

Making Money from Sustainable Homes: A Developer's Guide

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Foreword

Setting the business case for environmentally and socially sustainable housing is crucial in enabling the Construction Industry to contribute effectively to finding solutions to global problems such as climate change and to put the UK industry at the forefront of sustainable design.

As sustainability enters mainstream idiom we must be able to meet the challenge of supplying homes which are not only economically viable but which are also desirable, encourage a sense of community and use natural resources efficiently.

This guide provides residential developers with an overview of business benefits and opportunities that thorough consideration and implementation of sustainability can attain. It also illustrates that this approach can contribute to long term commercial success.

I am delighted to be able to give this CIOB publication my full support.

By Nick Raynsford



Introduction

Is there a link between environmental performance and unit value? How can developers address increasing sustainability legislation cost-effectively? What is the future market likely to be for low-energy housing?

In answer to these questions and more, this guide presents seven major areas of potential business benefit to adopting sustainable design and construction processes in the housing sector, illustrating that an integrated approach to sustainability has the potential to save money and increase profit margins.

Various case studies illustrate that a growing number of developers are making a commercial strategic decision to improve the environmental and social performance of their schemes. These companies are forerunners to what is likely to become standard practice over the next 5-10 years, and because of their commercial foresight, stand to make more money out of their robust, successful businesses.

The costing process diagram below is a simplified representation of the factors that a developer considers when reviewing the viability of a potential development. Each section of this guide highlights the potential business benefits of building sustainable homes related to each of these factors at various stages of the development process.

Case Study: Abode, New Hall, Harlow; Countryside Properties

This development of 82 houses and apartments on a greenfield site in Essex is the second phase of the redevelopment of New Hall village. The Moen Brothers, whose family owns the land, specifically chose Countryside Properties and Proctor & Matthews Architects for this phase due to the quality of design and sustainability credentials of their proposals.



Reduced land prices

Traditional and industrial landowners represent a very significant proportion of land value across the UK and can consider social, political and ideological factors in addition to economic value when selling or developing land.

Traditional Landowners include the Church, the National Trust and traditional estates such as the Crown Estate who are likely to have longer term development goals.

Industrial landowners include farmers, extractive industries and public authorities. Local councils, Regional Development Agencies or English Partnerships may not be seeking to maximise returns on their land due to consideration of development policy targets. These bodies increasingly look favourably on developers who have a track record of delivering sustainability. For example, where the land is council owned and where the developer exhibits good sustainability credentials, there can be a willingness to reduce the sale price. There are now several examples where local councils have accepted lower land bids from proposals with good sustainability credentials that are in-line with long term council policies.

Sustainable proposals can therefore not only provide the opportunity to purchase land at lower cost (reducing residual land value), but may also represent a pre-requisite for involvement in the development process, providing increased development opportunities.

Case Study: Little Alex, Hulme; R.gen

R.gen bought the site for their Little Alex development in Hulme from Manchester Council. The high sustainability credentials of their proposals were sympathetically received by the council, as they were in line with council policies, and a lower bid for the site was accepted.



Cost-effective planning approvals

The Planning & Compulsory Purchase Act 2004 requires all planning applications to be more front-loaded with emphasis on the need for pre-application consultation and detailed information. This includes reports on design, sustainability, ecological impact, flood risk, transport and contamination.

Many councils and regional bodies now require an on-site renewable energy contribution for all large commercial developments. For example, the Mayor of London's Energy Strategy¹ requires all new large developments referred to the Greater London Authority to provide a 10% energy contribution from on-site renewable energy, increasing to 20% in early 2008.

A developer and its team must have up-to-date skills as well as detailed sustainability knowledge. It must also be able to communicate these credentials to the local council or Regional Development Agency effectively. There are many guidance documents available to help with this process, ranging from renewable energy toolkits² to sustainability checklists. A developer must employ a team of consultants who are able to review the myriad of options available from an economic, social and environmental perspective.

Cost decisions regarding sustainability must also be made, all of which require knowledge of how to address sustainability at an early stage in the development process. An awareness of which environmental technologies attract government or EU grant funding is also crucial to achieve the most cost-effective solution. Unless integrated early and comprehensively, sustainability requirements can result in the need for significant design alterations further down the line.

If a developer's land acquisition team has foreseen impending requirements, costs can be accounted for within the residual land value and initial costings. It is therefore even more important that a developer understands the cost and design implications of technologies such as renewable energy or sustainable drainage to ensure profits are maintained while complying with council planning conditions and optimising the potential value of the development.

Case Study: Greenwich Millennium Village, London; Taylor Woodrow
& Countryside Properties

This development had a planning requirement for a reduction in construction waste of 50% over standard practice. Design and construction initiatives such as workshops to promote waste reduction strategy and using prefabricated elements to reduce potential waste were introduced to meet this requirement and also saved a total of £150,000 for Phases 1 & 2.



Greenwich Millennium village

Reduced construction costs

Opportunities for significant financial savings arise from a focus on sustainability during the construction process. Every year in the UK, 10 million tonnes of waste are delivered to construction sites and taken away to landfill without being used. At the same time, landfill tax will continue to increase £3 per year to £36 per tonne in 2010, with likely further increases after this.

Recent research has shown that in the UK at least £150 million can be saved purely through investing in better waste management³, using on-site recycling via management tools such as the BRE's SMARTwaste or the National Green Specification's WasteCost Calculator. Developers and contractors should discuss the potential for cost savings regarding waste recycling and reducing material consumption on each project. A developer should review a contractor's experience with these management systems as part of the tender process in order to realise the most cost savings.

Environmentally sound materials which are less processed or come from reclaimed or renewable sources will become more attractive relative to high-impact materials such as steel and concrete. This is due to increased global construction activity and rising oil prices, while economies of scale not previously present will enhance these differences. Already, the price of timber has reduced significantly over the last eight years compared to other materials.

The ever-increasing costs of materials will begin to make off-site construction and other types of efficient construction techniques even more attractive over the coming years. Several private residential developers, such as the Grainger Trust and Urban Splash, are trialling off-site construction techniques to minimise exposure to material price fluctuations and to take advantage of a range of other benefits including: reduced programme times, improved health and safety, protection against skills shortages, reduced petrol and transport costs, protection against impacts of seasonal weather, and ease of compliance with Part L/E Building Regulations.

Case Study: The Milliners, Forest Row, Sussex; Douch Partners Ltd

The Milliners is a residential development of four units featuring bespoke renewable energy and monitoring systems. Although this development cost more to construct than a standard solution, the developer Douch Partners Ltd feels that the experience gained from this project has put the company ahead of the game, ready to address expanding markets and changing legislation more effectively than other developers.



Anticipate pending legislation

It is essential that developers are aware of long-term environmental legislation changes. 50% of the UK's CO2 emissions are a result of our occupation of buildings, and a further 10% are emitted in the production of construction materials. The Government is consequently targeting the construction industry with high levels of new legislation to ensure that the UK hits its global warming emissions reduction targets.

Construction legislation now explicitly addresses sustainability issues and now focuses on overall performance based targets, such as carbon emissions. Those development teams with the most extensive and practical knowledge on issues such as energy and water consumption will be able to meet requirements most cost-effectively.

The following list highlights various pieces of legislation designed to encourage the development of a market for more sustainable housing:

Building Regulations: Part L Conservation of Fuel and Power now focuses on carbon emissions rather than energy consumption – further revisions in 2010 will likely encourage the use of renewable and low-carbon technologies to a greater extent and help the construction industry contribute towards the UK's global warming emission targets.

The Code for Sustainable Building requires minimum standards for energy, water, ecology, transport, health and well-being, materials and pollution on all government-funded schemes.

The Sustainable and Secure Buildings Bill (2005) allows building regulations to explicitly address sustainability issues.

The Climate Change and Sustainable Energy Bill, if adopted, will introduce incentives for developers to provide on-site renewables and will provide stable market conditions that will give home owners real financial returns when buying a house with integral renewable energy.

The Hampton Review recommendations will result in reduced paperwork for developers that have a history of good performance and increased requirements and penalties for those that do not.

Future possible incentives being presently considered by the UK Government include reduced stamp duty or VAT on homes that achieve sufficiently high environmental credentials.

Case Study: Marshalls Mill, Leeds; Igloo within Holbeck Urban Village;
Igloo Regeneration Fund

Igloo's Marshall's Mill development has been assessed against its policy on Socially Responsible Investment (download available from www.igloo.uk.net) which requires that the scheme achieves a rigorous set of environmental targets for energy, resource use and transport (together with related targets on social regeneration and urban design) to become an exemplar for private sustainable urban development.



Igloo Regeneration

Access to investment capital

Socially Responsible Investment (SRI) is one of the fastest growing sectors in the finance industry. Investors now review many types of risk which can be directly related to environmental and sustainability issues. Investment funds focusing on the sustainable homes sector, such as Morley Fund Management's Igloo Regeneration Partnership, against a backdrop of research which shows potential outperformance, increased liquidity and reduced risk for well designed, environmentally sustainable, regeneration projects⁴. Recent research has shown that sustainability performance can be directly correlated to the factors used by investors to value house-builders⁵.

As of April 2006, the EU Accounts Modernisation Directive requires all large companies to relate sustainability directly to financial performance in a manner accessible to investors (such as annual reports). To take advantage of this emerging investment trend, developers are well advised to use the wide range of tools available to carry out this practice.

The level of detailed information required by providers of finance varies, but all require convincing evidence of the ability of the developer, and the soundness of the preparation and appraisal of a scheme⁵ which, now more than ever, includes a review of environmental and social factors.

The insurance sector also has a large financial incentive to ensure that the construction industry reduces CO2 emissions and builds houses with sufficient protection against impending extreme weather events related to climate change. Claims arising from storm and flood damage in the UK have doubled to over £6 billion over the last five years. The costs of flooding alone in the UK are likely to increase 15-fold by the 2080s due to increased extreme storms, not even accounting for the inevitable huge cost of further floodplain development⁶.

The Association of British Insurers (ABI) has therefore called for contractors to improve building standards to stop climate change from pushing up insurance costs.

Case Study: Caterham Barracks, Surrey; Linden Homes

In 1998, Linden Homes bought Caterham Barracks for residential re-development, but the site only had planning permission for 16 additional houses. Through liaising with over 1,000 local people via a 'Planning Weekend', Linden Homes gained a better understanding of what additional uses were most needed and wanted in the area and incorporated amenities such as a new hopper bus service and community centre. This allowed them to incorporate significant additional units on site with full support of the local council and community. The development also gained much local and national PR, attracting visits from Prince Charles and HRH Duke of Edinburgh.



Improved brand and reputation

Addressing sustainability can significantly enhance reputation. In the USA, a RICS survey of professionals involved in green buildings found that their reputations improved due to associated wide and favourable publicity in the media, business and the community and with accreditation bodies⁵.

At the other end of the spectrum, the risk of not complying with environmental best practice can have a major detrimental impact on reputation, which can be difficult to recover from. Various construction projects have hit the headlines over the last few years with regard to sourcing timber from unsustainable forests. This, plus other factors such as failure to consider the future performance of a development with respect to increased flood risk, higher temperatures and wind damage represents a further threat to reputation.

Reputation also affects a company's ability to attract the best employees. A recent survey found that 86% of people feel it is important to have a socially and environmentally responsible employer. Employees can be powerful advocates; reputation can have a real effect on staff motivation and how they speak about and represent the company.

A reputation for building sustainable housing will not only help address future market changes, but can also improve relationships with landowners, local communities and authorities.

