higher energy costs and potentially regulation could also help to raise the priority of energy efficiency for businesses.

Our focus in this strand will be on raising awareness in the wider commercial sector of the multiple benefits of energy efficiency – including improved competitiveness and resilience, enhanced green credentials, financial savings for businesses as they reduce their energy bills and wider benefits.

Work has already commenced on this strand during 2017 by engaging with a range of representative bodies and organisations in the commercial sector. DCCAE and SEAI are working with and through these organisations to communicate the potential benefits for the commercial bodies of improving their energy efficiency and the practical benefits – whether through fabric upgrades or other approaches. This involves further stakeholder engagement. DCCAE consulted with commercial sector stakeholders through an informative survey of businesses of all sizes spanning all sectors. This engagement builds on the very useful stakeholder workshop based consultation led by the IGBC in 2015-6 and is designed to assess the prevalence of those issues and further elucidate our understanding.

The consultation has two key objectives –

- **Highlight benefits and supports** - reaching out to businesses highlighting the multiple benefits to commercial bodies, outlining some of the approaches that can be taken to improve energy efficiency and pointing to supports available, and
- **Learn how uptake could be enhanced** – by gaining a better understanding of the perspective of businesses, the barriers they face and elicit their suggestions on ways they could be better supported to improve their energy efficiency.

These insights will help DCCAE and SEAI to develop the further initiatives and supports to galvanise more commercial decision makers to invest to renovate and reap the energy efficiency benefits – to be developed under Strand three.

This research will also inform the development of more honed sectoral messages aimed at providing the right information to commercial bodies to persuade them of the benefits of energy efficiency and to help guide them in future investment decisions.

In tandem with this, to provide a forward-looking perspective with the potential to guide investment decisions it is desirable **to provide signals on carbon pricing** to help improve the engagement base. With this in mind, and to support the objectives set out in Ireland's first National Mitigation Plan (2017) Government announced in Budget 2018 that a review of carbon tax is to be conducted "with a view to bringing forward proposals in budget 2019 around the role of the tax in driving changes to behaviour in households and business".

### **Strand 3 - Research and engagement to get more decision makers to renovate**

We will continue to draw on existing research and learnings from stakeholder consultation including SEAI commissioned reports – *Unlocking the Energy Efficiency Opportunity (June 2015)*; *Survey of Consumer Behaviour in the Commercial sector in the Republic of Ireland (Nov 2015)*; *Extensive Survey of the Commercial Buildings stock in the Republic of Ireland (Nov 2015)* and the *(2016) Report of the Irish Green Building Council (IGCB)*. To supplement this and obtain new and more recent insights DCCAE in Autumn 2017 instigated the new research survey referred to under Strand 2 above.

The research insights will be complemented with learnings from new pilot initiatives also instigated in 2017 through SEAI – notably the *SME Pilot Supports for Lighting* upgrades and the partnership initiative between SEAI & Teagasc focusing on dairy farm opportunities. The learnings from these programmes, and the results of DCCAE research will inform development of further support initiatives as well as enhancements to existing initiatives targeted at the commercial sector.

Key opportunities to improve energy efficiency also exist in larger commercial entities for which there is currently an Article 8 Energy Audit obligation under the Energy Efficiency Directive. The potential to leverage these audits and the opportunities they present will be further explored and consideration will be given to broadening the Audit obligation to benefit a wider catchment of commercial bodies.

DCCAE, working with SEAI, will have regard to existing relevant research and the results of the DCCAE led consultation survey findings and relevant recommendations of the 2016 IGBC led stakeholder consultation. The objective is to identify further opportunities to promote improved energy efficiency and renovation. This may involve further bi-lateral consultation with relevant stakeholders. The issues considered by DCCAE/SEAI are likely to include those listed below.

Areas of potential focus:-

- Key messages for the commercial sector(s) to galvanise more investment in energy efficiency;
- Potential future support or encouragement approaches or measures in the commercial sector(s);
- Potential for appropriate new regulation(s) aimed at encouraging further investment on renovation and energy efficiency in the commercial sector.

## 4. Public Sector

### *i. Public Sector Building Stock*

The building stock in the public sector comprises some of most diverse buildings in the country. Besides typical office buildings, the public building stock includes schools, hospitals, army barracks, nursing homes and universities. Many of these buildings are old; some of them are protected structures or heritage buildings which can limit the renovation options.

The public building stock is broadly similar to the stock as outlined in the 2014 Renovation Strategy. While specific updated data is not yet available there would have been some consolidation of building stock with some smaller and less efficient buildings disposed of and consolidated into larger more modern and efficient buildings – e.g. where larger more modern and efficient schools have been provided in place of older less efficient ones.

Accordingly the public building stock has varying levels of thermal performance and energy demand. Devising measures that can provide for the renovation of such a diverse portfolio is challenging, and also has to have regard to the limited availability of public funds.

Nevertheless, the business case for renovation in the public sector is clear. It is estimated that the total energy spend across the public sector is approximately €565 million annually. Reducing this bill means more public funds can be redirected from energy bills to the delivery of other public services including front line services to citizens. This is being achieved as further outlined below.

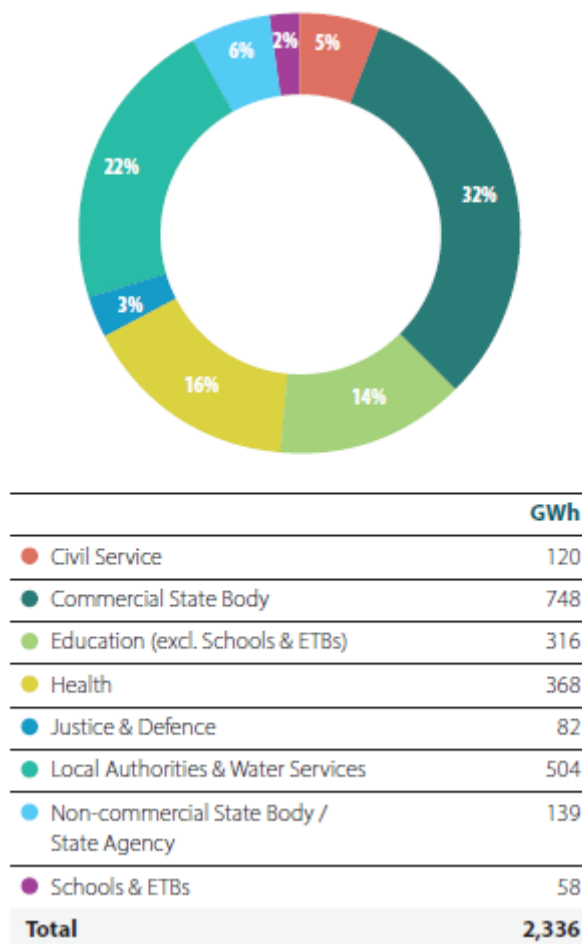
### *ii. Progress to date*

Ireland's first National Energy Efficiency Action Plan (NEEAP) of 2009 put an obligation on the public sector to take a leadership role on climate action by improving its energy efficiency by 33% by 2020. This commitment was further reiterated in Ireland's Fourth NEEAP (April 2017). Progress to the public sector target is measured by the SEAI based on energy use reports made to them by public sector bodies under the M&R system. The SEAI publish the results annually, including the trajectory of each public body to the 33% target. Based on the most recent data available (end 2016), public sector bodies reported 20% improved efficiency (compared to 2009 baseline) – amounting to 2,336 GWh savings by over 330 public bodies and over 2,000 schools who reported data. These 2016 energy savings reduced public sector energy spend by €133m, and avoided 520,000 tonnes of CO<sub>2</sub> emissions for 2016. The cumulative financial value of public sector energy savings made up to 2016 is €737m. This 33% is currently (2017) calculated as requiring some 3,879 GWh of primary energy savings to be made in 2020.

This improvement in efficiency at end 2016 has been achieved through a combination of improved energy management, including behavioural change campaigns, through heating, lighting and other upgrade and renovation projects.



Figure 9: Sources of energy savings in the public sector



Source: Sustainable Energy Authority of Ireland (SEAI) 2017 Annual Report on Public Sector Energy Efficiency Performance

### iii. Policies and measures to support the Strategy

As indicated the public sector has made a 20% improvement meaning that the sector’s gap to target is 13% as of year-end 2016. While real progress was made since 2009, the 2016 data shows that progress has plateaued over the 2015-2016 period – suggesting that the potential of energy management, behavioural change measures is largely exhausted.

### iv. Stakeholder Consultation and the Public Sector Strategy

Having anticipated this, Department of Communications, Climate Action & Environment (DCCA) worked with stakeholders during 2016 to produce Ireland’s first the [Public Sector Energy Efficiency](#)

[Strategy](#) which will drive and facilitate the further effort required to achieve the 2020. The Strategy was approved by Government in December 2016 and published in January 2017.

The Strategy sets out a clear policy direction for public sector action on our national climate action agenda through energy efficiency and sustainable energy management, whilst contributing to public sector reform. Its delivery is a shared whole of Government effort where all Government Departments and bodies in their Group play their part in embedding best practice in structured energy management as part of their business delivery.

Because the stakeholder consultation led by the IGBC was ongoing during the time the Public Sector Energy Efficiency Strategy was being developed it provided an opportunity to take account of stakeholder perspectives to help inform the development of the Strategy. This process highlighted a number of effective approaches that were working and should be maintained as well as new aspects for consideration. A significant number of the insights and recommendations that emerged from that process were consistent with the developing policy direction, and have been encompassed within the Public Sector Energy Efficiency Strategy. These include, provision of a comprehensive framework, long term certainty, the importance of quality data, long term and interim targets, provisions to make deep renovation more desirable, use of awareness campaigns, the importance of leadership and commitment from Government, facilitating public sector bodies collaborating and learning from each other, the provision of guidance and support from experts and allowing public sector bodies discretion to redeploy resources saved from energy efficiency efforts.

The Public Sector Energy Efficiency Strategy introduces new actions to complement the existing suite of support and regulatory measures for public sector energy efficiency already in place since 2009. It identifies where most potential exists for further energy efficiency gains across the public sector including the need to focus more on medium to larger scale renovation investment opportunities. Development of a centralised project pipeline to provide a strategic overview to Government of these opportunities is currently underway. A Steering Group, established to oversee and monitor the implementation and compliance with Strategy is providing specialist advice, guidance and support in the identification of and resourcing for projects to capitalise on those investment opportunities with potential to deliver the most optimal outputs.

New provisions and actions in the Strategy include:

- A new governance structure to ensure senior leadership on energy efficiency in the public sector. Public sector bodies are required to appoint Energy Performance Officers (EPOs) at senior level with decision making powers on finance, personnel and facilities. Government Department EPOs are assigned an additional role - providing leadership and co-ordination to the “Group” of public bodies under their aegis.
- The establishment of a central project pipeline process and enhanced project development assistance.
- Funding (by DCCAE) for a number of renovation pilot pathfinder projects in schools and central government.

- Clarification on the retention of savings achieved by public sector bodies from energy efficiency measures which can be redeployed within the organisation, designed to encourage investment in more energy efficiency measures.
- The requirement under the Energy Performance of Buildings Directive (EPBD) that all new buildings owned and occupied by public authorities must be of ‘nearly zero energy buildings’ (NZEB)<sup>21</sup> standard after 31 December 2018, two years in advance of the private sector who must meet that standard by December 2020. In addition, where a building undergoes a major renovation, the whole building will be required to achieve a cost optimal performance.

DCCAE will report annually to Government on the challenges faced and the progress made by the public sector in the implementation of the Strategy. Detailed progress against the target is monitored annually through the Monitoring and Reporting (M&R) System operated by the SEAI – providing for monitoring and verification of progress. The M&R system provides the evidence base for tracking progress and the implementation of the Public Sector Energy Strategy. It is based on the actual energy use reported by public sector bodies and schools. The [M&R Report](#) is published annually.

#### ***v. Provisions to promote action and reduce barriers***

The Public Sector Energy Efficiency Strategy outlines the Government’s commitment to energy efficiency through to 2050 and focuses initially on the initial milestone 2020 target. Delivery of this Strategy is a shared, whole of Government, effort where all Government Departments, and the bodies under their aegis, play their part in embedding structured energy management as part of their business delivery. The Strategy provides a national framework underpinned with a solid evidence base. It charts a vision of a more energy efficient public sector with a defined and ambitious target of 33% improved energy efficiency by 2020. It makes provision for specific actions (existing and new) which will support and increase the effort by the public sector to achieving its 2020 target including the need for more focus on renovation. Those actions are outlined below.

- **Guidance** - Five key steps of structured energy management have being identified set out in the Strategy
  - **Leadership and Governance** - Provides for improved leadership & accountability - New Governance arrangements for senior management in Government Departments to provide leadership and prioritise energy management in their Departments to better ensure prioritisation of energy management in public sector bodies under their remit.
  - **Management and Networking** - Departmental EPOs will report on their Group’s energy performance. An EPO network has been established and workshops organised to facilitate

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<sup>21</sup> Nearly Zero Energy Buildings’ means a building that has a very high energy performance (Annex 1 of the Directive) and in which “the nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby.

the sharing of experience, expertise and discuss issues barriers and how best to address them.

