

- 300,000 homes required
- Net Zero-Carbon commitment by 2035
- Climate Resilience
- Best whole life solution
- Social tenants move out of fuel poverty

Need

The government has set an ambitious target for 300,000 plus new homes each year to address the housing shortage. Alongside this they have committed the UK to achieving net zero carbon by 2035, earlier than the previous 2050 date.

In 2018 just 1% of new homes achieved an EPC band A rating according to the Committee on Climate Change. If we are to meet our commitment and to also avoid the cost and disruption of upgrading new homes to zero energy we must start building differently now.

Solution

Design, material selection and construction methods all have a huge part to play as we re-think the way we build and use our homes, not only in response to legislation but also in response to owners and residents who are searching for greener more efficient places to live.

The approach commences at conception where critical decisions on

layout and building fabric are made. A passive design exploits 'natural' sources of heating, cooling, and ventilation to create comfortable conditions inside. This may be through orientation of the building, material selection, and design.

By adding heat recovery, solar systems and ground source heat pumps a hybrid system is developed. The aim is to deliver a home which is climate resilient for the next 50 to 100 years and balances capital and running costs to give a whole life considered solution.

The use of Modern Methods of Construction is an essential element during passive design. New housing solutions are exploiting the strength and thermal properties of timber and its sustainable credentials to create code compliant homes which are exciting to live in.

This is possible on a mass scale through products, such as Innovaré's recyclable i-SiP and i-FAST structurally insulated panels. Factory manufacturing reduces waste, improves quality assurance, and the Innovaré product is fully configurable, cost efficient and quick to erect.

From 2005 -11 Osborne funded a

Demonstration House at the Building Research Establishment using Innovare i-SIP. Since that time we have gone on to deliver many sustainable homes with more recent examples that include:

- 46 homes for Origin Housing achieving Code for Sustainable Homes (CfSH) Level 4 with heat recovery ventilation system, rooftop solar PV's, low energy fittings, low flow taps and low flush WC's.
- 38 homes in Horsham used i-SIP for excellent thermal performance and air tightness to CfSH Code 4 and 5.
- 124 affordable units at Wardalls Grove, Lewisham used i-SIP to CfSH Level 4.
- 55 units for social rent by Redbrick Estates - we switched to i-SIP saving 36 weeks and reducing carbon.
- 64 new homes in Brighton using i-FAST and ground source heating.

Outcome

Many developers and local authorities are on the journey to net-zero carbon homes and some are not. The selection of the building fabric combined with low carbon heat sources will achieve early wins towards fully climate resilient homes.