Case Study: The Wintles, Shropshire; Living Villages

Although some specific features increased the cost of construction, the units within this high-end rural development were able to fetch prices equivalent to larger houses in the locale by marketing the environmental and social sustainability aspects of the development. This allowed Living Villages to build a higher number of units on the site, increasing the overall value of the development by an estimated 30-35%.



Emerging market demand

The environmental housing market is presently niche, but growing at a significant rate. Energy prices and energy security issues are likely to change the housing market significantly over the next 5-10 years. Developers should regularly review energy and material price trends and appraise how these will impact on their organisations and the housing market in general.

There already exists an international market for high-end sustainable properties with several specialist agencies, particularly in the US and Canada. In the UK, specialised developers such as South West EcoHomes and Living Villages have built successful and sustainable rural housing developments, while regeneration specialists such as R.gen and Urban Splash are building green homes for a younger urban market. In addition, the UK's first estate agent specialising in eco-housing, Green Moves, launched in early 2005.

It is important to ensure that marketing agents employed for a development are knowledgeable regarding green features and their potential impact on value. Estate agents tend to undervalue the benefit of energy efficiency and other green features – it is wise to review other such schemes around the country to be able to reflect their real value in terms of unit sales prices.

To take best advantage, developers must be imaginative when looking at environmental initiatives and compare different environmental impacts using ecological footprinting or other quantitative analysis techniques to accurately gauge their worth, both in terms of market value and environmental benefit.

Most importantly, a continued increase in energy prices is very likely to become a powerful and accepted argument for purchasing or renting an energy efficient home. The price of domestic energy in the UK increased by an average of 12% in 2004, 14% in 2005 and a further 25% in 2006. A forward thinking developer should be aware of these issues and keep an eye on how they are likely to affect the market over the coming years.

Web resources

www.breeam.org/ecohomes.html	Details of EcoHomes and how to get an assessment
www.carboncoach.com	Guru for company CEOs, who want to practice what their company environmental policies preach
www.constructionresources.com	Eco-material exhibition centre and builder's merchant
www.greenconstruction.co.uk	Sign up for monthly e-mails collating press stories on sustainable design & construction
www.greenhomesforsale.com	International US based estate agent specialising in sustainable housing
www.greenmoves.co.uk	UK based estate agent specialising in eco-housing
www.greenspec.co.uk	Information resource on sustainable design and construction
www.igloo.uk.net	The UK's first SRI property investment fund
www.london.gov.uk/gla/publications/environment.jsp	GLA environmental publications website (including renewable energy toolkit)
www.lowcarbonbuildings.org.uk	Government renewable energy grant website
www.sustainability-checklist.co.uk	SEEDA Sustainability Checklist for Developments.
www.sustainable-construction.org.uk	DTI funded website for developers and planners giving advice on sustainability
www.sustainmagazine.com	Sustain magazine – dedicated to sustainable development within the construction sector

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- 3 **Tait, P.D. & Swaffield, L.M. (2003)** Construction site waste – The real costs and benefits available from waste reduction
- 4 www.englishpartnerships.co.uk/publications#research
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- 6 **Cadman D & Topping R. (1995)** Property Development (4th Ed) Spon Press
- 7 **ABI (June 2004)** A Changing Climate for Insurance www.abi.org.uk/Display/File/Child/239/climatechange2004.pdf
- 8 **RICS (2005)** Green Value: Green Buildings, Growing assets
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www.constructorscompany.co.uk

Elliot Carter leads the environmental division of PDM Consultants. He is currently a lecturer and steering group member for the Green Register of Construction Professionals, a member of the Construction Industry Council's (CIC) Sustainable Development Committee and a Yeoman of the WCOC. In 2005, he was awarded the 2005 WCOC Happold Trust Scholarship for research into sustainable construction.

To order a copy of the full paper "A Review of the Business Case for Sustainable Design & Construction within the Residential Sector" on which this guide is based, contact the author at e.carter@pdmconsultants.co.uk.

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