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‘Too many empty homes, too many homeless’ – A novel design and procurement framework for transforming empty homes through sustainable solutions

Boris Ceranic^{a*}, Graham Markwell^a, Angela Dean^a

^a University of Derby, Markeaton Street, Derby DE22 3AW, UK

Abstract

The Retro-Tek research project investigates the potential of existing buildings in the UK contributing towards the EU 2050 CO2 target, through a sustainable retrofit programme aimed specifically at empty homes. It proposes a novel design and procurement methodology to bring empty homes back into use, integrate sustainable technologies and materials and offer them back to the market. Along with the obvious environmental sustainability benefits, it also assists communities and areas in need of regeneration, supporting the developments to both help address housing shortages and tackle socio-economic problems with empty, dilapidated dwellings. The project has formed a consortium of stakeholders and established unique design and procurement processes and methodologies relevant to the sustainable retrofit process. Their viability was tested via undertaking two case studies of representative empty homes, establishing results within a measurable data format. The research further developed a commercial output model based on financing, procurement, the supply chain and the project management process and is currently applying for funding to launch a major scheme of bringing 1000 empty homes back in use by 2020.

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Keywords: Empty Homes; Sustainable Refurbishment; Design; Procurement; Regeneration

Nomenclature

A	Retro-Tek PDMB	Retro-Tek <i>procure-design-manage-build</i> system.
B	Retro-Tek UpS	Retro-Tek up skilling training programme

* Corresponding author. Tel.: +44-1332-593-136

E-mail address: b.ceranic@derby.ac.uk

1. Introduction

The research explores an opportunity for a reduction in energy usage within existing buildings in the UK through a retrofit programme targeted specifically at empty homes. According to the Guardian [1] there are more than 11 million homes laying empty across Europe, enough to shelter the homeless population twice over. In the UK, the latest statistics by the Department for Communities and Local Government (DCLG) show that for England alone there are over 600,000 empty homes, equating to almost 10 homes per each homeless family in the country, [2]. Regionally the East Midlands have nearly 56,000 empty homes (see Fig. 1). Research also shows a strong correlation between concentration of empty properties and areas with higher levels of multiple deprivation [3]. These areas tend to exhibit a myriad of underlying socio-economic issues such as; a decline in the economic attractiveness of an area for the investment, higher than average long-term unemployment, concentration of low income families, high social benefit dependency, above average crime rates, poor health status, below average educational attainment, reduced demand for workers, skills mismatch, fuel poverty, community breakdown, lack of participation in civic life and a poorer quality of mainstream public services, all warning signs indicating areas in urgent need of regeneration; empty homes being a most clear symptom of all.

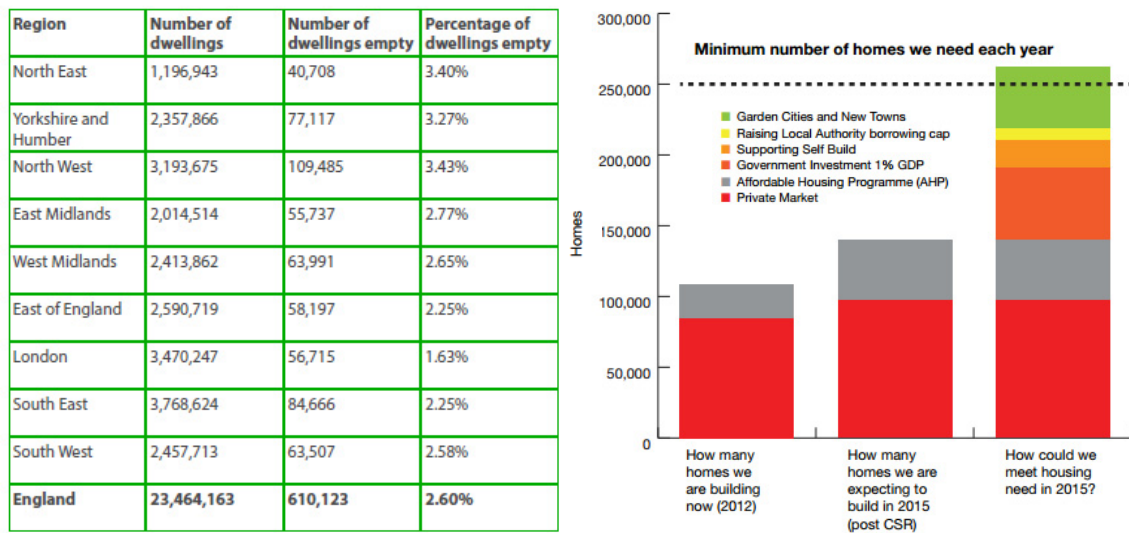


Fig. 1. (a) Number and percentage of dwellings empty by region [2]; (b) How do we build 250,000 homes we need each year? [3]

For the housing market to operate it needs to have some empty properties. Often referred to as voids, they could be empty as they are awaiting sale, expecting new owners and tenants to move in or being renovated in preparation for the market. Hence, in reality they are only problematic when they have been empty long term (defined as been vacant for over six months). The figures for long term empty homes in England vary from year to year, but the conservative estimate is around 206,000 in England alone [4]. Some of the key reasons are new owners being unsure whether to sell, rent or move in, landlords and owners being unable to afford renovation of a property due to the pressures of other commitments or financial limitations and owners of a property anticipating a rise in the market value and are therefore unwilling to sell, often referred to as ‘buy-to-leave’ [2].

Stimulated by steady economic growth, a fall in the supply of new homes, cheap credit and a rising population, Britain saw its third property bubble in the 2000s. During this period, house prices more than doubled and was only brought to an end by the global financial crash in 2007. The global recession caused peacetime house building levels to fall to its lowest level for around 80 years. Currently, as of March 2016, house prices in England are rising sharply and averaging circa £300,000, [5]. This rise in property value is set to continue, as “each year we build 100,000 fewer homes than we need” [6].

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