

Chandni Ruparelia Legal Director





# Mandated action

Paris Agreement

Climate Change Act - Net Zero 2050

#### Not sticks & stones



Buildings account for 40-50% of UK carbon dioxide emissions



Heating and hot water makes up 25% of total energy use and 15% of UK's greenhouse gas emissions



Homes – new and existing – account for 20% of GHG in the UK



Cannot meet
climate
objectives
without major
overhaul to
how we
construct and
operate
buildings

#### **Different tools**

- 2007 Code for Sustainable Homes
- 2010 EU Energy Performance of Buildings Directive – including nZEB -(implemented in UK through changes to the Buildings Regulations 2010)
- Building Regulations 2010 Part L
- 2011 EU Energy Efficiency Plan
- 2011 Energy Act introduces Green Deal
- 2012 Energy Efficiency Directive
- 2014 Heat Network (Metering and Billing Regulations)

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- 2015 MEES
- 2016 EU Commission's Energy Security Package
- European Green Deal
- Energy Performance of Buildings Directive 2010
- Zero carbon homes policy 2015 now costing occupants of new homes up to £200 a year in extra energy bills
- 2017 clean growth strategy

### UK Housing - what might effective regulation look like?

#### **CCC** – recommendations on regulation for five areas:

- Closing the 'performance gap'
- 2. Skills Gap
- 3. Retrofitting existing homes
- 4. Building new homes
- 5. Finance and funding



**Building Regulations** 

Minimum Energy Efficiency Standards

Ofgem Decarbonisation Action Plan

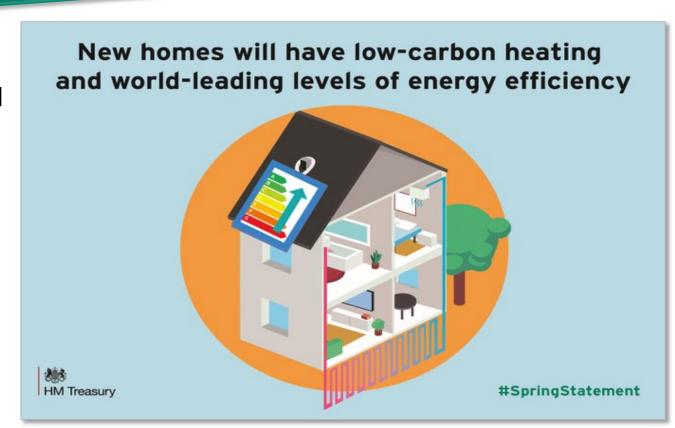
**Future Homes Standard** 

Built on sand?

#### **Future Homes Standard**

#### Very high fabric standard

- Triple glazing
- Standards for walls, floors and doors
- Full decarbonisation of building



#### **Part L Building Regulations**

#### **Options:**

- a 20% reduction in CO2 emissions over 2013 requirements, achieved through very high fabric levels of energy efficiency; triple glazing, gas-fired boiler and waste-water heat recovery (a cost uplift of £2,500 per house);
- 2) a 31% reduction in CO2 emissions over 2013 requirements, achieved through high fabric levels of energy efficiency; double glazing, gas-fired boiler, wastewater heat recovery, technologies such as photovoltaics (a cost uplift of £4,850 per house).

#### But is it a step backwards?

Removes the Fabric Energy Efficiency Standards

### UKGBC – constructing a framework to incentivise the markets

#### Steps to Achieving a Net Zero Carbon Building

#### 1. Establish Net Zero Carbon Scope\*



.1 Net zero carbon - construction



Net zero carbon - operational energy



#### 2. Reduce Construction Impacts



2.1 A whole life carbon assessment should be undertaken and disclosed for all construction projects to drive carbon reductions



2.2 The embodied carbon impacts from the product and construction stages should be measured and offset at practical completion

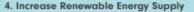
#### 3. Reduce Operational Energy Use



 Reductions in energy demand and consumption should be prioritised over all other measures.



 In-use energy consumption should be calculated and publicly disclosed on an annual basis.

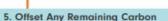




 On-site renewable energy source should be prioritised



4.2 Off-site renewables should demonstrate additionality

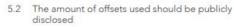




5.1 Any remaining carbon should be offset using a



recognised offsetting framework



- New buildings and major refurbishments targeting net zero carbon for construction should be designed to achieve net zero carbon for operational energy by considering these principles.
- Please also note, a further scope for net zero whole life carbon (1.3) will be developed in the future.

## Any questions?



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