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1 Starting point

Please give a short overview of your national building stock. Describe the most important characteristics and emerging needs. Additionally, illustrate the chronological development of national requirements on the energy performance of buildings (for an example, see guidance document)

The UK building stock varies widely both in age and type. The stock has proved to be extremely adaptable over time as changes to social and employment patterns have shifted the demand for different building uses. Historic industrial building types such as wharf buildings and woollen mills have been converted to apartments, offices, retail and community uses. City centre Victorian and Georgian residential terraces have been horizontally and vertically split and re-combined many times to suit a variety of commercial uses.

Dwellings are categorised as semi-detached houses, terraced houses, detached houses, apartments (flats in Scotland) or bungalows.

Semi-detached and terraced houses are the most common house types, making up 57% of UK homes. Over the last 40 years there has been a pronounced change in stock proportions with an increase in the number of apartments and detached houses which now represent 20% and 17% of the English housing stock respectively[1]. The proportion of apartments is greater in Scotland (36%). Wales and Northern Ireland, as comparatively rural countries have fewer apartments (8% in both Wales and Northern Ireland) and more detached homes (around 30% in both countries).
The proportion of apartments in the UK is the lowest in Europe with the exception of Ireland and Norway. The stock of older housing has increased since 2000 due to the subdivision of single dwellings into flats.

The UK has 27 million homes[2] across a wide range of housing types, including a significant proportion of older buildings as shown in Table 1. Based on current construction and demolition rates, over two thirds of the homes that will exist in the UK in 2050 have already been built[3]. Despite energy conservation being introduced with national Building Regulations in 1965, with local standards in existence since the 1930s, substantial energy efficiency potential remains in the UK, due to the age of its housing stock. Much of that potential is cost-effective even though most of the immediately effective, cheaper measures have now been fitted. For example while most of the twentieth century cavity walled homes have been insulated, there remain 5 million, uninsulated or partially insulated cavity wall homes. These are generally properties that are more complicated to insulate for a range of reasons, but the works are still typically cost effective given the significant energy savings that result.

Age of Housing Stock	Proportion of Total Housing Stock
Pre 1919	20%
1919 – 1980	58%
1981 – 1995	12%
Post 1995	10%

Table 1: Age profile of UK housing stock

[1] Reference for statistic and figure: https://www.gov.uk/government/publications/united-kingdom-housing-energy-fact-file-2013

[2] Housing Energy Fact File, DECC,2013

[3] Building the future, today, Carbon Trust, 2009

There are over 1.8 million non-domestic premises in the UK[4], which are responsible for around 17% of total energy consumption[5], and use around 220 TWh of energy a year[6]. These buildings have a wide range of forms, age and use, from small shops, to high rise commercial office buildings, to hospitals and airports.

In the UK, replacement of local building byelaws with national building regulations occurred in 1964 in Scotland, 1966 in England and Wales and 1972 in Northern Ireland. These regulations included provisions relating to energy efficiency of some building elements from the outset, with review in the early 1970s and 1990s delivering step changes in both scope and performance requirements.

Due to the limited land area available for development, most people in Gibraltar live in apartment buildings. These consist in the main of developments on reclaimed land post 1990. Most of the properties in the historic city centre are pre-war properties. Some development of Government housing estates also took place during the 1960s. Relatively little data exists on non-domestic building stock types and energy performance but what has been done suggests that, while this enormous diversity exists, there is some relationship between activity and built form.

Current building regulations address the conservation of fuel and power from buildings and have presented a steadily increasing set of standards relating to both building new buildings, and refurbishment of existing buildings. Over the past decade, there have been increases to the standards every three to four years, with a further uplifts across the regions coming into effect from early 2014 through to 2015.

[4] The Future of Heating: Meeting the Challenge, DECC, March 2013
[5] DECC
[6] ECUK data, 2011

2 Application of the definition of nearly zero-energy buildings

Please indicate how a nearly zero-energy building is defined within national context and explain underlying assumptions and factors that provide the rationale for the chosen definition.

For reporting the detailed application in practice of the definition of nearly zero-energy buildings, the table presented in the Annex is to be used.

If a national definition of nearly zero-energy buildings does not exist yet in your country, please indicate here whether precise plans are already under development and if so, please describe these plans. Please also describe if any currently used non-governmental definitions will be considered in these plans and/or a future directive.

The UK regions have all taken steps towards improving energy efficiency measures by incrementally increasing the energy performance requirements of their Building Regulations. The government will publish a definition for 'Nearly Zero Energy Buildings' nearer to the 2018/2020 deadlines. This work is programmed as part of policy development within the four UK administrations during 2014/15 and will build on modelling and cost/benefit analysis already undertaken to inform review of energy standards within building regulations for 2014 and 2015.

Gibraltar does not yet have a precise definition for Nearly Zero Energy Buildings; however, it has determined the series of parameters which a Nearly Zero Energy Building would have to meet and is in the process of establishing a corresponding numerical value for this which will then be published.

The UK is progressing towards Nearly Zero Energy Buildings through incremental increases to the energy efficiency of the buildings required by building regulations. These are driven by national policy objectives to reduce both carbon dioxide emissions and energy demand in buildings, with the aim of setting standards for the delivery of 'zero carbon' new buildings.

The intent to deliver 'zero carbon' new buildings is one of the major steps that UK is taking towards meeting both its carbon targets and energy targets. In England, it is intended that all new-build homes from 2016 will have net carbon emissions of zero tonnes per year. This will be achieved by promoting features such as low energy, high performance housing through the use of energy efficient fabrics and on-site renewables. There will also be support for off-site carbon abatement projects to ensure that all carbon emissions from regulated energy will be off-set and the building will add no more carbon-dioxide.

A similar agenda exists within the other three UK administrations and it is considered that delivery of national policy on emissions and energy reduction provide a suitable platform for both the definition and delivery of nearly zero energy new buildings and to produce criteria for deep renovation of existing buildings to meet the standard.

Background - recent review of energy standards across all four UK administrations

England:
From April 2014 Part L of the Building Regulations set a Target Fabric Energy Efficiency (TFEE) as well as a Target Emissions Rate (TER) for domestic buildings, which will be used to contribute to a energy performance standard

as well as a carbon compliance target. At present there is no direct restriction on the amount of energy that a building can consume, however by setting the TFEE and TER, the UK government is rewarding the use of energy efficiency measures in buildings, as using energy efficient materials and products contributes to achieving the TFEE and TER. Both Targets are determined by using Standard Assessment Procedure (SAP) for domestic buildings. For non-domestic buildings, there is no TFEE, only a TER which is calculated using the Simplified Building Energy Model (SBEM) for non-domestic buildings. The TER creates an incentive for the building to be constructed from energy efficient, greener materials in order to meet the carbon target. The UK targets are dependent on the characteristic of the building in question and there is, therefore, no blanket target set across the building industry (besides the government ambition for zero carbon homes from 2016). Part L of the English Building Regulations only distinguishes between domestic and non-domestic buildings, however the calculations made by SBEM do take into account the type of use of the building, and so implicitly, the TFEE and TER are determined by the type of building.
As a result of changes to Part L so far, a home constructed today emits around 30% less CO_2 than one built at the start of 2010.

Wales:
In Wales from July 2014 Building Regulations will set mandatory elemental fabric efficiency standards for new domestic buildings and a Target Primary Energy Consumption (TPEC) for new non domestic buildings. Both measures are intended to limit energy consumption as part of meeting emissions targets.

Scotland:
In Scotland review of energy standards in 2002, 2007 and 2010 has resulted in a reduction in emissions of approximately 70% when compared to standards applicable in 1990, with a commensurate reduction on energy use. Most recently, improvements announced for October 2015 will further reduce level s of delivered energy in new buildings and improve standards applicable to work to existing building. Since 2007, review of energy standards in Scotland has been assisted by the recommendations of the Sullivan Report[7] Panel. This panel met in 2013 and has issued an update report with recommendations on future review of regulations beyond 2015, including that the next review be aligned with requirements under Article 9 for the delivery of nearly zero energy new buildings. These are currently under consideration by Scottish Ministers.

The UK also has a range of voluntary sustainability standards currently applicable to buildings:

BREEAM[8] standard
The BREEAM standard is a non-domestic scheme awarding ratings based on the sustainability of buildings, which takes into account energy use and water management along with several other parameters. Although voluntary for industry, it is mandatory that all new central government buildings[9] (including departments, executive agencies, and arms length bodies for which are they are responsible) must be built to a standard of BREEAM excellent (or equivalent) and refurbishment of existing central government buildings with a cost in excess of £500k must be carried out to a standard of BREEAM very good (or equivalent). Matching BREEAM policy requirements for both new build and refurbishment exist within Northern Ireland subject to de minimis limits of

[7] www.scotland.gov.uk/sullivanreport
[8] http://www.breeam.org/page.jsp?id=301
[9] https://www.gov.uk/government/publications/common-minimum-standards

£1M[10] In Wales all public buildings receiving funding from the Welsh Government are required to achieve BREEAM Excellent.

Sustainability labelling (Scotland)[11]

Under building regulations in Scotland, developers have the option to build to a set of standard which are higher than those set as a mandatory minimum. Meeting these standards enables a level of sustainability to be awarded to the building, bronze being compliance with minimum standards, with silver, gold and platinum optional standards defined for new homes and for education buildings. For all other non-domestic buildings, only higher emissions targets are currently defined. This system addresses eight aspects of sustainability and relates these to the performance of and facilities offered by a new building. Aspects addressed include both CO_2 emissions and limits on energy for space heating.

[10] http://www.dfpni.gov.uk/index/procurement-2/cpd/cpd-policy-and-legislation/content_-_cpd_achieving_sustainability_in_construction_procurement/sap-2012-15/sap-2012-15-26112012.pdf

[11] http://www.scotland.gov.uk/Topics/Built-Environment/Building/Building-standards/techbooks/Sustainability

3 Intermediate targets for improving the energy performance of new buildings in order to ensure that by 31 December 2020 all new buildings are nearly zero-energy buildings

Please report the 2015 targets ensuring that by 31 December 2020 all new buildings are nearly zero-energy buildings. Also explain how they relate to and help to ensure that all new buildings are nearly zero-energy buildings by 31 December 2020.

What are the qualitative and quantitative 2015 targets for all new buildings?

3.1.1 Qualitative 2015 targets: Interim energy related requirements for new residential and non-residential buildings

Requirements for new buildings in 2015 are already identified through review and publication of improved energy standards within building regulations. Targets set under building regulations are set through application of the UK National Calculation Methodology (NCM) which implements assessment of the range of criteria set out in Annex 1 of the Directive.

