Financing and valuing sustainable property: we need to talk

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Sixty second summary

Is a sustainable building worth more than a comparable standard one? While discussions about sustainable buildings have often been seen as the province of engineers and scientists, there is an increasing realisation that the financing, development and valuation of buildings can be a key driver for the creation of a market for sustainable buildings. This was the issue addressed at a special RICS-sponsored event organised by Richard Lorch, Thomas Lützkendorf and David Lorenz, as part of the Rethinking Sustainable Construction 2006 conference held in Sarasota, USA. Here, they report on the key findings of the event.

To accelerate the creation of sustainable buildings and to transform markets, there is a need to determine, demonstrate and calibrate how sustainable buildings actually add value, to ensure that value is captured within the development process, and to ensure that fiscal incentives are provided where needed. Evidence on the economic advantages of sustainable property investments is needed to persuade business practices, to inform the public debate and to transform the markets for sustainable buildings. It is now becoming clear that the active contribution of those involved in property decisions (property valuation, finance, banking and insurance industries, REITs, owners, etc) is necessary to accelerate the widespread creation and take-up of sustainable buildings.

Although progress has been made in the development of design strategies and the technical development of building products, materials and construction techniques, this largely technocratic approach is, on its own, not enough to bring about the necessary change. What is needed is to encourage dialogue and learning between the construction community and practitioners and researchers from the property, finance, insurance and banking industries.

To underpin effective market transformation, research is needed. Key areas of research include:

- a more detailed investigation of the relationships between technical, functional, environmental and social building performance on the one hand and economic effects on the other
- the implications of how buildings and building stocks (particularly modernisation activities) could be integrated into the next generation of carbon credit trading schemes
- the relationship between labels and tools from the sustainable building community and the tools used by banks, property professionals and financial analysts. How can these different tools interact and complement one another?

Introduction

Is a sustainable building worth more than a comparable standard one? While discussions about sustainable buildings have often been seen as the province of engineers and scientists, there is an increasing realisation that the financing, development and valuation of buildings can be a key driver for the creation of a market for sustainable buildings. To accelerate the creation of sustainable buildings and to transform markets, there is a need to determine, demonstrate and calibrate how sustainable buildings actually add value, to ensure that value is captured within the development process, and to ensure that fiscal incentives are provided where needed. Evidence on the economic advantages of sustainable property investments is needed to persuade business practices, to inform the public debate and to transform the markets for sustainable buildings. It is now becoming clear that the active contribution of those involved in property decisions (property valuation, finance, banking and insurance industries, REITs, owners, etc) is necessary to accelerate the widespread creation and take-up of sustainable buildings.

Although progress has been made in the development of design strategies and the technical development of building products, materials and construction techniques, this largely technocratic approach is, on its own, not enough to bring about the necessary change. What is needed is to encourage dialogue and learning between the construction community and practitioners and researchers from the property, finance, insurance and banking industries. For this reason, a RICS-sponsored event entitled 'Financing and Valuing Sustainable Property' was held at the Rethinking Sustainable Construction (RSC) 2006 conference, held in Sarasota, Florida in September 2006. The event consisted of a workshop, a session within the official RSC 06 conference program and a summary presentation during the RSC 06 plenary session.

'….a technocratic approach is not enough to bring about the necessary change.'

About RSC 06

The RSC 06 conference addressed the state-of-the-art in sustainable planning, construction, use and management of buildings and aimed to create visions and basics for both future sustainable buildings and the next generation built environment. Unlike any other meeting about green buildings and sustainable construction RSC 06 focused not on present best practices, but on the path to green buildings 10 to 50 years into the future. RSC 06 addressed the complex range of issues that face designers, product manufacturers, builders and policymakers in developing next-generation green buildings. Most importantly, it was intended as a meeting of interested parties from around the world to explore the cutting-edge of this discipline, the ideal state of green buildings, and the need for research, technologies, methods, and tools that can assist the international community in evolving to advanced green buildings and products.

About the Financing and Valuing Sustainable Property event

The basic intention of this RICS-sponsored event was twofold: on the one hand, those groups of actors traditionally concerned with sustainable development in property and construction (such as architects, designers and engineers) needed to understand that the property, finance, banking and insurance sectors are becoming (or already are) actively involved in sustainability issues. On the other hand, practitioners from the property, finance, banking and insurance sectors were given the opportunity to inform themselves about the state-of-the-art and the future of sustainable construction.

