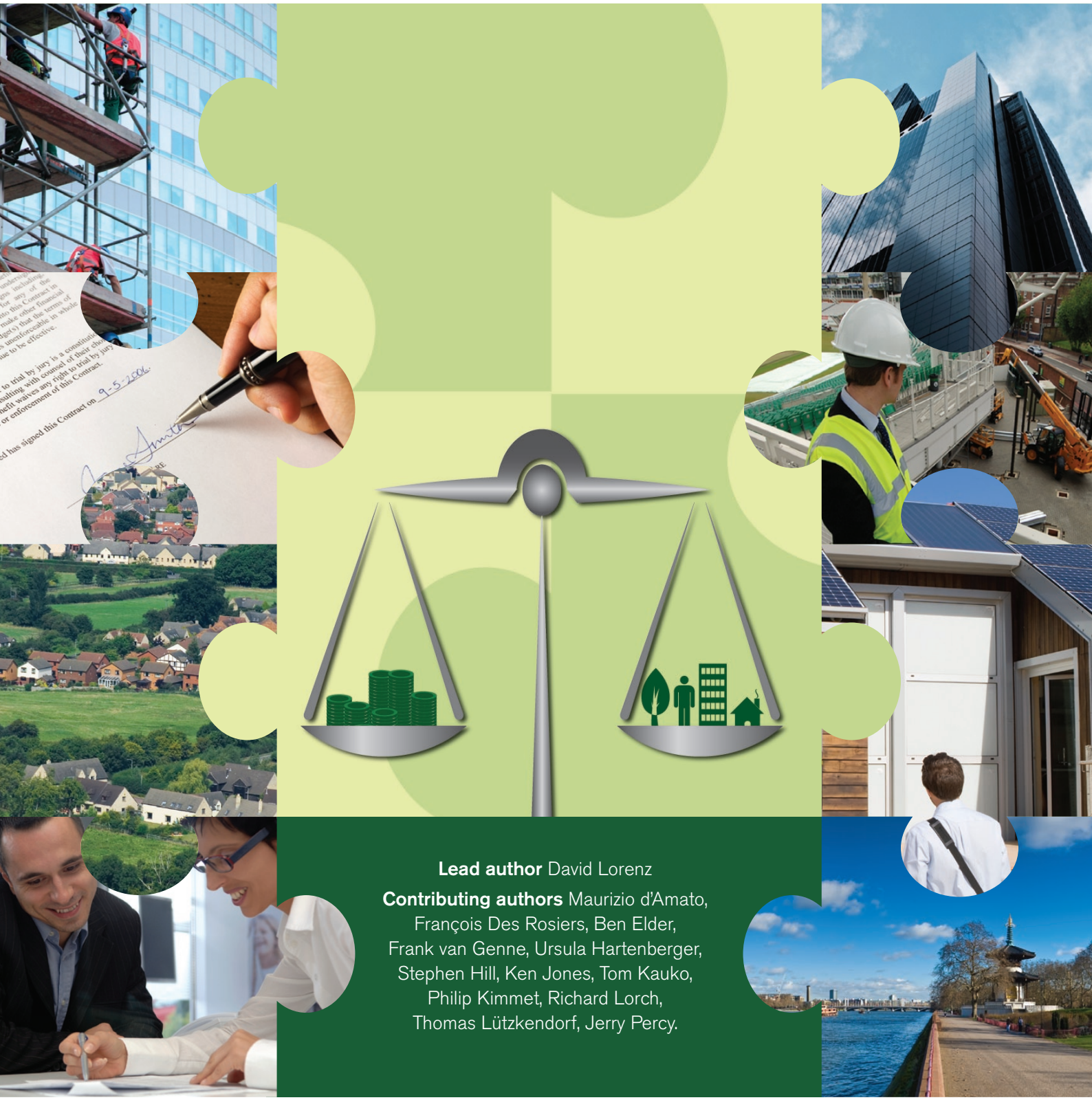
Sustainable Property Investment & Management

Key Issues & Major Challenges



Lead author David Lorenz

Contributing authors Maurizio d'Amato, François Des Rosiers, Ben Elder, Frank van Genne, Ursula Hartenberger, Stephen Hill, Ken Jones, Tom Kauko, Philip Kimmet, Richard Lorch, Thomas Lützkendorf, Jerry Percy.

RICS

The mark of
property professionalism worldwide

www.rics.org

“For every profession, it is useful to pause and reflect on developments over the past hundred years or so and who influenced these changes. Without taking the time to reflect on “change”, it becomes easy to believe that current practices are sufficient and that we can simply become more experienced at doing the same thing we did last month or last year.

But viewed from a longer perspective, we see that business practices have changed dramatically and will likely continue to change. “Business as usual” will never last more than part of a single generation.”

Miller and Markosyan, 2003, p.172[1]

[1] Miller, N.G. and Markosyan, S., 2003, The Academic Roots and Evolution of Real Estate Appraisal, The Appraisal Journal, April 2003, pp. 172-184

Foreword

Against a background of an ever increasing awareness with regard to the significant role of the built environment in contributing to a more sustainable use of the Earth's resources, RICS EU Public Affairs in Brussels has set up an "EU Advisory Group on Sustainable Property Investment and Management" to carry out research into the pivotal role of property professionals in both triggering and managing the essential changes necessary for the transformation to more sustainable property markets.

The group's membership represents a cross-section of quantity surveying, facility management, planning, valuation as well as research expertise from the EU and beyond. Whilst the majority of the group are RICS members, some specialist research aspects are being addressed by non-members. Our publication is targeted both at property professionals and academics yet also at policy makers and has the following objectives:

- To raise and examine the key issues and challenges that are at stake with regard to sustainable development in the context of property related decision making.
- To illustrate that property professionals need to accept their professional responsibility with regard to a more sustainable development of the built environment.
- To review how the sustainable development discourse relates to our understanding of the role of valuers and their practices in a rapidly changing marketplace.
- To stimulate a fruitful scientific debate with regard to changes that need to be undertaken by practitioners and their respective professional bodies to adopt new policies and practices with a view on how to best educate property professionals and their clients about the relationship between sustainability and value so that the opportunities of sustainable property investment and management may be fully seized.
- To highlight that the key to facilitating more sustainable property markets lies in how we understand and value our built environment.