Information on the standards which will be applicable to new developments is set out by each UK administration and is available online:

- England – Approved Document L[12]
- Wales – Approved Document L [13]
- Northern Ireland – Technical Booklet F [14]
- Scotland – Section 6 (energy) [15]

The UK NCM (SAP and SBEM) is used to estimate the energy use in a building a building based on its design and the efficiency and type of fuel used by products in the installation. This is then used to calculate a CO_2 Target Emission Rate (TER) for the building. From April 2014 in England there will also be a Target Fabric Energy Efficiency (TFEE) standard set for domestic buildings.

Both of these targets support a move towards Nearly Zero Energy Buildings by either rewarding or requiring the use of energy efficiency measures to reduce energy demand in new buildings. Building Regulations targets are set separately by each of the four UK administrations but will be developed against a single UK definition of what constitutes a new Nearly Zero Energy Building.

Besides these targets there are no explicit requirements for a specific fraction of energy used on site to be provided by renewable sources, a requirement limiting the useful energy of the building, or a requirement limiting the primary energy delivered to the building. However, as stated in the paragraph above, the current approach to setting performance targets encourages a balanced approach to the application of energy efficiency measures in buildings and, with the facilities already present in the UK NCM, is considered to be fully capable of also covering requirements for assessment and delivery of Nearly Zero Energy Buildings.

Gibraltar is developing intermediate standards that will bring building energy performance requirements up to cost optimal levels as a first step towards reaching nearly zero energy by 2020. These standards should be in place by mid-2014.

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[12] http://www.planningportal.gov.uk/buildingregulations/approveddocuments/partl/
[13] http://wales.gov.uk/topics/planning/buildingregs/publications/part-l-energy/?lang=en
[14] http://www.dfpni.gov.uk/index/buildings-energy-efficiency-buildings/building-regulations/content_-_building_regulations-newpage-3.htm
[15] http://www.scotland.gov.uk/Topics/Built-Environment/Building/Building-standards/techbooks/techhandbooks

In addition, the Gibraltar is encouraging all new public buildings to achieve an A rating on the SBEM scale and is undertaking a large scale refurbishment of government housing estates which again, need to meet the minimum energy performance standards.

3.1.2 Quantitative 2015 targets: Share of nZEB according to official nZEB definition on all newly constructed buildings (define reference parameter e.g. number of buildings, floor area, volume etc.):

The UK does not have a formal definition of Nearly Zero Energy Buildings, and so does not have a reference parameter for the proportion of Nearly Zero Energy Buildings.

Miscellaneous:

The government has so far set requirements on public buildings, making it compulsory that they meet the BREEAM targets stated previously.

From your point of view, how close is your country at the moment in achieving this target? In case there is no target defined yet, please indicate when it is expected to have such a target.

We will consider the need for setting further intermediate targets in due course. This work will be guided by assessment of building performance delivered by standards against a functional definition of what constitutes a new Nearly Zero Energy Building.

4 Intermediate targets for improving the energy performance of new buildings in order to ensure that by 31 December 2018, new buildings occupied and owned by public authorities are nearly zero-energy buildings

Please report here the 2015 targets ensuring that by 31 December 2018 all new public buildings are nearly zero-energy buildings. Also explain how they relate to and help to achieve that by 31 December 2018, all new public buildings are nearly zero-energy buildings

What are the qualitative and quantitative 2015 targets for all new buildings occupied and owned by public authorities?

4.1.1 Qualitative 2015 targets: Interim energy related requirements for new public buildings

As stated in chapter 2, the UK government has set a target that all new build public sector buildings in England should be built to a BREEAM excellent standard or equivalent, and that all public sector refurbishment projects valued at over £500k should be carried out to a BREEAM very good standard or equivalent. These required BREEAM standards effectively enforce low energy, low emissions buildings. At present in England and Northern Ireland there are no targets for the Fabric Energy Efficiency of non-domestic buildings, but they are subject to the carbon targets in same way as domestic buildings. This is in addition to the requirements set for the TER. In Wales fabric energy efficiency in non-domestic buildings is encouraged through the TPEC (see section 2 above).

There are at present no requirements specifically relating to the fraction of renewable energy use in the buildings, the useful energy performance of the buildings or the primary energy use in the building. However, as stated in chapters 2 and 3, building regulations targets do encourage the balanced application of energy efficiency measures in buildings.

The EPBD requirements have been transposed into regulations to ensure that public buildings will be nearly zero-energy by 31st December 2018.

Gibraltar is encouraging all new public buildings to achieve an A rating on the SBEM scale and is undertaking a large scale refurbishment of government housing estates which again, need to meet the minimum energy performance standards.

The Government's Environmental Action & Management Plan sets out its policy vision for green buildings in Gibraltar.

4.1.2 Quantitative 2015 targets: Share of public nZEB according to official nZEB definition on all newly constructed public buildings (define reference parameter e.g. number of buildings, floor area, volume etc.):

The UK does not have a formal definition of Nearly Zero Energy Buildings, and so does not have a reference parameter for the proportion of Nearly Zero Energy Buildings.

Miscellaneous:

From your point of view, how close is your country at the moment in achieving this target? In case there is no target defined yet, please indicate when it is expected to have such a target.

We will consider the need for setting further intermediate targets in due course. This work will be guided by assessment of building performance delivered by standards against a functional definition of what constitutes a new Nearly Zero Energy Building.