This was the first time that issues of financing and valuing property were discussed within the scope of a sustainable construction community conference. The event was initiated and moderated by Prof. Dr. Thomas Lützkendorf, Dr. David Lorenz (University of Karlsruhe) and Richard Lorch (Building Research & Information).

What was discussed? Below are the key ideas presented during the workshop:

Attitudes of property investors

Research by Sarah Sayce, Louise Ellison (Kingston University, UK) and Philip Parnell (Drivers Jonas Chartered Surveyors, UK) surveying a cross-section of property investors, developers, consultants and bankers indicates that a notable shift is beginning to occur among property investors in the UK from a simple concern for environmental protection to a wider remit, encapsulating well-being and triple bottom line sustainability. The increasing emphasis on corporate social responsibility (CSR) is becoming a driver in the property investment community. Sustainability is now much more than the design, construction and material choices in a property. It is also becoming recognised as a vital concern for those who are financial stakeholders in the whole building lifecycle, including the front-end financing and the long-term management and operation of buildings.

Although they did caution that the level of knowledge among property investors of these issues is still relatively low, they still found that, despite this apparent lack of knowledge among many in the investment community, there was considerable support for government to incentivize the industry by use of fiscal measures which impact on property investors, traders and occupiers.

Sarah Sayce and her co-authors see there being three major market-led drivers:

- The prospect of future and more onerous legislation can lead to some developers and property investors adopting a 'beyond compliance' culture either to achieve higher returns or to reduce downside risk
- The change in landlord and tenant relationships has seen lease lengths decrease from an average of 15.8 to 9.2 years. There is now a greater onus on landlords to work more closely with their tenants to maximise occupier satisfaction and retention and hence minimise building value depreciation. As tenants become more informed, so they will change their demands towards space that meets their revised corporate objectives, including those of sustainability. Properties that do not meet sustainability criteria will increasingly be subject to increased rates of obsolescence and value depreciation
- The potential for enhanced returns for occupiers and investors by making sustainable property either cheaper or cost neutral, or to provide an increase in value (as measured by appraisal techniques) sufficient to offset any addition costs. The incentive for the investor who is purchasing standing stock must come through the prospect of better capital or/and rental growth and less vulnerability to depreciation and obsolescence. For the occupier, the business case turns on greater operational efficiency, cost control and corporate strategy for building selection.

The findings of the authors' survey would suggest that property investors are failing to recognise a current case for investment in sustainable property. What they seem to be finding is that, at the moment, investing in improvements to the stock to raise sustainability standards only makes sense if such investment reduces exposure to the risk of falling occupier demand and compromised investment returns. To make this decision requires a means of quantifying that assessment in terms of property worth; only if this is possible can the investor understand the financial implications of taking action and the risk attached to taking no action. The work that Sarah Sayce and her colleagues have done under the auspices of the Sustainable Property Appraisal Project (Kingston University, 2006) has seen the creation of a methodology which links sustainability criteria to an appraisal using a Future-Proofing Property Questionnaire (FPPQ). This methodology has so far been used on approximately 100 properties, and the overall results suggest that there is currently a variance between the market figure and the sustainability appraisal of up to around 2% suggesting that appraisers are not yet building sustainability into their appraisal calculations. And if they are not, the business case for investors continues to lack transparency.

Rational behaviour by investors, developers and occupiers is linked to requirements for optimisation of return combined with risk containment. Currently, the downside risks may have started to produce behavioural shift at the corporate level but the benefits of return, when weighed against the costs, actual or imagined (see Pivo and McNamara, 2005) have not overcome the inertia for the mainstream of each stakeholder group. For investors, the key consideration lies in future performance; for this the comfort and support of performance measurement is required. These are not currently available although the methodology developed through the Sustainable Property Appraisal Project (SPAP) is currently being developed and applied to a limited number of properties. This in turn may provide evidence to populate an index and, as suggested by Ian Cullen of Investment Property Databank (IPD), the application of this methodology could lead in the not too far distant future to an IPD4Good Index.

Given the findings from the work by Sarah Sayce's team, the UK Government's decision to focus almost exclusively on measures which only address new build, such as enhanced capital allowances, is seen as disappointing and a continuing failure to tackle the major concerns of both upgrading existing stock and better building management.

For current progress to be sustained and accelerated there is a need for both continued industry response informed by easily applied metrics and a need for government intervention in the form of fiscal incentives.

What about carbon emissions trading?