Ursula Hartenberger
RICS EU Public Affairs

September 2008

Why is it important to have Sustainable[2] Buildings?

The Earth's ecosystems are now at a critical stage: they are not only being severely damaged but human activity currently leads to *irreversible* losses of critical (i.e. life-supporting) ecosystem functions. Buildings and construction works have the largest single share in global resource use and pollution emission. In OECD countries the built environment is responsible for around 25-40% of total energy use, 30% of raw material use, 30-40% of global greenhouse gas emissions and for 30 to 40% of solid waste generation. In addition, in OECD countries, people spend almost 90% of their life inside buildings (OECD, 2003 and UNEP, 2006). Consequently, healthy indoor environments contribute significantly to human health and well-being and offer a large potential for reducing 'external' costs to societies through lowering allergies and asthma, sick leaves, and Sick-Building-Syndrome symptoms.

Thus, the contribution of buildings and of the property and construction sector to sustainable development could be immense. However, the major argument is not that sustainable behaviour in property and construction markets should be pursued only because it is beneficial for humans, the environment and because environmental legislation requires us to do so, but because it significantly increases financial profit and long-term competitiveness. Following more sustainable property investment and management strategies is, indeed, a highly profitable exercise[3] and refurbishing the existing building stock represents (across all industry sectors) the most cost-effective solution[4] available for tackling the looming environmental crisis. There are no adverse side effects of applying sustainable development thinking to the investment in, development and management of property assets. Indeed, sustainable development thinking particularly lends itself to deal with the nature of property investments which traditionally require pursuing medium-to long-term investment strategies.

Sustainable buildings squeeze the current maximum utility achievable for owners, users and the wider public, out of the lowest possible use of land and throughput of energy and raw materials and by leading to the lowest possible impacts and risks for the global and local environment. These buildings are not any more expensive to build from the outset than conventional ones (see, for example, Matthiessen and Morris, 2007) but their ownership results in various benefits for investors, ranging from drastically lower operating costs to improved marketability, longer useful life-spans, significantly increased occupant productivity and well-being as well as more stable cash-flows which in turn have economically quantifiable benefits. As a result, increasing economic return, sustaining the natural environment and protecting social values are not incompatible; at least not within property and construction markets.

[2] The contribution of products and services to sustainable development is usually described and evaluated by an assessment of both their ability to meet current and future requirements as well as their capability of keeping current and future impacts, expenses and risks within certain limits or boundaries. If the assessment results are positive, such products and services are commonly called 'sustainable'. This also applies for buildings and constructed works. Buildings and the investments in buildings have the potential to contribute (to a lesser or larger extent) to sustainable development (Lützkendorf and Lorenz, 2005). For the purpose of this paper, the terms 'sustainable building' and 'sustainable property investment' are used for simplicity instead of the term 'buildings and investments that contribute to sustainable development'.

[3] This statement is backed by an increasing number of well-documented case studies and comparative analyses of environmental, social and economic performance of buildings from around the world. A literature overview can be found here: http://www.property-advisors.de/resources-literature.html#Benefits

[4] The European Commission (2006) estimated that "partly because of its large share of total consumption, the largest cost-effective savings potential lies in the residential (households) and commercial buildings sector (tertiary sector), where the full potential is now estimated to be around 27% and 30% of energy use, respectively." This amounts up to an energy savings potential of the building sector by 2020 of 154 Mtoe (million tons of oil equivalent); compared to a savings potential of 105 Mtoe in the transport sector and 95 Mtoe in the manufacturing industry.

Why must the refurbishing of the existing building stock be a priority?

The so-called business case for implementing sustainable development principles within new building projects has been powerfully made during recent years as there has been a shift from anecdotal evidence to well-documented case studies and comparative analyses of environmental, social and economic performance of buildings from around the world. Unfortunately, similar evidence on financial performance and value enhancement effects of refurbishment activities is not yet readily available. Albeit the existing building stock has a major role to play: In the EU-25 more than 50% of the existing building stock is constructed prior to 1970 and the estimated annual replacement rate for non-residential buildings is about 1-1.5% and 0.07% for residential buildings only (Poel et al., 2007; Barlow and Fiala, 2007). This means that most of the buildings that will exist in 50 years and later are here already. It also means that even if all new buildings were built to be sustainable from today onwards, this would only have a marginal effect for many years if the existing stock is not addressed simultaneously.

In the light of increasingly stringent environmental legislation, a changing market demand in favour of sustainable buildings and sharply rising energy costs (for example, during 2002 and 2007 the costs for heating (oil) and electricity in Germany increased by 63.8% and 26.3% respectively; see: GuG, 2008) it can be assumed that the existing stock of ageing buildings offers a huge opportunity "to take cost-effective measures and transform them to resource-efficient and environmentally sound buildings, with an increased social and financial value" (Poel et al., 2007, p. 394). However, this potential remains largely untapped due to numerous barriers and the reluctance of building owners to carry out refurbishment works suggests the contrary. Chau et al. (2003) identified three key barriers which are:

- an often fragmented ownership of multi-family houses and associated negotiation costs between owners which may be so high that it prohibits a collective decision from being made;
- an inability to realise whether the benefits of refurbishment will outweigh the costs; and
- a lack of cost and quality information on contractors and their works.

> "... most of the buildings that will exist in 50 years and later are here already."

While the first issue of fragmented ownership may be difficult to overcome (and challenges local facility managers), it is also true that large proportions of the existing building stock are in the hands of private and institutional investors. The second barrier represents an ongoing challenge for researchers to demonstrate the benefits of refurbishment since the empirical evidence available to date is sparse, yet promising. For example, Chau et al. (2003) demonstrated that for a large housing complex in Hong Kong the refurbishment (external facade and replumbing) brought about an almost immediate increase in the property price level by 9.8%, which far exceeded the cost of refurbishment (value enhancement $234 per square foot compared to $39 refurbishment costs per square foot).

However, addressing the third of the barriers mentioned above – a lack of cost and quality information – is of utmost importance since this deters owner-occupiers and institutional and private investors in particular from refurbishing their buildings and also leads to adverse selection. Put simply: while the benefits appear obvious – though difficult to quantify – at the moment the cost-risks of refurbishment are perceived to be too high and measures, tools and instruments for quality assurance in the refurbishment process need to be improved. In order to move beyond mere theoretical notions of the benefits of refurbishment activities, robust cost estimates are a necessity. Investors and owners need to know about the "cost-return-impact" scenarios of a wide variety of different refurbishment alternatives. Expert systems for performing this task have already been developed and are under further development but they are not yet widely applied in practice (see, for example, Zavadskas et al., 2004).

What is Sustainable Property Investment?

Sustainable property investment is based on a vision of sustainability and on finding out how to best get there. It can encompass four main investment strategies and can be applied to direct investment as well as indirect property investment. In the latter case, it would mean investing into only such property investment products (such as REITs or closed-end property funds), that are committed to at least one or more of the following four main strategies:

- Purchase and/or disposal of property assets that meet/don't meet predefined environmental and social performance requirements;
- Investments into new building projects that are designed, constructed and subsequently managed according to the requirements of sustainable buildings[5];
- Investments into the existing building stock in order to systematically improve sustainability performance; and,
- Investments into community projects such as affordable housing and urban revitalisation in order to foster a more sustainable society.

Currently, there are three different approaches to property investment and sustainable property investment is the least practised among the three:

- Defensive property investment which can be defined as investment practices that adhere to written law only; i.e. conventional mainstream property investment practice.
- Responsible property investment which has been defined as "maximising the positive effects and minimizing the negative effects of property ownership, management and development on society and the natural environment in a way that is consistent with investor goals and fiduciary responsibilities" (Pivo and McNamara, 2005, p. 129). This definition would, however, allow for an investment strategy to be considered responsible even if the maximisation of positive effects and the minimisation of negative effects take place within the tight boundaries set by prevailing, financially oriented, short-term investor goals.
- Sustainable property investment encompasses the goal of maximising positive and minimising negative effects but it goes one significant step further since the investor lays down appropriate conditions so that all his (or her) actions are aimed at being sustainable.

Sustainable property investment can therefore be described as investing in pursuit of sustainability, or, to be more precise, as investing in pursuit of greater durability, adaptability, usability and efficiency of buildings and the building stock, leading to enhanced productivity, well-being, and economic benefit measured in terms of financial, natural, manufactured, human and social capital. This calls for research-based best practice and thoughtful consideration of the entire building life-cycle including construction, acquisition, use, management, maintenance, decommissioning and demolition as well as the upstream and downstream processes before and after. Sustainable property investment requires a new mind set which may well be entirely different from current 'best practice' in design (what you build), construction (how you build it), property investment

[5] In order to classify sustainable buildings it is possible to start with the general areas of protection which can be deduced form the three dimensions of sustainable development. These areas of protection are as follows: protection of the natural environment / ecosystem services; protection of basic natural resources; protection of human health and well-being; protection of social values and of public goods; as well as protection and preservation of capital and material goods. Transferred to buildings and their associated plots of land, several requirements can be formulated that help to classify sustainable buildings. These can be grouped under environmental, social and economic aspects as well as under aspects related to the fulfilment of users' and occupants' needs. The latter include the maximisation of the building's serviceability and functionality. The former encompass the following: minimisation of life cycle costs / cost effectiveness from a full financial cost-return perspective; reduction of land use and use of hard surfaces; reduction of raw material / resource depletion; closing of material flows; avoidance / reduction of hazardous substances; reduction of CO2-emissions and other pollutants; reduction of impacts on the environment; protection of health and comfort of building occupants / users as well as of neighbours; and preservation of buildings' cultural value. A more detailed description of sustainable buildings including a list of possible sustainability key performance indicators can be found in Lützkendorf and Lorenz, 2005.

and management[6], e.g. integrated sustainability assessment of property assets; objective and transparent sustainability accounting and reporting (which ought not to result in mere 'creative writing exercises'); and promoting next-generation construction approaches such as closed-loop design and the use and reuse of organic materials in order to achieve breakthroughs in energy efficiency and to create buildings that serve as utility providers rather than acting as utility consumers.

> "… there is now widespread recognition that economic success is intrinsically linked to environmental and social performance."

This does of course not mean that sustainable property investors cannot operate highly profitably. Indeed, current experience suggests that innovative or 'radical' approaches to construction and management are the most profitable ones (see, for example, McDonough and Braungart, 2003 and Kibert, 2008) and those investors or companies who opt for the most proactive approaches tend to be the most successful. This latter claim does not only apply for the property and construction industry, but also for the wider corporate and financial sector where there is now widespread recognition that economic success is intrinsically linked to environmental and social performance (see: UNEP FI, 2007).

What is the role of location in creating sustainable property markets?