5 Policies and measures for the promotion of all new buildings being nearly zero-energy buildings after 31 December 2020

5.1 Residential buildings

5.1.1 Relevant regulations

- Building Regulations require an incrementally increasing level of building energy performance, aimed at reducing carbon emissions and energy demand. UK policy to reduce emissions and energy demand is main driver for change and action through national building regulations is considered a practical means of delivering Nearly Zero Energy Buildings from 2018/20.
- Part F of the Gibraltar Building Rules will be revised to increase the level of building energy performance to cost optimal levels by mid 2014 and will then be revised further to reflect the nearly zero energy standards for 2020 and beyond.

5.1.2 Relevant economic incentives and financing instruments

The following are considered material to the delivery of Nearly Zero Energy Buildings though development of the market structure to support innovation and the delivery of energy efficiency improvements in both new buildings and the existing stock.

- In April 2014 the Government launched the domestic Renewable Heat Incentive (RHI). The RHI pays participants of the scheme that generate and use renewable energy to heat their buildings. In order to be eligible for the domestic scheme, applicants' homes must meet minimum energy efficiency standards.
- The Northern Ireland domestic RHI is expected to launch later this year. Until it is underway the Renewable Heat Premium Payment Scheme continues to provide financial assistance to domestic consumers wishing to install renewable heat systems.
- The Government of Gibraltar is looking to set up a National Energy Efficiency Fund to promote the uptake of renewable technologies such as solar thermal and also to assist in the implementation of more efficient systems and appliances in new homes.

5.1.3 Energy performance certificates' use and layout in relation to Nearly Zero Energy Buildings standard

- EPCs provide energy performance indicator A-G and a primary energy indicator in kWh/m2/yr

5.1.4 Supervision (energy advice and audits)

- The smart meters programme aims to roll out smart electricity and gas meters to all domestic properties (in accordance with the EU Third Internal Energy Package) and smart or advanced meters to smaller non-domestic sites in Great Britain by the end of 2020. Smart Meters will enable people to better understand their energy use and maximise opportunities for energy saving. The Government is also mandating the provision of in-home displays for domestic customers and ensuring that installers provide consumers with energy efficiency information and advice during the installation process.
- Green Deal and Carbon Trust advise people on being more energy efficient, whether that is through the installation of energy efficient material or through using appliances more efficiently.
- Government of Gibraltar is ensuring that all new Government housing is fitted with smart meters and is working on a programme for the roll out of smart meters to the private housing sector.
- The Gibraltar Electricity Authority is in the process of redesigning the water and electricity billing system to make it simpler and provide more information to the consumer.

- In July 2012 the Department of Enterprise, Trade and Investment (DETI) Minister announced that Northern Ireland would proceed with an electricity only smart meter rollout by 2020. A Cost Benefit Analysis of a long term smart metering deployment scenario for Northern Ireland has been carried out by the Northern Ireland Authority for Utility Regulation (NIAUR) and indicated a marginally positive NPV for electricity meters only. An accompanying Regulatory Impact Assessment was completed by DETI and is available on the DETI website.

- Currently, gas smart metering is not economically viable in Northern Ireland mainly due to the fact that the costs of a gas smart meter rollout would have to be met by only a small number of consumers, as the gas market is not yet mature enough in Northern Ireland. The costs and benefits for gas smart metering will be revisited around 2015.

5.1.5 Information (tools)

- The Gibraltar Department of the Environment is creating a dedicated website on energy efficiency which will include information on Nearly Zero Energy Buildings, what this means and how it can be achieved.
- The Zero Carbon Hub was formed to bring industry together and carry out work to find effective on-site energy efficiency requirements acceptable both to business and to the consumer.
- Energy Savings Advice Service provides people with impartial advice on energy efficiency measures.

5.1.6 Demonstration

- The Green Deal is intended to encourage households to undertake energy assessments. It offers energy efficiency assessments, financing and the installation of energy efficiency measures through a network of Green Deal approved assessors, installers and providers. 188,234 Green Deal Assessments were lodged by the end of March 2014 (since January 2013). Approximately 693,000 measures were installed in around 580,000 properties through ECO, Cashback and Green Deal to the end of February 2014 (the latest month that we have complete data for). The Green Deal is currently a GB-wide policy; however Northern Ireland continues to develop a range of domestic energy efficiency programmes to promote energy efficiency in the domestic sector

5.1.7 Education and training

- Government of Gibraltar has organised seminars on Sustainable buildings and services to create greater awareness within the local market of the principles of sustainable construction and energy efficient design. We will continue to provide expert training as needed.
- Energy Savings Advice Service provides people with impartial advice on energy efficiency measures.

5.2 Non-residential buildings

5.2.1 Relevant regulations

Parts L (in England) and F (in Northern Ireland) of the Building Regulations is an incrementally increasing level of building energy performance, aimed at reducing carbon emissions. This is one of the main drivers behind Nearly Zero Energy Buildings by 2020.

Part F of the Gibraltar Building Rules will be revised to increase the level of building energy performance to cost optimal levels by mid 2014 and will then be revised further to reflect the nearly zero energy standards for 2020 and beyond.

5.2.2 Relevant economic incentives and financing instruments

- The non-domestic Renewable Heat Incentive (RHI), introduced in GB in November 2011 and Northern Ireland in November 2012, is the world's first financial support programme for renewable heat. Communities, charities, and public and private sector organisations can apply to receive a payment for generating heat using eligible low carbon heat technologies.