So, what might be the mechanism by which property investors, developers and occupiers can appreciate and realise value in reducing the carbon emission of their buildings? Work that has been carried out by financial analysts Jonathan Naimon (Light Green Advisors, US) and Michael DeFelice (Deutsche Bank, US) would suggest that the construction and property industry has an important strategic choice to make: it has to decide whether it would be beneficial for it to opt into a carbon credit trading scheme. The advantage of environmental trading regimes is that they harness the power of markets and pricing mechanisms to find the most cost effective means of reducing emissions, in contrast to going down a technology-driven path, which specify that all businesses within an impacted sector utilize the best available technology. Until now, the two major emission trading schemes (EU Emissions Trading Scheme and US schemes for sulphur and nitrogen oxides for energy utility emissions that are precursors of acid rain) have been directed toward the 'tall smokestack' industrial and energy sectors.

Developers, architects, and property owners have long viewed superior environmental features on buildings as a ' freebie' or ' loss leader' – something included in projects without necessarily being paid extra. At the same time, the externalities of environmental degradation and running costs have not been factored into the value of a building. Good for image and reputation, but not a key driver of change.

However, including the building management sector within the ambit of greenhouse gases (GHG) regulation and carbon trading can fundamentally change the equation by providing building owners and operators with a real opportunity to create a financial benefit that is matched with reductions in energy-related GHG emissions from their buildings. The idea is that financing energy improvements that reduce GHG emissions requires investment on the part of building owners and operators.

One key to this transformation is the availability of suitable regulatory schemes that include commercial and residential buildings within the ambit of GHG regulation. The second key to this transformation is the presence of open ' carbon offset' markets into which developers (or building operators) can sell emissions reductions resulting from superior design and/or installation of equipment and procedures that measurably reduce GHG emissions resulting from building operation.

As the US and other markets develop appropriate regulatory structures to support the creation of credits for GHG reductions throughout the economy, an additional financial incentive will emerge for building developers, owners, and operators interested in a competitive edge. This type of incentive would enable these real estate investors to meet their hurdle rates faster due to the potential to sell the excess greenhouse gas (GHG) reductions to other companies, e.g., coal-burning utilities, which require less expensive means of reducing their GHG emissions.

On the west coast of North America, several residential and mixed use property developers have reported quicker time to market and quicker permitting processes in municipalities that encourage green building to LEED standards such as Seattle, Vancouver, and Portland. Reducing time to market is a tangible and meaningful outcome for development investors, but these benefits typically are not captured by subsequent building owner/operators. However, the advent of carbon pricing and its extension to the building sector allows REITs and other building operator groups, building developers and architects to create offsets of value from those green building features that reduce energy usage and concomitant GHG emissions. The key is to ensure that the benefit is spread around as many stakeholders as possible, to ensure 'buy-in'.

Carbon credits (and financial mechanisms such as forward contracts) can play a significant role by providing additional investment and resources to pay the capital and operating costs associated with green building features today. Unlike traditional green building standards oriented towards new construction, emission reduction or ' carbon' markets can provide an economic incentive to retrofit the existing building stock, which is responsible for over 95% of the carbon emissions from buildings in OECD countries such as the US and most of the EU.

These new sources of revenue will change the economics of many features that are considered optional today. Additional resources will undoubtedly be required to monitor performance at the building level, so that we can assess just what precisely the environmental benefits of superior green building are now, and what they will be in the future.

The need to include sustainability in property investment risk measures

This point, the need for accurate assessment and monitoring, was taken up by the next speakers, Thomas Lützkendorf and David Lorenz (University of Karlsruhe), who have been exploring the ways that new property rating systems are emerging as a means of creating risk profiles of property assets. These rating systems are intended for use within both property financing processes as a consequence of new, international banking capital adequacy rules (Basel II) that are coming into force as well as within property investment analysis. As a consequence, property ratings will increasingly be conducted for lending purposes. A wide range of different rating systems are currently being tested, under further development or are already applied in practice. This has been done initially to enhance the bank valuers' estimates of mortgage lending or market value by visualising in more detail the risks associated with granting a property loan. In addition, consulting agencies are offering property rating services to the public. There are three different types of rating systems for property assets and property clients:

- Type 1: Combined rating systems that consist of a borrower rating component tailored to the specific requirements of property clients and of a property rating component that is focused on the property to be financed
- Type 2: Property rating systems that focus on the property to be financed without aiming to assess the credit standing of the borrower (since these rating systems also assess the relevant property market they are also called property and market ratings)
- Type 3: Rating systems that solely focus on determining the banks' loss in the event of a property loan default (Loss Given Default, LGD).