The role of location and neighbourhood is in many ways different than the role of the building. The key issue is that the government has an active role in shaping the location, which may happen either in a more traditional manner: by providing public infrastructure such as stops for public transportation, parks and recreational areas, or improved safety measures; or in line with more modern ideas of image creation and territorial competition policy. When considering the role of government more closely, two opposite ideals can be debated (see: Dixon et al., 2005, pp. 19-24). The first is a neo-liberal policy of letting individual choices determine the city structure, which aggregates to a spatially deconcentrated property market. Here the problem will inevitably consist in the resulting environmental externalities, notably environmental hazards[7] and urban sprawl. To avoid such unsustainable outcomes, a different idea has been adopted: policymaking inspired by the ideas of political economy and regulation school traditions, according to which urban restructuring carried out by an enlightened local government is the solution to all spatial problems arising from an unhinged market of space and property rights. This in turn leads to a more consolidated property market. However, while in principle it may be of benefit to opt for a maximum of density in an urban area, an urban regeneration effort misses the point if it does not correspond with consumer preferences for this type of life-style, or if the city centre does not provide employment or leisure opportunities. This trade-off between two spatial ideals would suggest an 'in between strategy' where the quality of location, price and various other socio-economic indicators are related to each other.

[6] "Albert Einstein said that no problem can be solved from the same consciousness that created it. Yet, looking at the current state of sustainable construction that is exactly what we have been trying to do. The majority of sustainable construction solutions are not focused on fashioning a new world model that will be more sustainable […]. Instead, these solutions are only trying to keep the old world ticking for as long as possible" (du Plessis, 2003, p. 2). Using less energy to heat and cool high-performance buildings, using fewer toxic materials to reduce impacts on building occupants, occupying and destroying less land to reduce ecological footprints or sending less building material waste to landfills does not address the roots of the problem; it simply limits the negative impact of poor design (McDonough and Braungart, 2003).

[7] According to Andrews (2008) governments should strictly regulate the development of coastal locations. He argues that environmental hazards become a social problem too as there is unequal exposure to weather risks across social groups in relation to power.

Why are more Sustainable Construction and Property Investment and Management not yet mainstream?

Since the publication of the Brundtland Report in 1987, a number of programmes, initiatives and developments driven by major institutional players have evolved, and one could argue today that in theory the basic conditions for mainstreaming sustainable development in property and construction are in place – particularly within some European countries. However, major social and economic frameworks can significantly hasten the implementation of the principles of sustainable development in the property and construction sector, making the facilitation of these frameworks a high priority for socially responsible policy makers.

Initiatives include:

- Securing corporate commitment (from within and outside the property and construction sector),
- Development of supportive rules of the game (i.e. the wider legal, fiscal, political and economic frameworks),
- Building knowledge, experience and awareness (e.g. among builders, architects, managers, advisors, etc.),
- Development and dissemination of appropriate methods and tools (that promote the assessment and communication of the contribution and management of buildings to sustainable development), and
- Collection and analysis of market evidence on the benefits of sustainable design, construction and management of buildings.

While the importance of these supporting frameworks is fundamental to the advancement towards more sustainable property and construction markets, the pivotal role of local actors is also acknowledged. However, while many enlightened sustainability-minded actors would like to help speed up the implementation of sustainable development principles in property and construction, many may be constrained by the need to respond to consumer behaviour. And the signals emanating from the marketplace remain mixed, arguably due to the immaturity of the business case for sustainable property investment and management, and the wholesale ineffectiveness to propagate its benefits over its costs[8].

The understanding of the most effective ways to market sustainable products to target groups is still in its infancy. For some target groups the notion of 'sustainability' is not appealing, particularly when marketed with a focus on energy saving features. Marketing strategies focusing merely on those features are doomed to fail as consumers are more likely to respond to aspects of improved well-being, comfort and prestige. Recent research shows that consumers will act if offered sustainable choices in a way that shows them added value however not necessarily choosing 'sustainability' itself (see: van Genne, 2008). But many market players do not seem to understand and recognize this and therefore the full potential in terms of marketing is as yet not being seized.

In addition, practical experience suggests that even investors and developers do not always take economically rational decisions. In contrast, it seems that it is almost more important that the 'sustainability proposition' is well presented, argued and de-risked rather than being able to say investment Y will generate return X. And there might also be a parallel in domestic life: We talk a lot about the payback of energy efficiency features for the home, but as consumers we spend anything from € 5.000 to € 50.000 on a new kitchen that adds almost no monetary value to the home, has no payback period, but has all kinds of other returns (including functionality as well as prestige), and has costs and benefits that are usually

[8] This under-development of the economics of sustainability generally was a major finding of the much-discussed Stern Report (2006), and obliges industry experts and policy makers to do much better.

well described, clearly priced and delivered. So maybe there is a bit of work in analysing the way we make decisions and whether economic rationality is or isn't that important. Of course, that does not detract from the argument that most decisions are taken on a narrow view of costs and benefits, but if we are not as logical as we represent ourselves, then other kinds of emotionally intelligent stratagems will be needed to get wider adoption.

Nonetheless, the mainstreaming of sustainable development in property and construction is not only possible but realistic, even in the short to medium term. But for this to happen, it can no longer be defined as mainly a technical matter of improving the performance of buildings and the construction industry. Sustainable development will not flourish if it is narrowly conceived and executed in a sectoral manner. Linkages need to be drawn with the investment, lending and insurance industries, with the larger social and economic agendas and policies, and between the different jurisdictions of responsibility at governance level.

This presents a number of challenges for researchers, practitioners and policy makers in terms of explaining and demonstrating the policy linkages. A major problem in building capacity in the area of sustainable building is that construction and property markets fall within different sectors and areas of political and institutional responsibility (i.e. environment, economy, health and welfare) at global, national and local levels. As a consequence, efforts to achieve more sustainable development in property and construction are inconsistent and often incoherent. Given the significance of the built environment and its huge potential of contributing to sustainable development, concerted and carefully coordinated approaches that involve major groups of stakeholders are urgently required. The key to this collective effort, and finally the implementation of innovative sustainable development policies is the gathering, processing, management and effective transfer of a wide array of information; e.g. on building performance; on the built environment and its contribution to human welfare and well-being; on the complex processes that underlie consumer choices and investment behaviour; on governance structures and relationships between different groups of actors and stakeholders; on research activities and results; and finally on current trends, activities and programmes at global, European and national level.