- **Larger scale of renovation** – The strategy recognises that there is a need to progressively move to more ambitious medium and larger scale upgrades and renovation. Future savings will have to come from larger scale projects, such as deep renovation of buildings, Nearly Zero Energy new builds, lighting and boiler replacement, upgrades to utility networks and more building renovation.
- **Project pipeline** - The strategy recognises the need to encourage and support Public Sector Bodies to identify and focus on **larger scale retrofit** projects. This is facilitated through the group governance structure and the process put in place – with expert advice from SEAI and the OPW to assist in developing a project pipeline. Energy Managers have been asked to consider renovation or other suitable projects that would contribute to the achievement of their organisations energy efficiency objectives or assist with the achievement of the group target. The initial focus has been on the larger energy users. The development of this centralised project pipeline also provides a strategic overview to Government of opportunities for investment across those high energy users in the public service. At the time of writing (November 2017) development of the pipeline was underway with a preliminary list of energy saving projects identified for further consideration. Inclusion in the pipeline will provide organisations with access to tailored project development assistance around project design, business case development, management and financing, including assistance for suitable projects to seek innovative market solutions. The Strategy’s Steering Group who oversee the implementation of the Strategy, will also provide guidance on resourcing and potential aggregation options.
- **Partnership Pilot Projects** - Funding has been provided for partnership pathfinder pilot projects. In 2017, DCCAE provided funding of €5m for two pilot partnership projects. The first project, with funding of €3m, is a partnership between the SEAI and OPW that pilots the delivery of renovation projects to central government buildings to deliver enhanced energy efficiency. The second project, with funding of €2m is a partnership between SEAI and Department of Education & Skills to carry out a suite of pathfinder energy efficiency upgrade projects in schools. This will involve the delivery of advice and capital retrofits. A key value of these pilots is in the learning derived and the demonstrator effect. Outcomes will inform and further help to promote wider implementation in the public sector.
- **Examples of Success** - Promotion of successful projects and providing a forum to share experiences is intended to encourage wider retrofit activity in the public sector. This can be done through dissemination of best practice, targeted training and networking events, and promoting/building confidence and capability in the market, particularly around energy contracting approaches. Coordination and pooling of resources for common projects may also enable smaller organisations without the relevant technical expertise to leverage expertise from other organisations. These approaches would help address any lack of technical expertise and experience to plan, design and undertake medium/deep retrofit projects which will yield long term return on investment.

- **Management Information** - Through the National Steering Group the Strategy and its Group Governance structure provides senior managers at Energy Performance Officer level with a mechanism – supported by performance data – to determine the level of renovation needed and where that renovating or investment should most efficiently be targeted to achieve the overall targets.
- **Energy Standards** - Larger public sector bodies – those with the larger energy spends – are strongly encouraged to pursue and achieve national standards e.g. achieving ISO 50001, SR 54, etc..
- **Sector specific efforts. Local Authorities** - account for a very large share of the total energy consumption by Public sector bodies and Public lighting is one of the main energy users and constitutes a very significant renovation opportunity. Recognising the importance and potential of upgrading the public lighting assets all 31 local authorities are co-operating together on a National Public Lighting Upgrade Project. If successfully implemented this project would enable local authorities meet their 33% efficiency target. An asset inventory has been developed and approaches to delivering and financing the upgrade are currently being explored.

#### ***vi. Capital investment for energy efficiency projects***

Capital investment of medium to deep retrofit energy efficiency and renovation projects is essential for the public sector. The Public Sector Energy Efficiency Strategy acknowledges this and provides a number of measures to support more ambitious renovation. These include the core principal of the Strategy that energy efficiency investment should be aligned with business activities so that all relevant spending decisions, including those under the existing Capital Plan, should ensure that the energy efficiency opportunity is taken. The Steering Group set up under the Strategy will also be available to advise Departments on the preparation of business plans (having regard to experience of practical implementation) for large scale projects requiring significant capital investment (including aggregation of smaller projects) outside of forecast allocations and on consideration of non-Exchequer funding options.

#### ***vii. Further Opportunities***

The governance and associated networking structures established to support the public sector strategy also provides scope for identifying and progressing further measures and initiatives to achieve the energy efficiency and associated renovation objectives in public sector bodies.

In this context consideration will be given – in consultation with relevant stakeholders – to the potential to further leverage Display Energy Certificates in encouraging and promoting these objectives.

The **Display Energy Certificate** (DEC) aims to encourage public building owners to adopt energy efficiency measures by displaying their energy performance. The Display Energy Certificate (DEC)

rating is based on the measured, actual energy use of a building. This is then compared to a benchmark for similar buildings. A DEC must be updated every year to reflect energy-use trends. A physical copy of the DEC must be shown in a prominent place where it is visible to the public and may also be shown on websites or other public facing media. More details on the DEC can be found on the [relevant section of the SEAI website](#).