- The Climate Change Levy (CCL), introduced by Government in 2001, addresses the barrier of undervaluing energy efficiency by taxing the supply of specified energy products such as electricity, gas and coal for use as fuels (for lighting, heating and power) by business consumers. Good Quality Combined Heat and Power (CHP – see below) that is accredited by the Quality Assurance for Combined Heat and Power scheme is exempt from the levy. Climate Change Agreements (CCAs) are voluntary agreements that allow eligible energy-intensive businesses to receive up to a 65% discount from the Climate Change Levy in return for meeting energy efficiency or carbon-saving targets. Together the CCL and CCAs are expected to save a total of 12TWh by 2020. Government regularly reviews how these policies work together and in 2013 took action to remove overlaps between the CCA and the CRC. The CRC and CCA targets will be reviewed again in 2016, alongside the Energy Saving Opportunities Scheme (ESOS – see below).

- The UK Government will introduce the UK wide Energy Saving Opportunities Scheme (ESOS) by June 2014. ESOS will target a gap in the existing policy landscape and help large enterprises to cut their energy costs, by providing targeted cost-effective recommendations to improve their energy efficiency. It will

stimulate demand amongst UK businesses for energy efficiency measures, by making clear in the assessments what savings could be made. The assessments will review building fabric, lighting and heating systems, and overall energy management practices. Our current analysis suggests that ESOS has the potential to deliver £1.9 billion of net benefits to the UK and reduce business energy bills by £300 million in its first year.

- Government of Gibraltar is looking to set up a National Energy Efficiency Fund to promote the uptake of renewable technologies such as solar thermal and also to assist in the implementation of more efficient systems and appliances in new buildings

5.2.3 Energy performance certificates' use and layout in relation to nZEB standard

5.2.4 Supervision (energy advice and audits)

- The CRC Energy Efficiency Scheme (CRC), introduced in April 2010, requires large users of electricity to monitor their energy usage and report on it. The CRC affects large public and private sector organisations across the UK including, for example, supermarkets, water companies, banks, local authorities and all central government departments. These organisations must then purchase and surrender allowances to offset their emissions. It is designed to incentivise the uptake of cost-effective energy efficiency opportunities through the application of additional financial and reputational drivers.

5.2.5 Information (tools)

- Build Up Skills UK project, led by the Sector Skills Council. This project will identify skills gaps and implement long-lasting training infrastructure to improve the skills related to the installation and maintenance of building energy efficiency technologies.

5.2.6 Demonstration

- Build Up Skills UK project, led by the Sector Skills Council. This project will identify skills gaps and implement long-lasting training infrastructure to improve the skills related to the installation and maintenance of building energy efficiency technologies.

5.2.7 Education and training

- Government of Gibraltar has organised seminars on Sustainable buildings and services to create greater awareness within the local market of the principles of sustainable construction and energy efficienct design. We will continue to provide expert training as needed.
- Build Up Skills UK project, led by the Sector Skills Council. This project will identify skills gaps and implement long-lasting training infrastructure to improve the skills related to the installation and maintenance of building energy efficiency technologies.

5.3 From your point of view, how would you evaluate the current measures that are in force? Please also try to describe the existing gap between what is in force and what should be in force in order to ensure that after 31 December 2020, all new buildings are nearly zero-energy buildings. Are there precise measures planned for the future?

We consider that measures already in force provide a firm foundation for further work to deliver a Nearly Zero Energy Building standard. Cost benefit analysis of measures being introduced into building regulations for new buildings in 2014/15 indicate that, for some building types, standards set in the UK are already approaching or exceeding the point where the cost-benefit analysis over the economic lifecycle of the building in question is negative.

We consider that this demonstrates that national policy on energy efficiency is already aligned with the outcome sought under Article 9 and will seek to investigate this further in defining a Nearly Zero Energy Building standard for 2018 and 2020.

6 Policies and measures for the promotion of all new buildings occupied and owned by public authorities being nearly zero-energy buildings after 31 December 2018

6.1 All new buildings occupied and owned by public authorities

6.1.1 Relevant regulations

- Building Regulations require an incrementally increasing level of building energy performance, aimed at reducing carbon emissions and energy demand. UK policy to reduce emissions and energy demand is main driver for change and action through national building regulations is considered a practical means of delivering Nearly Zero Energy Buildings from 2018/20.
- In England, it is mandatory that all new central government buildings[16] (including departments, executive agencies, and arms length bodies for which are they are responsible) must be built to a standard of BREEAM excellent (or equivalent) and refurbishment of existing central government buildings with a cost in excess of £500k must be carried out to a standard of BREEAM very good (or equivalent).
- Northern Ireland's Building Regulations have recently been amended to include reference to this requirement as articulated in Article 9.
- Part F of the Gibraltar Building Rules will be revised to increase the level of building energy performance to cost optimal levels by mid 2014 and will then be revised further to reflect the nearly zero energy standards for 2020 and beyond.

6.1.2 Relevant economic incentives and financing instruments

- Salix Finance Ltd is grant funded by DECC and provides interest free loans to the public sector. Salix received an additional £18 million from DECC in 2012/13. The Government has also allocated an additional £90 million over the next three years to build on the Salix scheme and provide loans to improve the energy efficiency of hospitals, schools and other public sector buildings.
- The RE:FIT programme was pioneered by the Greater London Authority to deliver energy efficiency improvements to the public sector estate through Energy Service Contracts. Together with Local Partnerships, the Government is funding the initial England-wide rollout of RE:FIT. The Government's aim is that the national roll out of RE:FIT will become entirely self-financing and drive improvements in energy efficiency across the public sector.