> “Sustainable development will not flourish if it is narrowly conceived and executed in a sectoral manner.”

Why does the Valuation Profession have a Central Role?

It is important to realise that the mainstreaming of sustainable property investment and management is constrained by a misalignment between suppliers and those demanding property assets for occupation and/or investment. This misalignment is recognised less for what it is than for what it creates – a vicious circle of blame[9]. However, the circle can be broken by providing property market actors with appropriate feedback on both the environmental and social aspects of building performance as well as on its various interrelations with financial performance and property value. In this respect, valuation professionals and the valuation process itself can and should play an important role as mainstream financial professionals are unwilling to include sustainability issues in property investment and financing decisions unless and until sustainable building features and related performance are integrated into property valuations; in other words, unless “the financial sector understands the benefits of green to the net value of an asset” (RICS, 2005, p. 17). In addition, the valuation professionals' central role as well as major responsibility is also due to their function as the independent pivotal point for all property-related information. They have the role of ‘information managers’ in a market where the distribution of information is traditionally considered asymmetrical.

[9] The vicious circle of blame currently is a much touted expression which has first been described and coined by David Cadman (Keeping, 2000).

Yet, property investors and asset managers are largely disconnected from feedback regarding the environmental and social performance of the buildings they own, or are considering owning, manage, trade or occupy. Investors are cut off because their principal advisors, valuation practitioners, are almost entirely focussed on rather isolated correlation analysis based on mere financial performance data[10], and neglect to incorporate value assessments of the current and ongoing benefits of sustainable design. This practice has led to both a one-sided understanding of the economic value of property and to an artificial separation of economic, environmental, social and cultural measures and components of value.

There is a great risk when professionals treat property as an asset class with just another degree of liquidity, even if we do not have a deep knowledge of the value of liquidity (see: Brealey and Myers, 2000). At the moment we can observe the integration between financial and property markets without paying attention to the differences between real property and financial assets. According to the model formulated by DiPasquale and Wheaton (1992 and 1996) 'asset' market and 'property' market seem to present only a financial relationship. This model has become a basis for several educational programmes in property economics all over the world. The simplicity of this approach to property and financial market integration may give an unrealistic idea of the property world where real property can be considered as a share; a dangerous illusion. However, this illusion is one of the reasons for the progressive application of financial models and theories within the property industry to problems of risk premium determination, investment counselling and valuation with a constantly growing interest in financial valuation techniques and models such as discounted cash-flow analysis, capital asset pricing, so called multi-factor models or real options theory.

An insensible 'intrusion of the financial method in the real estate field' fails taking into account that property assets do have major environmental and social impact with tangible consequences for our every-day life and well-being. Property assets have the capacity to improve the quality of space and life. Buildings, groups of buildings and the public space stand for something, have meaning, give identity, project image, shape perceptions, express territory (not always a good thing of course), promote social cohesion, etc. All this has indirect, but to a certain extent, also direct monetary benefits which are disregarded in current practice. Consequently, whenever financial methods and techniques are applied without taking into account the specific nature of property assets and investments and without prior adjustment to the subject matter of investigation and inquiry, the advice given on that basis is likely to be misleading.

The shoring up of conventional design and the undervaluing of sustainability may ease some of the short-term pain for investors who are heavily committed to unsustainable property, but the long-term pain will only be exacerbated when the tidal shift to more sustainable stock finally arrives. And when this happens, conventional design may no longer be tolerated by anybody seeking to maintain a minimum level of prestige and image. This, it is suggested, will be a boom for refitting and renovation businesses as investors rush to jump on board of the 'sustainability bandwagon' or risk massive downgrading and value loss. However, there is nothing financially sustainable about large and rapid swings in demand that deliver instant premiums for the existing responsible investors, and over-night losses for those acting on misinformed advice who have resisted more sustainable investment practices for one reason or another.

However, it is not only the valuers' fault, nor is it a reflection of the profession as a whole. For example, while some forward-looking professionals have been advising clients on foreseeable changes in property markets for years, many owners and investors are indeed short sighted and are only interested in short-term investments. But the fallout from this likely 'correction' in property values may entail much loss of faith in the property industry generally, and in the valuation profession in particular. However, valuers do have a responsibility to reflect changes in the market, and unless they do so they are vulnerable to legal action for negligence. In addition, senior practitioners, as well as academics, can and should also be thought leaders about the future as well as experts in current technicalities and competences.

So even if a case is not made for such negligence – given the widespread acceptance of the status quo both within and outside the profession – valuers are certainly professionally liable to serve the best interests of their clients by accurately interpreting the market. And as the implications of unsustainable design become more clearly understood, it is likely that the current and ongoing ignorance of the principles of sustainable development, at a time when we should have known better, will increasingly be regarded with disdain. Specifically, it appears inevitable that over time the 'externalities' of modern society become explicitly

[10] This is compounded by property risk assessment procedures which inadequately express the increasing difficulty of conventional design to respond to a market which is beginning to be shaped by socially responsible and ever more stringent environmental legislation.

linked to poor design; i.e. anti-social behaviour, hostile public spaces, social conflicts, occupational diseases, contaminated land, contribution to climate change and thus environmental hazards, urban sprawl, and the urbanisation of the countryside.

There is clearly a lack of direction for valuers illustrated by the dearth of valuation literature and guidance addressing these issues. And in view of this scarcity, it does not come as a surprise that contemporary property valuation practice fails to account for all the factors that determine the competitive position of property assets in the changing marketplace. Nonetheless, current valuation techniques do have the capacity to reflect sustainability issues but valuers are left alone when forming an opinion of value for the foreseeable future as it will take years to accumulate the informational data basis necessary to empirically underpin a valuer's decision to provide a 'valuation bonus' for a sustainable building or a 'valuation reduction' for a conventional one.

Why do we need to turn the Vicious Circle of Blame into Loops of Feedback and Adaption?