The application of credit rating techniques to individual property assets is a relatively new instrument. It has emerged as a means of creating risk profiles of property assets to be used in property financing processes as well as within property investment analyses (Adair and Hutchison, 2005).

The inclusion of sustainability issues into property rating systems allows the advantages of sustainable buildings to be displayed as well as the disadvantages of 'unsustainability' to be treated as additional financial risk factors. This can help investors to better understand the risk reduction potential of sustainable buildings and can also lead to a differentiation in lending conditions between buildings deemed to be lower or higher risk.

The financial implication of a different lending rate according to the amount of risk associated with the property has the potential to drive investment in sustainability. This is demonstrated in a new property rating system by The European Group of Valuers' Associations (TEGoVA) which is currently undergoing further development and implementation by a number of German banks.

This rating system represents a possible platform to combine the interests and instruments of the banking and property investment industries with the concerns and instruments of the sustainable building community. This is because the rating system proposed by TEGoVA contains direct as well as several indirect connecting points for the integration of sustainability issues. The methods and instruments developed by the sustainable building community in order to assess an individual building's quality and contribution to sustainable development ('green' building rating systems, LCA-based assessment tools, post-occupancy evaluations, energy labels, etc.) can now be used to inform the processes of property financing and risk analysis.

If property professionals made use of these rating systems they could help investors to better understand the risk reduction potential of sustainable buildings. A substantial benefit would be that it would provide the evidence for obtaining more favourable credit and mortgage conditions for buildings that display reduced risk, such as sustainable buildings. The European Commission has encouraged member states to influence the wider business environment (in particular banks and insurance companies) in order to develop and offer favourable banking and insurance products and advantageous interest and insurance rates for sustainable buildings.

Property rating systems are increasingly being developed and applied in Germany, Austria and Switzerland and, as shown by the work of Alastair Adair and Norman Hutchison, this approach is also beginning to be debated in the UK. The key business benefit seems to be their ability to create opportunity and risk profiles of property assets.

An area of further research consists of the development, agreement and standardisation of measurement standards. However, within their current form or stage of development, these property rating systems are already capable of expressing and communicating the advantages of sustainable buildings for banks and investors through the treatment of 'unsustainability' as additional risk factors. In time, with these mechanisms, it is expected that this will start to demonstrate the financial incentives for investing in green or sustainable properties.

The use of information from existing methods, instruments and tools developed by the sustainable building community can be harnessed to inform the processes of property financing and risk analysis. This will increase the demand for such methods and instruments (e.g. 'green' building rating and labelling systems, LCA-based assessment tools, etc.). As a consequence, their future role within property markets can be extended and more precisely described within an overall system of measures and instruments that contribute to the market transformation of the construction and property sectors.

It's not just the environment

Much of the focus of sustainable development has been on the environmental impact of buildings, but it should not be forgotten that the concept of sustainable development is meant to include a consideration of the social impact as well.

In her presentation, psychologist Judith Heerwagen, from the USA, reminded us that ultimately buildings are investments for people, and in particular the performance and well-being of people. In the past, there have not been ways to assess and measure these benefits. In the broadest sense, an understanding of what a healthy environment is must include an assessment of whether it provides an appropriate habitat, including psychological and social factors as well as physical health.

Many factors contribute to a building's value including general location, size, and convenience relative to amenities such as shopping, restaurants, schools, and other quality of life factors. Of particular interest is the willingness of home owners and building renters to pay for amenities that have psychological and social value (or 'hedonic value,' as it is referred to in the economics literature). In her presentation, Judith Heerwagen outlined some recent research which has shown strong evidence that people are willing to pay more for good views (especially distant views, views of water, and views of large trees), high quality landscaping, and location relative to water, particularly ocean and lakes.

A study of building factors that influence tenants' decisions to relocate found that landscaping was highly rated and, in fact, rated more highly than the fit-out allowance, building height, convenience (relative to restaurants, banks, and shopping), age of building, and corner office space (Pittman and McIntosh, 1992). Not surprisingly, the most important factors were locational. In the study by Pittman and McIntosh, views were rated as moderately important, but less so than landscaping.

In a study published in 2003 of the economic effect of trees and landscaping on office buildings in the Cleveland metropolitan area, Robert Laverne and Kimberley Winson-Geideman found that good landscaping aesthetics and large shade trees add an average of 7% to rental rates, while densely packed vegetation used as screening reduced rents by an average of 7.5%. Landscaping for noise abatement and flower beds had no measurable impact on rents.

