



**Programme Area:** Smart Systems and Heat

**Project:** WP2 Manchester Local Area Energy Strategy

**Title:** Planning Briefing Notes Informing Stage 0 GM Spatial Energy Plan – Briefing Note 3

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**Abstract:**

This Deliverable comprises one of a series of four briefing notes regarding the planning policy and related information to inform the production of a high level energy evidence base prior to the completion of a detailed EnergyPath modelling study with a local authority in Greater Manchester. It provides advice and recommendations relating to the current and future policy framework in GM which has informed the Catapult high level energy study for Greater Manchester. This Deliverable, Briefing Note 3, provides a summary of the national level technical housing and sustainability standards in the built environment.

**Context:**

The Spatial Energy Plan for Greater Manchester Combined Authority project was commissioned as part of the Energy Technologies Institute (ETI) Smart Systems and Heat Programme and undertaken through collaboration between the Greater Manchester Combined Authority and the Energy Systems Catapult. The study has consolidated the significant data and existing evidence relating to the local energy system to provide a platform for future energy planning in the region and the development of suitable policies within the emerging spatial planning framework for Greater Manchester.



## Briefing Note 3

### **National Housing and Sustainability Standards for the Built Environment**

on behalf of

**Energy Systems Catapult**

August 2016

# Contents

<b>1</b>	<b>Introduction .....</b>	<b>3</b>
1.1	Background and Scope.....	3
1.2	Approach .....	3
1.3	Structure of Briefing Note.....	3
<b>2</b>	<b>The Legislative Context for Existing Housing Stock.....</b>	<b>4</b>
2.1	Introduction .....	4
2.2	Residential Minimum Energy Efficiency Standards (MEES).....	4
2.3	The Green Deal .....	6
2.4	Energy Company Obligation (ECO).....	7
2.5	Smart Meters .....	8
<b>3</b>	<b>The Legislative Context for new Homes and Major Residential Renovations.....</b>	<b>9</b>
3.1	Introduction .....	9
3.2	Code for Sustainable Homes .....	9
3.3	The Housing Standards Review .....	10
3.4	End of Zero Carbon Homes and the Housing and Planning Act (2016).....	11
3.5	EU Energy Performance of Buildings Directive 2010 (EPBD).....	12
<b>4</b>	<b>Building Regulation Requirements .....</b>	<b>13</b>
4.1	Introduction .....	13
4.2	Part L1B (Conservation of Fuel and Power in existing Dwellings) of Schedule 1 to the Building Regulations 2010 (incorporating 2013 and 2016 Amendments).....	13
4.3	Summary .....	15
<b>5</b>	<b>Voluntary Sustainability Initiatives.....</b>	<b>16</b>
5.1	Introduction .....	16
5.2	Design standards .....	16
5.3	Sustainability Benchmarks.....	17
5.4	Research Initiatives.....	17
5.5	Key Observations.....	17
<b>6</b>	<b>Conclusions .....</b>	<b>18</b>
6.1	Conclusions .....	18

# 1 Introduction

## 1.1 Background and Scope

- 1.1.1 JLL has been commissioned by Energy Systems Catapult (ESC) to prepare a Briefing Note on the national level technical housing and sustainability standards in the built environment. This topic area has been subject to considerable change in recent years as new legislation and standards have been both introduced and repealed by central Government.
- 1.1.2 The inter-relationship of such standards with current energy planning and climate change policies in Manchester are considered.
- 1.1.3 This Briefing Note includes consideration of the Government's Housing Standards Review (2015) and its conclusions, as well as the important role that is now placed upon the Building Regulations, in particular Part L1B (Conservation of Fuel and Power in existing Dwellings). The changes that the Government has made to the Code for Sustainable Homes and the implications are considered, and the Minimum Energy Efficiency Standard. Recent amendments to statute, including the Planning and Energy Act 2008 are outlined.

## 1.2 Approach

- 1.2.1 The Smart Systems and Heat (SSH) programme being delivered by the ESC is focused on creating future-proof and economic local heating solutions for the UK. Heat accounts for over 40% of the UK's demand for energy, and almost 20% of the UK's CO<sub>2</sub> emissions come from domestic heating. There is recognition that the vast majority of the existing 26 million homes in the UK will still be in existence by 2050. The primary focus of the programme is therefore on domestic retrofit and decentralised heat and energy solutions across different house types.
- 1.2.2 The approach taken to the preparation of this Briefing Note has involved a desk based review of available literature. It should be noted that at this stage, no consultation has been undertaken with planning officials within the GMSF planning team.

## 1.3 Structure of Briefing Note

- 1.3.1 The structure of this Note is as follows:
- Chapter 2 describes the background and context of sustainability legislation and standards with regard to energy efficiency and the built environment in recent years.
  - Chapter 3 sets out the current provisions in terms of Part L of the Building Regulations and key legislation such as the Planning and Energy Act 2008.
  - Chapter 4 presents the current best practice in terms of voluntary benchmarking schemes and approaches.
  - Chapter 5 sets out our overall conclusions.