6.1.3 Energy performance certificates' use and layout in relation to nZEB standard

- EPCs provide energy performance indicator A-G and a primary energy indicator in kWh/m2/yr.

6.1.4 Supervision (energy advice and audits)

- DECs (Display Energy Certificates) for these buildings must be updated every year. The discipline of having to update a DEC every year and display it to the public may have an impact on behaviour and encourage better energy management. In Northern Ireland DECs apply to buildings occupied by public authorities and frequently visited by the public with a total useful floor area over 500m². From July 2015, this requirement extends to buildings with a total useful floor area over 250m^2.

[16] https://www.gov.uk/government/publications/common-minimum-standards

6.1.5 Information (tools)

- We do not have information and tools specifically for public sector buildings, the same standards as for the private sector (such as BREEAM) can be used to inform energy efficient construction.

6.1.6 Demonstration

- We do not have information and tools specifically for public sector buildings, the same standards as for the private sector (such as BREEAM) can be used to inform energy efficient construction.

6.1.7 Education and training

- We do not have information and tools specifically for public sector buildings, the same standards as for the private sector (such as BREEAM) can be used to inform energy efficient construction.

6.2 From your point of view, how would you evaluate the current measures that are in force? Please also describe the existing gap between what is in force and what should be in force in order to ensure that after 31 December 2018, all new public buildings are nearly zero-energy buildings. Are there precise measures planned for the future?

We consider that measures already in force provide a firm foundation for further work to deliver a Nearly Zero Energy Building standard. Cost benefit analysis of measures being introduced into building regulations for new buildings in 2014/15 indicate that, for some building types, standards set in the UK are already approaching or exceeding the point where the cost-benefit analysis over the economic lifecycle of the building in question is negative.

We consider that this demonstrates that national policy on energy efficiency is already aligned with the outcome sought under Article 9 and will seek to investigate this further in defining a Nearly Zero Energy Building standard for 2018 and 2020.

Northern Ireland plans to continue in its policy of developing Building Regulations in general alignment with those in England

7 Policies and measures for the promotion of existing buildings undergoing major renovation being transformed to nearly zero-energy buildings

7.1 Residential buildings

7.1.1 Relevant regulations

- Building Regulations require an incrementally increasing level of building energy performance, aimed at reducing carbon emissions and energy demand. UK policy to reduce emissions and energy demand is main driver for change and action through national building regulations is considered a practical means of delivering Nearly Zero Energy Buildings from 2018/20.
- Part F of the Gibraltar Building Rules will be revised to increase the level of building energy performance to cost optimal levels by mid 2014 and will then be revised further to reflect the nearly zero energy standards for 2020 and beyond.

7.1.2 Relevant economic incentives and financing instruments

- The Green Deal is the GB Government's flagship energy efficiency policy, designed to overcome barriers to improving the UK's building stock.
- Alongside the Green Deal, the new Energy Company Obligation (ECO) will play an important role in supporting the installation of solid wall insulation, and also in providing upfront support for basic heating and insulation measures for low income and vulnerable households.
- ECO will integrate with the Green Deal, allowing supplier subsidy and Green Deal Finance to come together into one seamless offer to the consumer.
- The Green Deal financial mechanism eliminates the need to pay upfront for energy efficiency measures. A Green Deal advisor will recommend a package of cost-effective measures for the building (based on an Energy Performance Certificate (EPC)). If the measures are installed with Green Deal finance, the building occupier then pays this money back over time as part of their fuel bill.
- At a local level, the Green Deal will enable many households and businesses to improve the energy efficiency of their properties so less energy is consumed and less money is wasted.
- In April 2014 the Government launched the domestic Renewable Heat Incentive (RHI). The RHI pays participants of the scheme that generate and use renewable energy to heat their buildings. In order to be eligible for the domestic scheme, applicants' homes must meet minimum energy efficiency standards.
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- Gibraltar Government is looking to set up a National Energy Efficiency Fund to promote the uptake of renewable technologies such as solar thermal and also to assist in the implementation of more efficien systems and appliances in new buildings
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- The Welsh Government's energy efficiency programme includes Nest, its £20m per annum fuel poverty programme that provides energy efficiency advice and income maximisation advice alongside installation of 'whole house' measures for qualifying properties. Nest focuses spend on the households on the lowest incomes and in the most inefficient properties on a house-by-house basis. Nest provides approximately 5000 households a year with a package of energy efficiency improvements. Alongside Nest, Arbed is the area-based 'whole house' retrofit programme, with Arbed Phase 2 retrofitting over 4,500 homes across Wales between 2012-15. As part of its energy efficiency programme the Welsh Government has also made available an additional funding to lever in investment from the energy company obligation (ECO).