Waterfront properties or those with good views of oceans and lakes command high prices. However, not all bodies of water are equal in value nor are all water views. In a study published in 1998 of the hedonic value of a variety of water views in Bellingham, Washington, a team led by Earl Benson found that houses with full views of Puget Sound commanded higher prices than those with partial views or with views that contained industrial buildings. Full views of the Sound added 58.9% to the property value of the house and a partial view added about 30%. Unobstructed views of a lake added 18% to the value of the house. The greatest increase in value, however, came from lakefront property which added 127% to the value of the house.

This phenomenon seems to apply to commercial property – there is strong evidence connecting improvements in work performance to many features and attributes of the built environment. Key building features associated with productivity increases include personal control of ventilation and temperatures, daylight, air quality and window views.

Surprisingly, however, this has not led investors to ' jump at the opportunity' to increase productivity by improving building practices. A study by David Mudarri of the United States Environmental Protection Agency highlighted the key problem, that the entity that benefits from the improvements (e.g. the organisation that occupies the space) often is not the entity that provides the space (e.g. the building owner). Thus, there is no incentive to invest in something that may cost more and where the benefits are enjoyed by someone else. Other incentives are needed such as reduced cost burdens from tax breaks and other methods.

Building design can have a significant impact on human health, well-being, and work performance. There is also evidence of links to economic value, particularly building rent and housing value. The links to work performance is well reasonably well established, but the translation to economic benefits at the organisational level is not clear. A more promising, but less well understood, area of research is the link between building features, human benefits, and organisational effectiveness. Clearly, more research is needed on this topic.

What were the key messages to emerge from this event?

Property valuation has a key role to play in transforming existing markets and in demonstrating the added value provided by 'greener' buildings. Although a number of building assessment schemes already exist to validate building design and performance, the challenge is to harness property values and the financial instruments to reflect the true market value of sustainable buildings. However, to accelerate the progress of market transformation, it is essential that the many actors involved continue to participate in a dialogue to understand and create effective policies and instruments. The actors include: fund and asset managers, institutional and private investors, estate agents, property valuers and analysts, bankers and insurers, designers, project managers and facilities managers.

New financial instruments are emerging which provide favourable financial terms for 'greener' buildings. Developers, banks and other financial organisations will need clear, authoritative guidance on what constitutes a green building in order to use these instruments effectively.

One key driver for transforming the market lies in describing and proving the financial advantages derived from sustainable buildings. Another important area is the development of new and attractive investment products (e.g. green REITs).

Chartered surveyors and other property professionals have a significant role in driving forward sustainable development by creating appropriate competencies and instruments for various property stakeholders: owners, tenants, developers and financiers. The challenge lies not in developing new and special valuation and risk analysis methods but in demonstrating how sustainable buildings perform better under the existing valuation and risk analysis methods.

The RICS has the potential to champion these issues through the education and training of property professionals to include sustainable issues in the valuation process. This includes integrating sustainable development into existing curricula and also the Assessment of Professional Competence. In addition, the RICS can influence the research agenda to provide robust knowledge for the introduction of new practices in the wider property and financial communities.

To underpin effective market transformation, research is needed. Key areas of research include:

- **A more detailed investigation of the relationships between technical, functional, environmental and social building performance on the one hand and economic effects on the other**
- **The implications of how buildings and building stocks (particularly modernisation activities) could be integrated into the next generation of carbon credit trading schemes**
- **The relationship between labels and tools from the sustainable building community and the tools used by banks, property professionals and financial analysts. How can these different tools interact and complement one another?**

About the event

The papers presented at the event were:

Investment drivers for sustainable property: have we got the balance right? Sarah Sayce, Louise Ellison and Philip Parnell (UK)

Using carbon credits to create greener real estate investments Jonathan Naimon and Michael DeFelice (USA)

Investing in people: the social benefits of sustainable design Judith Heerwagen (USA)

Integrating sustainability issues into property risk assessment: an approach to communicate the benefits of sustainable buildings Thomas Lützkendorf and David Lorenz (Germany)

The papers are published in the Proceedings of Rethinking Sustainable Construction 2006 (CD-ROM), available from the Powell Centre For Construction And Environment, M E Rinker School Of Building Construction, University of Florida, Gainesville, FL 32611-5703, USA (email: dlisaacs@ufl.edu). Selected papers from the session are published in a special issue of *Building Research and Information.*

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