## 2 The Legislative Context for Existing Housing Stock

### 2.1 Introduction

2.1.1 This chapter provides an overview of the legislative context for energy efficiency of existing homes in the UK. The purpose is to highlight current and recently repealed legislation and policy that provides insight into the state of energy efficiency standards of homes.

### 2.2 Residential Minimum Energy Efficiency Standards (MEES)

2.2.1 MEES and tenant rights' regulations aim to improve energy efficiency in the UK residential private rented sector, utilising the Green Deal framework and Energy Performance Certificates (EPC) ratings. The Green Deal is used to identify what improvements are reasonable and cost-effective. EPC Ratings identify which properties fall below an acceptable energy efficiency standard for letting. The final regulations were laid before Parliament in February 2015 following an industry consultation in 2014.

2.2.2 New regulations<sup>1</sup> for **domestic private rented (PR) properties** come into effect from April 2016, implementing provisions of the UK Energy Act (2011):

- Tenants will have the right to request reasonable energy efficiency improvements from landlords (and superior landlords) that are at no cost to landlord from April 2016.
- MEES come into effect in April 2018 for new leases and 2020 for existing leases. MEES require landlords of domestic PR properties with F or G Energy Performance Certificate (EPC) ratings to implement cost-effective energy efficiency improvements<sup>2</sup>.

2.2.3 MEES and tenant rights' regulations aim to improve energy efficiency in the UK residential private rented sector, utilising the Green Deal framework and Energy Performance Certificates (EPC) ratings. The Green Deal is used to identify what improvements are reasonable and cost-effective. EPC Ratings identify which properties fall below an acceptable energy efficiency standard for letting. The final regulations were laid before Parliament in February 2015 after an industry consultation in 2014.

#### Domestic Private Rented (PR) Properties

2.2.4 Energy Efficiency Regulations (2015) apply only to domestic private rented (PR) properties. Tenancies provided by social landlords<sup>3</sup>; low cost rental accommodation<sup>4</sup> provided by a registered social housing provider; and low cost home ownership accommodation<sup>5</sup> **are excluded**. All other tenancies falling into the categories below are considered domestic private rented (PR) properties:

- Assured tenancies for the purposes of the Housing Act (1988); or
- Regulated tenancies for the purposes of the Rent Act (1997); or
- Certain agricultural tenancies<sup>6</sup>.

<sup>1</sup> Energy Efficiency Regulations 2015.

<sup>2</sup> Cost-effective improvements meet the Green Deal's Golden Rule – expected savings must be greater than the cost.

<sup>3</sup> Where the landlord is a body registered as a social landlord in accordance with Chapter 1, Part 1, Housing Act 1996.

<sup>4</sup> Low cost rental accommodation defined by section 69 of the Housing and Regeneration Act 2008.

<sup>5</sup> Provided in accordance with section 69, Housing & Regeneration Act 2008.

<sup>6</sup> Assured agricultural occupancy for the purposes of section 24 of the Housing Act 1988, protected tenancy according to section 3(6) of the Rent (Agriculture) Act 1976, or a statutory tenancy according to section 4(6) of the Rent (Agriculture) Act 1976.

### Energy Performance Certificates (EPC)

2.2.5 Tenants will have a right to request energy efficiency improvements whether or not the property has an EPC rating. However, the minimum standard for letting (E) applies only to properties with an Energy Performance Certificate. The broad timelines for the introduction of these changes is set out in the table below.



### Tenants' Right to Request Reasonable Energy Efficiency Improvements Timetable and Compliance Criteria

Phase	Compliance Date	Improvements	Responses	Timing	Appeals
	<i>Date from which tenants may request</i>	<i>Measures that a tenant can request for energy efficiency improvement</i>	<i>Landlords can respond in several ways</i>	<i>Landlords must respond to requests according to a specific timetable</i>	<i>Tenant may appeal landlord decision</i>
1	1 April 2016	Measures listed on the Green Deal schedule; measures to be connected to gas network; measures that tenant has another method of funding at no cost to landlord.	<ul style="list-style-type: none"> <li>• <b>Approve</b> request</li> <li>• Make a <b>counteroffer</b></li> <li>• <b>Refuse</b> on the basis that request is not reasonable (e.g. inappropriate to the property, 3<sup>rd</sup> party consent refused, existing HHSRS order in place, property devalued by +5%, same request responded to within 6 months, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• 1 month to respond</li> <li>• Plus 3 months for a counteroffer</li> <li>• Plus 2 months for obtaining 3<sup>rd</sup> party consent</li> <li>• Plus 2 months for obtaining expert opinion</li> </ul>	Tenants may appeal to a "First-Tier Tribunal." The Tribunal can consent to the tenant request if landlord has not acted in accordance with the regulation in any part of the process.