One principle of sustainable development is that measures and actions within all sectors and at all levels of society are adjusted and re-calibrated through loops of feedback and adaptation. This principle is based on the notion that we are all confined to closed and finite natural systems, and that any 'spill-over' into other systems is fundamentally unsustainable. This point was powerfully made by Tachi Kiuchi at the GreenBuilding 2003 conference in Pittsburgh, and more recently at the UN Global Compact Symposium in San Francisco in 2005. Kiuchi argued that everything in nature emerges from an organic process of feedback and adaptation. According to Kiuchi this principle is best illustrated in the rainforest, which is the most effective value creating system in the world. "The vitality of nature – its capacity to cultivate ever more advanced forms of life, and to support them, for billions of years, on finite resources and a fixed flow of energy from the sun – this capacity comes from the process of feedback-and-adaptation through which nature evolves."

The problem is, however, that actors across all business sectors, and in property and construction markets in particular, are cut off from this kind of feedback and undervalue its potential to maximise efficiency, replenishment and productivity. "They know nothing of their impacts on people, culture, health, or the environment. They subsist only on the shallowest feedback: direct internal financial returns" (Kiuchi, 2003). Consequently, sustainability reporting is a critical area but there exists a general 'ethical, social and environmental reporting-performance portrayal gap'.

It can be argued that current sustainability reporting practice does not provide investors and other stakeholders with appropriate information to assess the material consequences of business activities and behaviour in socially and environmentally sensitive areas (see: Adams, 2004 and Hummels and Timmer, 2004). "Until reports that compare sustainability performance are freely available, as ubiquitous as financial reports, we will remain lost in the quagmire of intriguing anecdotes, unable to determine who performs better, or even what indicators really matter in the quest for sustainability. […] In a world with comparable reports, sustainability reporting can fulfill its true potential: providing concise, transparent information that clearly reflects the reality of environmental and social issues, allows for benchmarking, highlights long-term risk and opportunities, and contributes to improved levels of public and investor confidence. […] Otherwise sustainability reporting will remain an exercise in creative writing …" (Rogers, 2005, p. 39).

> "One principle of sustainable development is that measures and actions within all sectors and at all levels of society are adjusted and re-calibrated through loops of feedback and adaptation."

Expressing this in the property context: if building owners and investors know nothing or very little about the real performance of the buildings they buy, use and operate, (i.e. if they are cut off from feedback delivered by triple bottom line-type monitoring), then these buildings cannot be improved systematically in pursuit of both individual and collective well-being. This mismanagement is compounded by misinformed decision-making at the procurement stage, resulting in the acceptance of 'structured obsolescence'. This is highly inefficient as it depletes the natural, built and social capital within society.

The alternative for property professionals is to begin assessing and reporting value creation through sustainable design, incentivising change and more sustainable behaviour. The added value appropriated to sustainable design will underwrite a restructured approach and a radical change[11] to how we understand and value our built environment. The end result is the emergence of a proactive, self-perpetuating loop driving further change and even more sustainable behaviour. For this to happen, the interplay between the different groups of actors in the property markets as well as the information flow between them needs to be organised in such a way that the knowledge regarding the benefits of sustainable buildings pervades all areas and is accounted for within the highly influential processes of valuation, investment consultancy and risk analysis. However, these feedback-mechanisms that can encourage and facilitate change are not yet fully in place. Installing these feedback-mechanisms requires a synergy we have not seen so far: an integration of the traditional methods and tools for valuation, risk analysis and cost estimation with the methods and tools developed by the sustainable building community for assessing and communicating the contribution of buildings to sustainable development.

Summary and Outlook

Placing sustainability into property-related decision-making leads to a clear win-win situation for all. The realisation of this will depend upon a dialogue and convergence between supply and demand side actors as well as those involved in governance. But the reverse is also true: unsustainable property investment and management practices will lead to losses with regard to financial performance and asset value.

In addition, investors, their professional advisors as well as asset managers apart from having a societal responsibility may in the future also be held financially liable for disregarding the principles of sustainable development, because, "integrating ESG [environmental, social and governance] considerations into an investment analysis so as to more reliably predict financial performance is clearly permissible and is arguably required in all jurisdictions. It is also arguable that ESG considerations must be integrated into an investment decision where a consensus (expressed or in certain circumstances implied) amongst the beneficiaries mandates a particular investment strategy and may be integrated into an investment decision where a decision-maker is required to decide between a number of value-neutral alternatives" (UNEP FI, 2005, p. 13).

Though a shift towards focussing on value creation through sustainable design embraces the property profession's central role in establishing a more sustainable society, this process must be securely underpinned by a better and more widely held understanding of the concept of sustainable development and of its profound implications for the property and construction sector. This task is made more difficult by the difficulty of distinguishing between conventional and more sustainable buildings. Paramount to this effort is an understanding that such an assessment is based on process, monitoring, feedback and adaptation.

[11] A word of caution is necessary when terms like radical or structural change are used. This has best been expressed by Meadows et al. (2004, p. 236-237): "The phrase changing structure often has ominous connotations. [...]. People may think that changing structure means changing physical structures, tearing down the old buildings and building new ones. [...] Given those interpretations, changing structure appears to be difficult, dangerous and threatening to those with economic and political power. In systems language, however, changing structure has little to do with throwing people out, tearing things down, or demolishing bureaucracies. In fact, doing any of those things without real changes in structure will just result in different people spending as much or more time and money pursuing the same goals in new buildings or organizations, producing the same old results. In systems terms, changing structure means changing the feedback structure, the information links in a system: the content and timeliness of the data that actors in the system have to work with, and ideas, goals, incentives, costs, and feedbacks that motivate our constrain behaviour. The same combination of people, organizations, and physical structures can behave completely different, if the system's actors can see a good reason for doing so, and if they have the freedom, perhaps even the incentive, to change."

Changing value perceptions indicate that the understanding of the concept of property value is in transition. An isolated analysis of mere financial variables is no longer adequate for capturing a broadening approach to the concept of property value. In fact, it is becoming evident that a property's economic value also depends on the building's capability to create and protect environmental, social and cultural values. This means new market opportunities as well as threats to present property assets in the marketplace. However, many developers and owners do not seem to recognize these opportunities and threats as they base their operations on advice from valuers who have a short-term and even more often a backward-oriented view on property value. As a result and due to collective ignorance, inertia and indifference to the real effects of public policy on sustainable development, many conventional buildings may currently be traded at an unjustifiable premium. So the short-term focus that prevails in the determination of value should progressively give way to a conception of value that includes social and environmental considerations. This shift can start with rather trivial (i.e. profit-minded) arguments that can sell among developers and investors in order to evolve toward a more holistic approach.

Understanding the interactions and interdependencies between these different value-influencing factors, and incorporating this knowledge into valuation theory and practice ranks among the profession's biggest challenges. This challenge relies not just on empirical evidence, but also on the profession recognizing that it has perhaps two very distinct functions of equal importance and legitimacy. One is the 'traditional' valuers' approach, reflecting what the market will pay today, and the second, taking on the role of strategic thinking by challenging current normative assumptions to foster an effective, structured and transparent public debate within the profession.

> "... it is becoming evident that a property's economic value also depends on the building's capability to create and protect environmental, social and cultural values."

All this makes the challenges imposed by sustainable development for property professionals, their professional bodies and their educational institutions unprecedented, both in terms of importance and scale. It is a challenge that we are institutionally under-equipped to face. However, the institutional framework will emerge on the back of far-sighted proactive policy that is informed by the best engineering, environmental, behavioural and economic science available. The market-driven property professions have not generally been comfortable taking instruction from the sciences, but now find themselves in the position of facilitator to build a transdisciplinary approach to a more sustainable society grounded on a more sustainable built environment. Failing in this task will not result in 'business as usual'. It is perpetuating the 'cuckoo mentality', whereby eggs are laid in the nests of others and left to fare as they will. Instead, property professionals must develop their maternal instincts, nurturing and caring for their offspring in a dynamic world that is rapidly changing shape, but yet is more vulnerable to system overload than ever before.

And while a mind-shift for property professionals is important, efforts must commence immediately by beginning to more accurately quantify the positive impacts of sustainable design. Property professionals who see the change need more evidence to support their message. They need a sound knowledge-base to draw upon when estimating property values or giving advice to clients. This requires an international cooperation of practitioners and researchers. Gathering this proof will not only help to move sustainable construction, investment and management quickly into the mainstream, it will also apply greater pressure on investors and investment managers (who traditionally relied only on direct internal financial returns) to include sustainability considerations within their decision-making processes.

References

Adams, C.A., 2004, The ethical, social and environmental reporting-performance portrayal gap, Accounting, Auditing & Accountability Journal, Vol. 17, No. 5, 2004, pp. 731-757

Andrews, M., 2008, Risk, inequality and the economics of disaster [online], Real-world Economics Review, Issue No. 45, 15 March 2008, pp. 2-9, Available at: <URL: http://www.paecon.net/PAEReview/issue45/Andrews45.pdf>, [Accessed at: 20 March 2008]

Barlow, S. And Fiala, D., 2007, Occupant comfort in UK offices – How adaptive comfort theories might influence future low energy office refurbishment strategies, Energy and Buildings, Vol. 39, pp. 837-846

Brealey R.A. and Myers S.C., 2000, Principles of Corporate Finance, 6th edition, Irwin McGraw Hill, New York

Chau, K.W., Leung, A.Y.T., Yiu, C.Y. and Wong, S.K., 2003, Estimating the value enhancement effects of refurbishment, Facilities, Vol. 21, No. 1/2, pp. 13-19

DiPasquale, D. and Wheaton, W.C., 1992, The Markets for Real Estate Assets and Space: A Conceptual Framework, Journal of the American Real Estate and Urban Economics Association, Vol. 20, No. 2, pp. 181-197

DiPasquale, D. and Wheaton, W.C., 1996, Urban Economics and Real Estate Markets, Prentice Hall, New Jersey

Dixon, T., Thompson, B., McAllister, P., and Snow, J., 2005, Real Estate & the New Economy – The impact of information and communications technology, Blackwell Publishing, Oxford

du Plessis, C., 2003, Boiling Frogs, Bursting Dykes, Sinking Ships and the End of the World as We Know It [online], International Electronic Journal of Construction, Special Issue article in: The Future of Sustainable Construction, Available at: <URL: http://www.bcn.ufl.edu/iejc/pindex/64/du_plessis.pdf>, [Accessed at: 29 March 2006]

European Commission, 2006, Action Plan for Energy Efficiency: Realising the Potential [online], COM (2006) 545, Available at: <URL: http://ec.europa.eu/energy/action_plan_energy_efficiency/doc/com_2006_0545_en.pdf>, [Accessed at: 19 August 2007]

GuG, 2008, Entwicklung der Wohnnebenkosten in Deutschland, GuG-Grundstücksmarkt und Grundstückswert, GuG Aktuell, Ausgabe 1, 2008, S. 3-4

Hummels, H. and Timmer, D., 2004, Investors in Need of Social, Ethical, and Environmental Information, Journal of Business Ethics, Vol. 52, 2004, pp. 73–84

Keeping, M., 2000, What about demand? Do investors want 'sustainable buildings'? [online], Published by: The RICS Research Foundation, Available at: <URL: http://www.rics.org/Practiceareas/Builtenvironment/Sustainableconstruction/what_about_the_demand_20000101.html> [Accessed at: 14 May 2003]

Kibert, C.J., 2008, Sustainable Construction: Green Building Design and Delivery, 2nd Edition, John Wiley & Sons, Hoboken, New Jersey