- The Warm Homes Scheme has been the Northern Ireland Assembly's main tool in tackling fuel poverty. Since its launch in 2001 the scheme has had an annual target of installing energy efficiency improvements in at least 9,000 homes and has been meeting the target consistently. The scheme has helped to improve the energy efficiency of almost 120,000 homes and has invested over £150 million in energy efficiency measures. Nortthern Ireland have been testing a targeted area based approach to tackling fuel poverty and will introduce a new Affordable Warmth Scheme in 2014.
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- The Northern Ireland Sustainable Energy Programme (NISEP), a voluntary programme funded through consumer energy bills, will deliver energy efficiency measures in Northern Ireland until 2016. The majority of the funding (80%) has been targeted at vulnerable households in Northern Ireland. The Department of

Enterprise, Trade and Investment has consulted on proposals to introduce an energy efficiency obligation in Northern Ireland from 2016 and is currently bringing forward primary legislation in that regard

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7.1.3 Energy performance certificates' use and layout in relation to nZEB standard

- EPCs provide energy performance indicator A-G and a primary energy indicator in kWh/m2/yr

7.1.4 Supervision (energy advice and audits)

- The smart meters programme aims to roll out smart electricity and gas meters to all domestic properties (in accordance with the EU Third Internal Energy Package) and smart or advanced meters to smaller non-domestic sites in Great Britain by the end of 2020. Smart Meters will enable people to better understand their energy use and maximise opportunities for energy saving. The Government is also mandating the provision of in-home displays for domestic customers and ensuring that installers provide consumers with energy efficiency information and advice during the installation process.

- A revised version of the domestic EPC was launched in April 2012 (and will be launched in Scotland in October 2014). It has been redesigned and made more consumer-friendly with clear signposting to the Green Deal and information on which measures qualify for Green Deal finance. The EPC will also be used as a mechanism to disclose the existence of a Green Deal on a particular property.

- Government of Gibraltar is ensuring that all new Government housing is fitted with smart meters and is working on a programme for the roll out of smart meters to the private housing sector.

- The Gibraltar Electricity Authority is in the process of redesigning the water and electricity billing system to make it simpler and provide more information to the consumer.

- In July 2012 the Department of Enterprise, Trade and Investment (DETI) Minister announced that Northern Ireland would proceed with an electricity only smart meter rollout by 2020. A Cost Benefit Analysis of a long term smart metering deployment scenario for Northern Ireland has been carried out by the Northern Ireland Authority for Utility Regulation (NIAUR) and indicated a marginally positive NPV for electricity meters only. An accompanying Regulatory Impact Assessment was completed by DETI and is available on the DETI website.

- Currently, gas smart metering is not economically viable in Northern Ireland mainly due to the fact that the costs of a gas smart meter rollout would have to be met by only a small number of consumers, as the gas market is not yet mature enough in Northern Ireland. The costs and benefits for gas smart metering will be revisited around 2015.

7.1.5 Information (tools)

- See also the National Energy Efficiency Action Plan

7.1.6 Demonstration

- See also the National Energy Efficiency Action Plan

7.1.7 Education and training

- Government of Gibraltar has organised seminars on Sustainable buildings and services to create greater awareness within the local market of the principles of sustainable construction and energy efficient design. We will continue to provide expert training as needed.
- See also the National Energy Efficiency Action Plan.

7.2 Non-residential buildings

7.2.1 Relevant regulations

- Building Regulations require an incrementally increasing level of building energy performance, aimed at bringing down carbon emissions and energy demand. UK policy to reduce emissions and energy demand is

main driver for change and action through national building regulations is considered a practical means of delivering Nearly Zero Energy Buildings from 2018/20.

- Part F of the Gibraltar Building Rules will be revised to increase the level of building energy performance to cost optimal levels by mid 2014 and will then be revised further to reflect the nearly zero energy standards for 2020 and beyond.

7.2.2 Relevant economic incentives and financing instruments

- The non-domestic Renewable Heat Incentive (RHI), introduced in GB in November 2011 and Northern Ireland in November 2012, is the world's first financial support programme for renewable heat. Communities, charities, and public and private sector organisations can apply to receive a payment for generating heat using eligible low carbon heat technologies.

- The Climate Change Levy (CCL), introduced by Government in 2001, addresses the barrier of undervaluing energy efficiency by taxing the supply of specified energy products such as electricity, gas and coal for use as fuels (for lighting, heating and power) by business consumers. Good Quality Combined Heat and Power (CHP – see below) that is accredited by the Quality Assurance for Combined Heat and Power scheme is exempt from the levy. Climate Change Agreements (CCAs) are voluntary agreements that allow eligible energy-intensive businesses to receive up to a 65% discount from the Climate Change Levy in return for meeting energy efficiency or carbon-saving targets. Together the CCL and CCAs are expected to save a total of 12TWh by 2020. Government regularly reviews how these policies work together and in 2013 took action to remove overlaps between the CCA and the CRC. The CRC and CCA targets will be reviewed again in 2016, alongside the Energy Saving Opportunities Scheme (ESOS – see below).

- The UK Government will introduce the UK wide Energy Saving Opportunities Scheme (ESOS) by June 2014. ESOS will target a gap in the existing policy landscape and help large enterprises to cut their energy costs, by providing targeted cost-effective recommendations to improve their energy efficiency. It will stimulate demand amongst UK businesses for energy efficiency measures, by making clear in the assessments what savings could be made. The assessments will review building fabric, lighting and heating systems, and overall energy management practices. Our current analysis suggests that ESOS has the potential to deliver £1.9 billion of net benefits to the UK and reduce business energy bills by £300 million in its first year.

- Government of Gibraltar is looking to set up a National Energy Efficiency Fund to promote the uptake of renewable technologies such as solar thermal and also to assist in the implementation of more efficient systems and appliances in new buildings

- The CRC Energy Efficiency Scheme (CRC), introduced in April 2010, requires large users of electricity to monitor their energy usage and report on it. The CRC affects large public and private sector organisations across the UK including, for example, supermarkets, water companies, banks, local authorities and all central government departments. These organisations must then purchase and surrender allowances to offset their emissions. It is designed to incentivise the uptake of cost-effective energy efficiency opportunities through the application of additional financial and reputational drivers.

7.2.3 Energy performance certificates' use and layout in relation to nZEB standard

- EPCs provide energy performance indicator A-G and a primary energy indicator in kWh/m2/yr

7.2.4 Supervision (energy advice and audits)

- The smart meters programme aims to roll out smart electricity and gas meters to all domestic properties (in accordance with the EU Third Internal Energy Package) and smart or advanced meters to smaller non-domestic sites in Great Britain by the end of 2020. Smart Meters will enable people to better understand their energy use and maximise opportunities for energy saving. The Government is also mandating the provision of in-home displays for domestic customers and ensuring that installers provide consumers with energy efficiency information and advice during the installation process.

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7.2.6 Demonstration

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7.2.7 Education and training

- Build Up Skills UK project, led by the Sector Skills Council. This project will identify skills gaps and implement long-lasting training infrastructure to improve the skills related to the installation and maintenance of building energy efficiency technologies.
- Government of Gibraltar has organised seminars on Sustainable buildings and services to create greater awareness within the local market of the principles of sustainable construction and energy efficient design. We will continue to provide expert training as needed.

7.3 From your point of view, how would you evaluate the current measures that are in force? Please also try to describe the existing gap between what is in force and what should be in force in order to stimulate the transformation of buildings that are refurbished into nZEB. Are there precise measures planned for the future?

We consider that measures already in force provide a firm foundation for further work to deliver a Nearly Zero Energy Building standard. Cost benefit analysis of measures being introduced into building regulations for new buildings in 2014/15 indicate that, for some building types, standards set in the UK are already approaching or exceeding the point where the cost-benefit analysis over the economic lifecycle of the building in question is negative.

We consider that this demonstrates that national policy on energy efficiency is already aligned with the outcome sought under Article 9 and will seek to investigate this further in defining a Nearly Zero Energy Building standard for 2018 and 2020.

Northern Ireland plans to continue in its policy of developing Building Regulations in general alignment with those in England

8 Additional Information

Please fill in any additional information on actions taken to increase the number of nearly zero-energy buildings in your country.

9 Possible improvements

Where do you see most room for improvement in order to increase the number of nearly zero-energy buildings in your country? Please also try to give examples for appropriate measures.

Regulating for new Nearly Zero Energy Buildings is a relatively straight forward process, through review of established national building regulations and their underlying procedures.

The same process would be used to identify the implication of applying a similar defined standard to renovation of existing buildings. This process, once undertaken will identify any areas where policy read-across and outcomes are not aligned and where improvement may be needed.

Background:
Under the Climate Change Act 2008, the UK has committed to legally binding greenhouse gas emission reduction targets of at least 34% by 2020 and at least 80% by 2050. To meet these targets, the emissions footprint of our buildings will need to be almost zero. We will achieve this through a mix of two main changes:

- Reducing demand for energy in buildings - by increasing the thermal efficiency of buildings through better insulation; by encouraging consumers to use smarter heating controls and Smart Meters; and by improving the energy efficiency of lighting and appliances, and encouraging more efficient use of hot water. Better demand management can save money, bringing down energy bills, and release resources to support other activity and promote growth.
- Decarbonising heating and cooling supply - by supporting the transition from conventional gas and oil boilers to low carbon heating alternatives such as heat pumps and more efficient systems such as heating networks or combined heat and power. A move away from fossil fuels for heating, hot water and appliances can reduce our dependence on imports and associated price volatility, thereby improving the security of our energy supplies.

This decade we need to complete the cost effective 'easy wins' in the buildings sector. This means maximising our energy efficiency efforts over the next decade. This will reduce costs and the amount of low carbon heating needed in future years.

We also need to prepare for the future. In the buildings sector, this means acting now to build the supply chain for low carbon heating, cooling, and lighting and appliances to stimulate the innovation and competition that will bring the cost of these technologies down to a level that will make them competitive with fossil fuel-based (or less efficient) alternatives.

We are building the market for low carbon heating technologies, such as air- and ground-source heat pumps, so that these can displace expensive, carbon intensive alternatives. At the same time, we encourage further deployment of heating networks, particularly in urban areas where building level solutions may face more barriers. And in parallel we will continue to improve the efficiency of our existing fossil fuel boilers.

The 2020s will be a key transitional decade in delivering mainstream low carbon heat from heating networks and in buildings, and will see the expansion of low carbon heat at scale into residential areas. Progress in the 2020s will be important in ensuring a smooth and cost effective transition to low carbon heat – 2030 would be the latest opportunity at which to begin rollout at scale taking into account historical deployment trends.

HM Government of Gibraltar has committed to achieve carbon neutrality, with the aim of doing so by 2020. In order to meet this target, emissions from buildings will need to be reduced to nearly zero. This is being tackled by reducing the energy demand in buildings – through more efficient design and build, the use of smart meters, installation of solar thermal water heaters where feasible and increased information and awareness campaigns. All of Gibraltar's energy needs are met via electricity therefore trying to reduce the carbon footprint of our energy production is a critical part of these works – Gibraltar is actively pursuing the installation of renewable technologies such as wave and solar photovoltaic as well as exploring new and innovative technologies.