## Minimum Energy Performance Standards Timetable and Compliance Criteria

Compliance Date	Tenancies	Extensions	Exemptions	Penalties
<i>Date by which all qualifying properties must have an E or better EPC rating</i>	<i>Tenures requiring compliance by this date</i>	<i>Landlords may be allowed a 6 month extension to comply in certain cases</i>	<i>Landlords may rent F or G rated properties in certain cases</i>	<i>Penalties are on a per property basis.</i>
1 April 2018	New tenancies to <b>new</b> tenants <b>Renewal</b> or <b>extension</b> of existing tenancies	A landlord is forced to offer a new lease involuntarily  A new landlord takes ownership of a non-compliant property	All cost-effective measures have been installed; unable to obtain Green Deal finance due to poor credit of landlord or tenant; third party consent withheld; occupying tenant refuses consent where it is required; measures are expected to cause devaluation of more than 5% to the property	Cumulative up to £5,000 for a single offense  Additional cumulative penalties up to £5,000 for non-compliance with initial penalty notice.  Additional penalties awarded when tenant changes or 2020 regulatory backstop comes into effect
1 April 2020	<b>All</b> tenancies within the domestic PRS, including existing leases	A new landlord takes over a non-compliant property		

2.2.6 The Residential Minimum Energy Efficiency Standards will drive energy efficiency in the UK residential private rented sector. This should be supportive of the policy aspirations of the ESC SSH programme and assist in the creation of consumer demand for domestic retrofit and decentralised heat and energy solutions across different house types. Landlords may seek innovative solutions that will help improve the EPC of their properties. One of the fundamental issues with the roll out of MEES will be the effective collapse of the Green Deal which is considered further in the section below.

### 2.3 The Green Deal

2.3.1 The 'Green Deal' was officially launched by the Government in January 2013 to permit loans for energy saving measures for properties in the UK following its inclusion in the Energy Act (2011).

2.3.2 The scheme means that in domestic properties, homeowners and long-term tenants employ an official Green Deal Advisor to identify energy improvement measures in their homes. Improvement measures were then to be financed through a low interest loan from the Green Deal Finance Company, which was originally in part funded by Government. Loans are repaid through energy bills of the homes where the improvements were performed and the debt is passed on to new occupants in the event that the landlord or tenant moves on. All loans apply the Green Deal's 'golden rule' that the energy savings a property makes in 25 year period must be equal to or more than the cost of implementing the changes in the first place.

2.3.3 Green Deal energy improvements included upgrades to:

- Insulation: Solid wall, cavity wall and loft insulation;
- Heating;
- Draft-proofing;
- Glazing; and

- Renewable energy generation.<sup>7</sup>

2.3.4 On the 23 July 2015 the Government announced that it would cease financing the Green Deal Finance Company citing the low take-up of the Green Deal – only some 15,000 loans were issued or in progress between January 2013 and July 2015. Although the Green Deal is still technically available through finance from Green Deal Providers<sup>8</sup> the lack of Government funding effectively renders the scheme obsolete as private finance is difficult to secure.

2.3.5 An audit of Green Deal was carried out and established that the loans were too expensive, the scheme was frequently changed and householders did not take up the finance plans at the expected rate. The scheme's failure to persuade households that energy efficiency measures were worth paying for meant it cost the taxpayer around £17,000 per loan plan, according to the report. Auditors concluded the Green Deal did not achieve value for money and delivered "negligible" carbon savings<sup>9</sup>.

## 2.4 Energy Company Obligation (ECO)

2.4.1 The Energy Company Obligation (ECO) is a Government energy efficiency scheme designed to reduce carbon emissions and tackle fuel poverty<sup>10</sup>.

2.4.2 ECO requires larger energy suppliers to deliver energy efficiency measures to UK homes as part of their carbon reduction targets. Targets for each supplier are determined by the size of their share of the domestic energy gas and electricity markets.

2.4.3 There are three main obligations under the scheme as follows:

1. **Carbon Emissions Reduction Obligation (CERO):** Under CERO, obligated suppliers must promote 'primary measures', including roof and wall insulation and connections to district heating systems.
2. **Carbon Saving Community Obligation (CSCO):** Under CSCO, obligated suppliers must promote insulation measures and connections to district heating systems in areas of low income. The CSCO target has a sub-obligation which states that at least 15% of a supplier's CSCO must be achieved by promoting measures to low income and vulnerable households in rural areas or deprived rural areas.
3. **Home Heating Cost Reduction Obligation (HHCRO):** Under HHCRO, obligated suppliers must promote measures which improve the ability of low income and vulnerable households (the 'affordable warmth group') to heat their homes. This includes actions that result in heating savings, such as the replacement or repair of a boiler<sup>11</sup>

2.4.4 ECO focuses primarily on energy efficiency improvements within housing stock where residents are at risk of fuel poverty. In addition, the scheme tends to focus on those "hard to do measures" such as large scale solid wall insulation. As a result, ECO has been widely used by social housing providers who can access a subsidy<sup>12</sup> through the scheme to improve the energy efficiency of their stock.

<sup>7</sup> UK Government (15/06/2016) Green Deal: energy saving measures for your home

<sup>8</sup> Department of Energy and Climate Change (15/06/2016) Find a Green Deal company

<sup>9</sup> Green deal scheme did not deliver energy savings, audit finds. <http://gu.com/p/4tafe/sbl>

<sup>10</sup> Ofgem (15/06/2016) About the ECO scheme

<sup>11</sup> Ofgem (15/06/2016) About the ECO scheme.

<sup>12</sup> Kate Youde (13/10/15) 'Coming to a standstill on energy efficiency', Inside Housing, (15/06/2016).



- 2.4.5 The first phase of ECO (ECO1) ran from January 2013 to March 2015 and during this period energy providers were found to have met their obligations. However, the cost of ECO for energy suppliers and the impact this was having on household bills was raised as a concern by Government who simplified some of the requirements for the second phase (ECO2) which will run until March 2017. This has resulted in a reduction in overall carbon savings that will be achieved over both phases, as suppliers are able to carry over surplus savings from ECO1 to ECO2.
- 2.4.6 The changes to ECO2 have resulted in fewer subsidies available to social landlords which combined with other budgetary pressures, has led to a decrease in energy efficiency measures beginning implemented through ECO.

## 2.5 Smart Meters

- 2.5.1 Smart meters give near real time data on energy and gas use and are thought to help users to reduce their energy consumption.
- 2.5.2 The UK Government is pursuing a supplier led roll-out of smart meters and is requiring energy companies to offer smart meter installation to all customers by 2020<sup>13</sup>. To date, smart meter installation has been slow, with the Government predicting that most smart meters will be installed between 2016 and 2020.
- 2.5.3 Some volume homebuilders have put in place agreements with energy suppliers to install smart meters as standard in all new homes.

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<sup>13</sup> UK Government (24/06/2016) 'Smart Meters: A Guide'.

## 3 The Legislative Context for new Homes and Major Residential Renovations

### 3.1 Introduction

3.1.1 This Chapter provides an overview of the legislative context for energy efficiency measures of new homes in the UK and major residential renovations which would require planning permission. The purpose is to provide insight into the state of energy efficiency standards of new developments and homes.

### 3.2 Code for Sustainable Homes

3.2.1 The Code for Sustainable Homes (CfSH) was a national standard for the sustainable design and construction of new homes in the UK<sup>14</sup>. First introduced into legislation in 2008, CfSH rates the sustainability of homes on a scale from one to six by assessing nine measures of sustainable design; energy/CO<sub>2</sub>, water, materials, surface water run-off (flooding and flood prevention) waste, pollution, health and well-being, management and ecology.

#### Energy and Carbon

3.2.2 A primary aim of the Code was to reduce the energy demands of homes and resulting carbon emissions. CfSH ensures that reductions in the carbon emissions produced in the operation of homes increase with each code level as show below in Table 2.1<sup>15</sup>.

**Table 2.1 Reduction of Carbon Emissions associated with each CfSH Level (compared to Part L 2006)**

Code Level	% reduction on target emission rate required compared to Part L 2006
Level 3	25%
Level 4	44%
Level 5	100%
Level 6	Zero Carbon

3.2.3 Changes to Part L of the Building Regulations in 2010 required all new dwellings to be built to the equivalent of code level 3 regardless of whether a CfSH level certification was sought. The 2010 policy also set out plans to increase this to the equivalent of code level 4 in 2013, however these were amended as part of the Government's Housing Standards Review which was launched in 2012.

3.2.4 This approach led to Local Authorities' 'cherry picking' aspects of the CfSH by developing local sustainability standards. This meant that the sustainability performance of homes built in different regions varied depending on the planning requirements that the respective Local Authority had put in place. This resulted in developers having to have different designs for standard housing types between different regions.

3.2.5 The combination of these impacts led the Government to launch a review of housing standards in 2012.

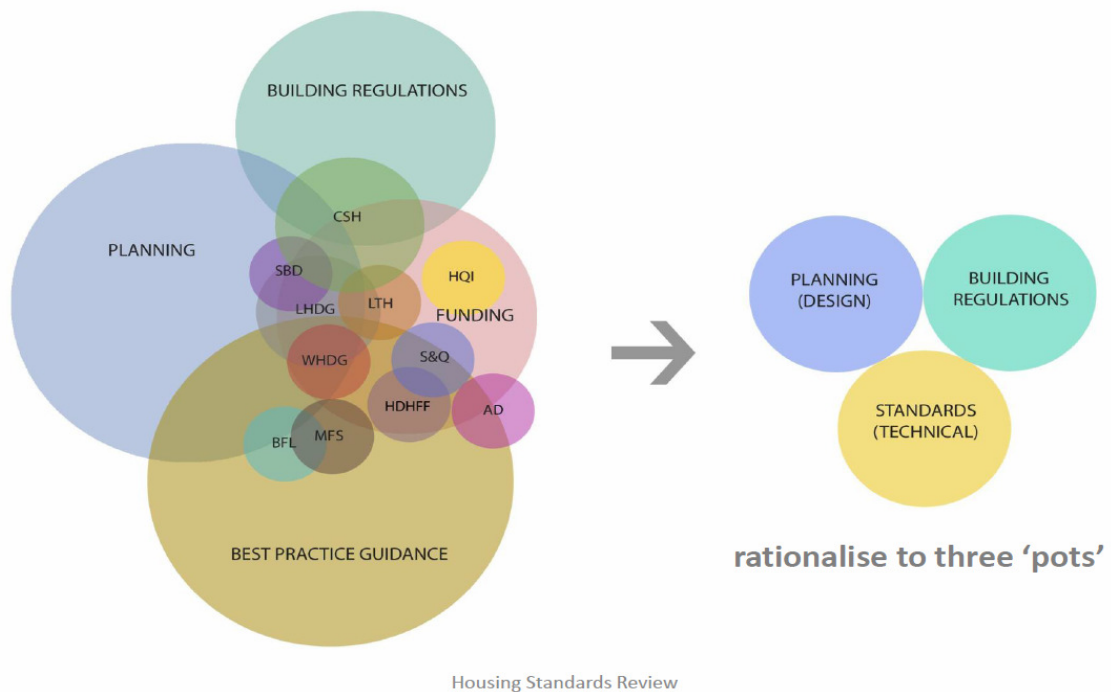
<sup>14</sup> UK Government DCLG (15/06/2016) '2010 to 2015 Government Policy: Energy Efficiency in Buildings'

<sup>15</sup> UK Government (15/06/2016) 'Cost of Building to Code for Sustainable Homes'.

### 3.3 The Housing Standards Review

3.3.1 The Housing Standards Review was completed in 2014 and passed into law in 2015. It aimed to cut ‘red tape’ in the planning system by placing restrictions on technical items that Planning Authorities could request as part of planning permissions and created national standards by incorporating some aspects into the Building Regulations. Both technical and non-technical design and building standards have been rationalised into three areas: planning, Building Regulations and technical standards.

3.3.2 Figure 2.2 below illustrates the rationalisation of design and building standards following the housing standards review:



**Figure 2.2 Housing Standards Review 2015: Rationalisation of Design and Building Standards**

3.3.3 Part of the rationalisation process included the decoupling of CfSH from legislation, meaning that planners can no longer require compliance with the Code as part of granting planning permission. Some aspects of CfSH, including energy efficiency were incorporated into the Building Regulations providing a national standard which planners and cannot require developers to exceed:

- Part L 1A. 2013 requires all new homes to be designed to reduce operational carbon emissions by 29.5% compared to Part L 2006.
- Part L 1B 2013 requires that all major renovations (more than 50% of the elements surface area or an area of over 1000m<sup>2</sup>) comply with Part L1A in so far as it is technically, functionally and economically feasible<sup>16</sup>.

<sup>16</sup> Planning Portal, (15/06/16) ‘Building Regulations 2010: Conservation of fuel and power, Part L’

3.3.4 Part L 2013 exceeds CfSH level 3 standards of energy efficiency (25% reduction in CO<sub>2</sub> compared to 2006), but does not meet CfSH level 4 (44% reduction in CO<sub>2</sub> compared to 2006) as was planned in 2010 policy on energy efficiency of homes<sup>17</sup>.

3.3.5 At the time of publication of the Housing Standards Review, Part L was to be amended in 2016 to reflect higher energy efficiency standards which would be used in combination with Allowable Solutions (renewable energy) to meet the Government's zero carbon homes target (see section 2.5). The Housing Standards Review was designed to create a 'level playing field' for energy efficiency in new homes across all regions in the UK, and prepare the sector for meeting the Government's 2016 zero carbon homes commitment which has since been abandoned.

### 3.4 End of Zero Carbon Homes and the Housing and Planning Act (2016)

3.4.1 In 2006 the then Chancellor Gordon Brown made a commitment for all new homes to be zero carbon by 2016<sup>18</sup>. Zero carbon homes were to generate enough renewable energy (originally on site) to off-set the carbon emissions produced in the operation of each home. Since then, Zero Carbon Buildings policy has formed part of successive Governments' wider strategy of achieving an 80% reduction in carbon emissions by 2050 compared to 1990 levels, as part of the Climate Change Act 2008<sup>19</sup>.

3.4.2 Following the Housing Standards Review, this commitment was to be achieved through a combination of building energy efficiency as defined by Part L 2016 and Allowable Solutions. Allowable solutions was a mechanism that would allow developers to use off-site renewable energy and carbon reduction initiatives to off-set carbon emissions, which could not be cost effectively off-set on-site<sup>20</sup>.

3.4.3 In July 2015 the Government announced that it would no longer pursue its 2016 zero carbon homes target<sup>21</sup>. This included scrapping both Allowable Solutions and the proposed increase in on-site energy efficiency through Part L in the Housing and Planning Act 2016<sup>22</sup>. As a result, planners remain unable to require on-site energy efficiency standards that exceed 2013 Part L. The Housing and Planning Act 2016 does require: "*a review of any minimum energy performance requirements approved by the Secretary of State under Building Regulations in relation to dwellings in England*"<sup>20</sup>.

3.4.4 The scrapping of Allowable Solutions means that on-site renewables and low carbon infrastructure remains the subject of planning requirements. This means that Local Planning Authorities (LPAs) continue to stipulate different low carbon strategies between developments and Local Plans, leading developers to redesign their developments according to different environmental standards from one LPA area to another. These differences are likely to be the subject of legal challenge by developers following the implementation of the Housing and Planning Act (2016), which seeks to remove all barriers to the supply of new homes.

<sup>17</sup> UK Government, DCLG, (15/06/2016) 'Cost of building to the Code for Sustainable Homes'

<sup>18</sup> Guardian, (10/07/2015) 'UK Scraps Zero Carbon Home Plan' (16/06/15).

<sup>19</sup> Zero Carbon Hub, (16/06/2016) 'Zero Carbon Policy.'

<sup>20</sup> Zero Carbon Hub, (16/06/2016) 'Allowable Solutions.'

<sup>21</sup> UK Government, Treasury (2015) 'Fixing the foundations: Creating a more prosperous nation' (16/06/16).

<sup>22</sup> UK Parliament, (2016) 'Housing and Planning Act 2016' (16/06/2016).

### 3.5 EU Energy Performance of Buildings Directive 2010 (EPBD)

3.5.1 Despite the scrapping of zero carbon homes policy in the UK, there remains in place EU legislation requiring all buildings to be nearly zero-energy by 2020. Clearly how this may change as a result of the June 2016 EU Referendum result remains to be seen.

3.5.2 Article 9 of the Energy Performance of Buildings Directive 2010 (EPBD) states that all new buildings should be nearly zero-energy by 31 December 2020<sup>23</sup>.

*“Nearly zero-energy means that a building has very high energy performance. 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<sup>23</sup>”.*

3.5.3 The Directive provides a definition of the end result, but as noted, leaves it up to Member States to decide how to adapt their domestic laws in order to achieve this goal. The Commission’s guidelines on the delivery of nearly zero-energy buildings includes a clause on cost optimality: meaning that Member States must demonstrate progress towards nearly zero-energy buildings to the point that it is economically viable. It is widely held that this dilutes the effectiveness of this legislation in the UK context, particularly as energy efficiency in new homes far exceeds those in other EU Member States.

#### Major Renovation Definition

3.5.4 In accordance with the EPBD, the definition of a ‘major renovation’ is either in terms of a percentage of the surface of the building envelope or in terms of the value of the building works. Article 1 s10 of the EPBD establishes that ‘major renovation’ means the renovation of a building where:

*“a) the total cost of the renovation relating to the building envelope or the technical building systems is higher than 25 % of the value of the building, excluding the value of the land upon which the building is situated; or*

*(b) more than 25 % of the surface of the building envelope undergoes renovation; Member States may choose to apply option (a) or (b)”.*

3.5.5 Within the UK the definition of ‘major renovation’ is set out in approved Document Part L2B Conservation of Fuel and Power as:

*“S5.7A Major renovations means the renovation of a building where more than 25% of the surface area of the building envelope undergoes renovation. When assessing whether the area proportion constitutes a major renovation of a building, the surface area of the whole of the external building envelope should be taken into account ie external walls, floor, roof, windows, doors, roof windows and rooflights”.*

3.5.6 This part of the Building Regulations historically applied only to buildings in excess of 1000 sq m but was updated in 2013 and is now applicable to all buildings above 50 sq m.

3.5.7 The implications of the Building Regulations is considered further in Chapter 4 below.

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<sup>23</sup> Zero Carbon Hub (16/06/16) ‘Zero Carbon Homes and Nearly Zero Carbon Buildings: UK Building Regulations and EU Directives’.

## 4 Building Regulation Requirements

### 4.1 Introduction

- 4.1.1 The Building Regulations are minimum set standards for design, construction and alterations to buildings to ensure the safety and health for people using the building. They also include requirements to ensure that fuel and power is conserved and facilities are provided for people, including those with disabilities, to access and move around inside a building.
- 4.1.2 The 2014 Building Regulations aim to achieve a further 6% reduction in a dwelling's carbon footprint by assessing the energy efficiency of the materials used in the build, as well as the CO<sub>2</sub> calculations.
- 4.1.3 Document L1B sets out the energy efficiency requirements in the Building Regulations. Regulation 2(1) of the Building Regulations defines the energy efficiency requirements of existing dwellings as the requirements of those in regulations 23, 28 and 40 of, and Part L of Schedule 1. These are set out below:

### 4.2 Part L1B (Conservation of Fuel and Power in existing Dwellings) of Schedule 1 to the Building Regulations 2010 (incorporating 2013 and 2016 Amendments)

- 4.2.1 The provisions are as follows:

#### Requirements for the Renovation or Replacement of Thermal Elements – Regulation 23

- (1) *“Where the renovation of an individual thermal element –*

*(a) Constitutes a major renovation; or*

*(b) Amounts to the renovation of more than 50% of the element's surface area;*

*The renovation must be carried out so as to ensure that the whole of the element complies with paragraph L1(a)(i) of Schedule 1, in so far as that is technically, functionally and economically feasible.*

- (2) *Where the whole or any part of an individual element is proposed to be replaced and the replacement –*

*(a) Constitutes a major renovation; or*

*(b) (in the case of part replacement) amounts to the replacement of more than 50% of the thermal element's surface area;*

*The whole of the thermal element must be replaced so as to ensure that it complies with paragraph L1(a)(i) of Schedule 1, in so far as that is technically, functionally and economically feasible.”*

#### Consequential Improvements to Energy Performance - Regulation 28

- (1) *“Paragraph (2) applies to an existing building with a total useful floor area over 1000 m<sup>2</sup> where the proposed building work consists of or includes –*

*(a) An extension;*

- (b) *The initial provision of any fixed building services; or*
  - (c) *An increase to the installed capacity of any fixed building services.*
- (2) *Subject to paragraph (3), where this paragraph applies, such work, if any, shall be carried out as is necessary to ensure that the building complies with the requirements of Part L of Schedule 1.*
- (3) *Nothing in paragraph (2) requires work to be carried out if it is not technically, functionally or economically feasible.”*

#### Schedule 1 – Part L (Conservation of Fuel and Power)

*“Reasonable provision shall be made for the conservation of fuel and power in buildings by:*

- (a) *Limiting heat gain and losses*
  - (i) *Through thermal elements and other parts of the building fabric; and*
  - (ii) *From pipes, ducts and vessels used by space heating, space cooling and hot water services;*
- (b) *Providing fixed building services which –*
  - (i) *Are energy efficient;*
  - (ii) *Have effective controls; and*
  - (iii) *Are commissioned by testing and adjusting as necessary to ensure they use no more fuel and power than is reasonable in the circumstances; and*

*Regulation 40 providing to the owner sufficient information about the building, the fixed building services and their maintenance requirements so that the building can be operated in such a manner as to use no more fuel and power than is reasonable in the circumstances.”*

#### Types of Work Covered and Exceptions

4.2.2 This guidance applies where the following occurs:

- The construction of an extension;
- A material change of use, or a change to the building’s energy status, including such work as loft and garage conversions;
- The provision or extension of a controlled service or controlled fitting;
- The replacement or renovation of a thermal element;
- The major renovation of a building.

4.2.3 Where building work in a dwelling is part of a mixed-use building regard should also be paid to document LB2.

4.2.4 For buildings which fall into the criteria set out below, exemption only applies to the extent that compliance with the energy efficient requirements would unacceptably alter the character or appearance of such existing dwellings:

- Listed in accordance with section 1 of the Planning (Listed Building and Conservation Areas) Act 1990;
- In a Conservation Area designated in accordance with section 69 of that Act; or
- Included in the Schedule of Monuments maintained under section 1 of the Ancient Monuments and Archaeological Areas Act 1979.

4.2.5 Other exemptions include:

- Building exclusively containing rooms for residential purposes such as nursing homes, student accommodation and similar are not classified as dwellings (document L2B should be applied).
- Carports, covered yards, covered ways and some conservatories or porches attached to existing Planning and Energy Act 2008.

### **4.3 Summary**

4.3.1 The Building Regulations will be the main mechanism for the upgrade of the energy performance of existing housing stock when undertaking major renovations.

4.3.2 Part L controls the insulation values of building elements, the allowable area of windows, doors and other openings, air permeability of the structure, the heating efficiency of boilers and the insulation and controls for heating appliances and systems together with hot water storage and lighting efficiency. It also sets out the requirements for SAP (Standard Assessment Procedure) calculations and Carbon Emission Targets for dwellings. Part L was intended as a stepping stone to Net Carbon Zero Homes to be introduced in 2016.



## 5 Voluntary Sustainability Initiatives

### 5.1 Introduction

5.1.1 This Chapter provides an overview of voluntary sustainability initiatives relevant to UK housing stock and covers:

1. Design standards;
2. Sustainability benchmarks; and
3. Research initiatives.

### 5.2 Design standards

#### Building Research Establishment's (BRE) Home Quality Mark (HQM)

5.2.1 Created in response to the scrapping of the Code for Sustainable Homes, the HQM is the BRE's new sustainable design standard for homes<sup>24</sup>. Positioned to be customer focused, the HQM provides impartial information from independent experts on a new home's quality, clearly indicating to householders the overall expected costs, health and well-being benefits, and environmental footprint associated with living in the home.

#### The Passivehaus Standard

5.2.2 The Passivehaus standard is a fabric first design standard to for low energy buildings<sup>25</sup>. Homes can be certified to the Passivehaus standard: the principle of which is to build a house that has excellent thermal performance, exceptional airtightness with mechanical ventilation.

*"A Passivhaus is a building, for which thermal comfort can be achieved solely by post-heating or post-cooling of the fresh air mass, which is required to achieve sufficient indoor air quality conditions – without the need for additional recirculation of air<sup>24</sup>."*

#### BREEAM Communities

5.2.3 'BREEAM<sup>26</sup> Communities' is a simple and flexible route to improving, measuring and certifying the sustainability of large-scale development plans<sup>27</sup>. It provides a framework to support planners, local authorities, developers and investors through the masterplanning process, before embarking on procurement, detailed building level design and construction.

5.2.4 BREEAM communities includes the requirement for an 'energy strategy' with the aim of encouraging developments that are designed to minimise operational energy demand, consumption and carbon dioxide emissions<sup>28</sup>. Energy strategies are required to use a combination of energy efficiency measures, renewable energy and low-carbon infrastructure.

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<sup>24</sup> BRE Home Quality Mark, (16/06/2016) 'What is the Home Quality Mark.'

<sup>25</sup> Passivhaus, (24/06/2016) 'The Passivhaus Standard.'

<sup>26</sup> BREEAM – Building Research Establishment Environmental Assessment Method.

<sup>27</sup> BREEAM Communities, (16/06/2016) 'BREEAM Communities Technical Standard.'

<sup>28</sup> BREEAM Communities (16/06/2016) 'BREEAM Communities Technical Manual.'

## 5.3 Sustainability Benchmarks

### NextGeneration Initiative

- 5.3.1 The NextGeneration benchmarks the largest 25 UK homebuilders<sup>29</sup> on their approach to sustainability, covering 63% of the homes built in the UK. Homebuilders are assessed against 15 aspects of economic, environmental and social sustainability and their performance is publically ranked in an annual report.
- 5.3.2 The benchmark includes criteria surround sustainability building standards, renewables and low carbon infrastructure and fabric energy efficiency of homes.

### SHIFT

- 5.3.3 SHIFT is an independent assessment and accreditation scheme that demonstrates social housing providers are delivering against challenging environmental targets<sup>30</sup>. The SHIFT assessment measures organisations against more than 50 environmental criteria, including CO<sub>2</sub> emissions, water use, landfill waste and response to climate change risks.

## 5.4 Research Initiatives

### UK Green Building Council (UKGBC) Lenders Project

- 5.4.1 UK-GBC has joined with mortgage lenders and building industry experts to launch a research project into the link between energy costs, affordability and mortgage borrowing<sup>31</sup>.
- 5.4.2 Over the next 18 months the "LENDERS" project will build the evidence base for using more accurate estimates of energy bills in mortgage affordability calculations. If successful, this could allow higher lending for more efficient properties and eventually lead to a greater link between efficiency and property value.

## 5.5 Key Observations

- 5.5.1 There are no sustainability initiatives that apply to retrofit and most of the policy is centred towards new build developments and dwellings.
- 5.5.2 There is a significant gap forming between the energy efficiency standards that are being achieved for new build development and the quality of the existing housing stock.
- 5.5.3 The failure of measures such as Green Deal highlights that there has been a lack of consumer demand for energy saving and sustainability initiatives, albeit the design and delivery of that particular scheme had particular drawbacks.

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<sup>29</sup> NextGeneration Initiative, (16/06/2016) 'Joining the Dots.'

<sup>30</sup> SHIFT, Sustainable Homes, (16/06/2016) 'What is SHIFT.'

<sup>31</sup> UKGBC, (16/06/2016) 'Lenders Project Launch.'

## 6 Conclusions

### 6.1 Conclusions

- 6.1.1 This Briefing Note has sought to set out a high level strategic overview of the national level technical housing and sustainability standards in regard to existing and new build developments.
- 6.1.2 There are no legislative requirements that promote a compulsion for the improvement of existing dwellings. The Building Regulations 2010 Part L1B (Conservation of Fuel and Power in existing Dwellings) relates to major extensions.
- 6.1.3 Residential Minimum Energy Efficiency Standards may start to see tenants demanding improvements to substandard private rental accommodation which may give rise to more innovative heat solutions.
- 6.1.4 The uptake of Green Deal failed due to a lack of consumer demand this leaves open the opportunity for another scheme which can deliver carbon reductions and energy efficiency improvements.
- 6.1.5 Carbon off-set payments from new build developments may be able to be repurposed in order to fund retrofit improvement on existing housing stock.
- 6.1.6 There are a range of voluntary sustainability initiatives that affect new developments for housing. There is a significant gap however, forming between the energy efficiency standards that are being achieved for new build development and the quality and performance of the existing housing stock in this regard. There is little relevance of these schemes to the SSH programme at present.
- 6.1.7 The inter-relationship of such standards with current energy planning and climate change policies in Manchester are considered to be minimal. The main drivers of Manchester policies on this topic will stem from the National Planning Policy Framework and related Planning Practice Guide, which are covered separately in Briefing Notes 1 and 2. Where there could be some relevance however, is:
- in terms of carbon emission reduction forecasts that could be undertaken and modelled as part of the evidence base material for the Greater Manchester Spatial Framework (GMSF) preparation. This may utilise various assumptions related in turn on volumes of new and retrofitted housing numbers (and other land use allocations) extending out to the GMSF plan end period of 2035. Dialogue would be required with the GMSF planning team to explore the basis on which their assumptions have taken into account the current and changing situation with regard to housing sustainability standards and the extent to which these have influenced projections.
  - In terms of planning policies that could be included in the GMSF in relation to carbon emission standards for both residential and commercial developments. For example the London Plan carbon emission standards are changing in Autumn 2016 as follows:
    - schemes received by the Mayor up until 30 September 2016 – 35% below Part L 2013 for both residential and commercial development.
    - schemes received by the Mayor on or after the 1st October 2016 – Zero carbon (as defined in section 5.2 of the London Housing SPG) for residential development and 35% below Part L 2013 for commercial development.

Should the GMSF contain similar type standards, they will need to be supported by a robust evidence base.

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