Kiuchi, T., 2003, What We Learned in the Rainforest: Nature's Lessons for the Green Building Industry [online], Speech held at the GreenBuilding 2003 conference, Pittsburgh, 12 November, 2003, Available at: <URL: http://www.future500.org/speech/2/>, [Accessed at: 12 March 2006]

Kiuchi, T., 2005, What I Learned In The Rainforest: Lessons For World Environment Day [online], Speech held at the UN Global Compact Symposium, San Francisco, 3 June, 2005, Available at: <URL: http://www.future500.org/speech/12/>, [Accessed at: 12 March 2006]

Lützkendorf, T. and Lorenz, D., 2005, Sustainable Property Investment: Valuing sustainable buildings through property performance assessment, Building Research & Information, Vol. 33, No. 3, pp. 212-234

Matthiessen, L. F. and Morris, P., 2007, Cost of Green Revisited - Reexamining the Feasibility and Cost Impact of Sustainable Design in the Light of Increased Market Adoption [online], Published by: Davis Langdon, Available at: <URL: http://www.davislangdon.com/upload/images/publications/USA/The%20Cost%20of%20Green%20Revisited.pdf>, [Accessed at: 21 January 2008]

McDonough, W. and Braungart, M., 2003, Towards a sustaining architecture for the 21st century: the promise of cradle-to-cradle design, In: UNEP, 2003, Sustainable building and construction, Industry and Environment, Vol. 26, No. 2-3, Published by: United Nations Environment Programme Division of Technology, Industry and Economics, Paris, pp. 13-16

Meadows D.H., Randers, J. and Meadows D.I., 2004, Limits to Growth – The 30-Year Update, Chelsea Green Publishing, White River Jct.

OECD, 2003, Environmentally Sustainable Buildings – Challenges and Policies, OECD Publications, Paris, 2003

Pivo, G. and McNamara, P., 2005, Responsible Property Investing, International Real Estate Review, Vol. 8, No. 1, 2005, pp. 128-143

Poel, B., van Cruchten, G., and Balaras, C.A., 2007, Energy performance assessment of existing dwellings, Energy and Buildings, Vol. 39, pp. 393-403

RICS, 2005, Green Value – Green buildings, growing assets [online], Published by: The Royal Institution of Chartered Surveyors, Available at: <URL: http://www.rics.org/Practiceareas/Property/Green+value.htm>, [Accessed at: 18 November 2007]

Rogers, J., 2005, We have financial fundamentals, so why not sustainability fundamentals?, In: Ethical Corporation Magazine, No. 2, February 2005, pp. 38-39

Stern, N., 2006, Stern Review on the Economics of Climate Change [online], Available at: <http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/sternreview_index.cfm>, [Accessed at: 24 December 2007]

UNEP, 2006, Sustainable Building & Construction Initiative – Information Note [online], Published by: United Nations Environment Programme Division of Technology, Industry and Economics, Available at: <URL: http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=469&ArticleID=5204&l=en> , [Accessed at: 24 March 2006]

UNEP FI, 2005, A legal framework for the integration of environmental, social and governance issues into institutional investment [online], Published by: United Nations Environment Programme Finance Initiative, Available at: <URL: http://www.unepfi.org/fileadmin/documents/freshfields_legal_resp_20051123.pdf>, [Accessed at: 08 December 2005]

UNEP FI, 2007, Demystifying Responsible Investment Performance – A review of key academic and broker research on ESG factors [online], Published by: United Nations Environment Programme Finance Initiative, Available at: <URL: http://www.unepfi.org/fileadmin/documents/Demystifying_Responsible_Investment_Performance_01.pdf>, [Accessed at: 08 December 2007]

van Genne, F., 2008, Drivers for Demand [online], Speech held at the EU Sustainable Energy Week, RICS Panel Session on Investing in a Sustainable Built Environment, Brussels, 30 January 2008, Available at: <URL: http://www.rics.org/Newsroom/Keyissues/Energy/RICS_EUSEW_conference_n_040208.html>, [Accessed at: 12 March 2008]

Zavadskas, E.K., Kaklauskas, A. and Gulbinas, A., 2004, Multiple Criteria Decision Support Web-Based Systems for Building Refurbishment, Journal of Civil Engineering and Management, Vol. X, No. 1, pp. 77-85

www.rics.org

RICS (Royal Institution of Chartered Surveyors) is the leading organisation of its kind in the world for professionals in property, land, construction and related environmental issues. As part of our role we help to **set, maintain and regulate standards** – as well as providing **impartial advice** to Governments and policymakers. RICS has 140 000 members who operate out of 146 countries, supported by an extensive network of regional offices located in every continent around the world.

To ensure that our members are able to provide the **quality of advice** and **level of integrity** required by the market, RICS qualifications are only awarded to individuals who meet the most rigorous requirements for both education and experience and who are prepared to maintain **high standards** in the public interest. With this in mind it's perhaps not surprising that the letters RICS represent the mark of property professionalism worldwide.

The Royal Institution of Chartered Surveyors
12 Great George Street
Parliament Square
London SW1P 3AD
United Kingdom

T +44 (0)870 333 1600
F +44 (0)20 7334 3811
contactrics@rics.org
www.rics.org

RICS Europe
Rue Ducale 67
1000 Brussels
Belgium

T +32 2 733 1019
F +32 2 742 9748
ricseurope@rics.org

RICS Americas
The Lincoln Building
60 East 42nd Street
Suite 2918
New York, NY 10165
USA

T + 1 212 847 7400
F +1 212 847 7401
ricsamericas@rics.org

RICS Asia Pacific
Suite 2104
Central Plaza
18 Harbour Road
Wanchai
Hong Kong

T +852 2537 7117
F +852 2537 2756
ricsasiapacific@rics.org

RICS Oceania
Suite 2, Level 16
1 Castlereagh Street
Sydney
NSW 2000
Australia

T +61 292 162 333
F +61 292 325 591
ricsoceania@rics.org

September 2008/Regions/45088/Sterling

RICS

The mark of
property professionalism worldwide