



Is added sustainability equal to added value?

Lucelia Rodrigues^{a,*}, Tim Garratt^b, Nick Ebbs^c

^a Department of Architecture and Built Environment, University of Nottingham, Room B49, Lenton Firs, University Park, Nottingham NG7 2RD, UK

^b Innes England, NG2 Business Park, Nottingham NG2 1AE, UK

^c Blueprint, 50 St Mary's Gate, Lace Market, Nottingham NG1 1QA, UK

ARTICLE INFO

Article history:

Available online 6 April 2012

Keywords:

Sustainable buildings
Sustainable housing
Energy efficient buildings
Low-energy dwellings
Property market value
Sustainability property index

ABSTRACT

Buildings are the most important economical sector in the world but also the major contributors of environmental damage, from the sourcing of raw materials through to the energy used for their functioning and to the disposal of their elements once their life cycle comes to an end. Almost half of the UK's carbon emissions come from the use of buildings and houses alone account for more than 30% of all primary energy demand. In an attempt to reduce this impact, the British Government is pushing towards the development of energy efficient and zero carbon buildings, both in new construction and in the existing stock.

But how is the market receiving such buildings? Are energy efficient buildings gaining a competitive advantage in the current marketplace? In some countries such as The Netherlands, energy efficient houses reach values 2.8% higher on average than normal houses. In the UK the Sustainability Property Index (ISPI) reveals that, for the properties examined in 2010, regular properties delivered a cumulative total return of –10.8%, compared with –14.9% for more energy efficient ones. This is bad news considering the higher capital investment usually needed to achieve zero carbon buildings.

The current reality in the UK market seems to be that people may not (yet) be willing to pay more rent for energy efficient buildings. As rent and capital value are inexorably linked, whether or not a building is zero carbon does not yet seem to be affecting property value. This paper does not present definitive answers but discusses possible reasons for that through two case studies and their positions in the marketplace, and suggests that the situation may change as energy prices increase and buildings acquire a potential 'earning capacity' through the use of renewable energy technologies and feed-in tariffs. The introduction of Energy Performance Certificates has also started to impact on the market. Could energy efficient buildings become a property sector in their own right in the near future, with premium priced accordingly? Or is simply that we do not yet have an ability to identify from the data whether the market is differentiating?

© 2012 Elsevier Ltd. All rights reserved.

1. Introduction

Buildings are not just the major economical sector in the world but also the shaper of citizen's lives and the soul of civilisation. On the other hand they are major contributors of environmental damage, from the sourcing of raw materials through the energy used for their functioning and to the disposal of their elements once their life cycle come to an end. Almost half of the UK's carbon emissions come from the use of buildings, and houses alone account for more than 30% of all primary energy demand [1,2].

The years 2008 and 2009 were unusual for the British economy as it faced the effects of the credit crunch. Property prices have fallen generally. This masks an underlying problem in the long term

housing supply which has not met its demand for many years. As a consequence, the government is committed to increase the rate of house-building by a new target of 240,000 additional homes a year to complete 2 million by 2016 [3,4]. The commercial market faces similar challenges; the transactional market has seen a significant decrease in the number of deals completed (Fig. 1). Finance has been difficult to obtain and as a result of the lack of liquidity, prices have fallen. There has been a general lack of confidence in the market; speculative building has all but stopped.

Simultaneously, an ambitious target has been set for all new houses to meet net carbon dioxide emissions (zero carbon) from 2016 and energy efficient ratings have been set for commercial buildings in an attempt to tackle climate change and meet the targets set by the Kyoto Protocol that came into force in 2005 [6]. In support of these targets, the government has promoted the implementation of building standards such as Building Research Establishment Environmental Assessment Method

* Corresponding author. Tel.: +44 (0) 11595 13167 (O).

E-mail addresses: Lucelia.Rodrigues@nottingham.ac.uk (L. Rodrigues), tgarratt@innes-england.com (T. Garratt), nick.ebbs@igloo.uk.net (N. Ebbs).

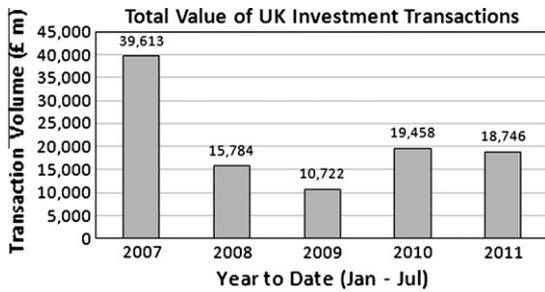


Fig. 1. The total value of UK investment transactions [5].

(BREEAM) or its domestic version, the Code for Sustainable Homes (CfSH). BREEAM sets the standard for best practice in sustainable building design, construction and operation and is voluntary for offices but compulsory for a number of others including domestic buildings.

In the commercial market the Energy Performance Certificate (EPC) was introduced in January 2009. It became compulsory to obtain a commercial EPC certificate for any property placed on the market for sale, let or lease. Alongside the EPC sits BREEAM, which was launched in 1990 as an environmental assessment method and certification scheme that can be used at the design, construction, and refurbishment stages of a building's lifecycle, drawing on a wide range of benchmarks. These include energy and water use, the internal environment (health and well-being), pollution, transport, materials, waste, ecology and management processes. BREEAM ratings range from 'outstanding' to 'pass' [7]. It is the most widely used environmental assessment method for building in the world [8]. In the UK, all new builds on the Government Estate and healthcare have to achieve a minimum BREEAM rating of Excellent and all major refurbishments have to achieve a minimum BREEAM rating of 'very good'. New build and refurbishments in the education sector have to achieve 'very good'.

The CfSH was launched in December 2006, made available in April 2007 and became a mandatory rating in April 2008. It was made mandatory to stimulate consumer choices and it replaced all other ratings including the EcoHome.¹ All houses funded by the government or its agencies such as the Housing Corporation and the English Partnerships also need to meet the CfSH. Regulations propose that those selling new homes will be required to provide information (a CfSH Certificate) to any buyer on the sustainability of the home [9]. The code is a measure of the sustainability of a dwelling throughout its life [10].

Despite the recession, research published suggests that there is an emerging and increasing demand for energy efficient offices in the UK, although other factors such as location, price and availability of stock are still more important in determining the final choice [11].

General media also shows a trend towards energy efficient buildings. Articles outline the increasing importance of an environmentally responsible approach [12], viz. "property developers and investors could be losing out to the competition and putting themselves at risk of incurring additional costs by not becoming more sustainable" [13]. The results of a survey suggest that 52% of small and medium sized property firms believe they are risks to their business related to higher operational costs, extra charges and taxes and falling behind competitors if they do not become more sustainable. Reporters suggest that by installing energy efficient features in your house you will "not only be doing your bit for the planet, you will be doing yourself a favour too", estimating that an average household could be saving up to £2000 per year [14]. A

lot of those savings may be due to schemes such as the feed-in tariff which are financial incentives from the government to promote the implementation of renewable energy. The same article suggests that, in the words of Alexander Creed, head of energy at Strutt & Parker estate agency, "at the moment there is no clearly identifiable value to adding solar panels but we are already seeing them make a big difference in Energy Performance Certificates and housebuyers are taking far more notice of EPC's. As energy bills go up, in the long term, homes that already have panels will be increasingly in demand".

So how is the property market receiving these properties? Are energy efficient buildings gaining a competitive advantage in the current marketplace? Does property value increase as a direct result of an improved building performance in terms of energy efficiency? Is there a difference between residential and commercial buildings?

This article discusses these issues with a focus on market acceptability using as vehicles two case studies, one commercial (No. 1 Science Park) and one residential (The Green Street). The article does not propose to develop a new methodology to measure the sustainability of buildings but rather aims to demonstrate that there is a gap to be considered by all the involved parts, from the developers to the building users, and policy makers, aiming also to encourage discussion and hoping to cause change.

Both adopted case studies have been developed by Blueprint to achieve high levels of energy efficiency and sustainability. Blueprint is a public/private partnership set up to tackle the more complex regeneration projects in the East Midlands. It effectively operates as a developer and funder that specialises in regeneration and economic development but different and distinctive since it operates under a unique sustainable investment policy. Blueprint activities focus on four principle themes: regeneration, environmental sustainability, design, and health, happiness and well-being.

2. The value of energy efficient buildings

Measuring the value of a property is, according to property Valuers, an art and not a science. The Royal Institution of Chartered Surveyors (RICS) define market value – "the estimated amount for which a property should exchange on the date of valuation between a willing buyer and a willing seller in an arm's-length transaction after proper marketing wherein the parties had acted knowledgeably, prudently and without compulsion" [15].

Valuing properties involve expressing an opinion, an *estimate*; the only way a true value can be established is by a sale – a willing buyer, a willing seller, perfect knowledge (proper marketing) and no compulsion. The sale should then be reported to ensure some transparency in the sector but the reporting tends to be limited to some basic data such as location, size and price.

Analysing this data has some inherent faults because some is based on 'valuations', others on 'deals'. Neither is infallible and the market is far from having a perfect valuing system. In addition, it is rare for two properties to be identical. Accurately measuring it and thus deriving a clear picture is virtually impossible. Fundamentally a Valuer will prefer to use the 'sales comparison' method to value rather than by reference to costs as this is based on market transactions.

If valuing 'common' properties is a complex job, valuing energy efficient buildings is an extremely delicate issue due to multifaceted nature of the projects and the lack of experience in the market. It is only since 2007 that the Investment Property Databank has started to produce a UK Sustainability Property Index (UKSPI). Because the index is so new it has a limited pedigree. It is, however, highly respected in the sector.

The UKSPI involves a sample set of 978 properties with a combined value of £17.5bn. It aims to measure their performance quarterly. The

¹ The EcoHome rating system is still valid for Scotland and Ireland.

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات