

Valuation and Sustainability are Rating Tools Enough?

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The lack of sufficient financial drivers are preventing significant investment in sustainability because stakeholders have only very limited ability to measure the sustainability of the building or understand the impact upon the value. Valuers are unable to indicate or clarify whether sustainability is affecting market value as there is an absence of detailed market evidence, sales data and lease transactions of sustainable building. Leaving both Valuers and other stakeholders uncertain of the value implication as there is no reliable evidence as to whether sustainable buildings are feasible (Lutzkendorf and Lorenz, 2005). One of the key barriers is the confusion evident in the industry particularly the measurement of sustainability in commercial property. Although a range of environmental rating tools exist for buildings globally in commercial property, the synergy between these tools and identification of the relationship between the measurement and market value is inherently blurred due to the unique nature of the compilation of points attributed in the rating tools for sustainability or energy certificates in commercial property. The paper examines the challenges that face the Valuation profession in assessing the impact of sustainability on market value.

INTRODUCTION

The lack of evidence demonstrating the financial benefits of sustainability in commercial property is preventing a more significant investment in sustainability; as stakeholders are hesitant to invest capital in initiatives that do not demonstrate a clearly positive effect on market value. Sustainability has a multi-faceted list of benefits; however the drivers in the property market are focused upon the financial viability of an investment. Although there are many theoretical financial benefits Valuers have struggled to identify and verify the connection between sustainability and market value in commercial property. Furthermore if a clear connection can be identified the exact amount of the added “Green Value” can in most submarkets until today not be quantified exactly. This is not necessarily because the connection between sustainability and market value does not exist; but more that the ability of Valuers to assess sustainability in commercial property and identify the value of this is inherently difficult.

This paper discusses research from three different studies that have investigated Valuers issues and barriers in the assessment of sustainability in commercial property valuation. Two studies are from the Australasian region, whilst the third is from a European context. Although the purpose of these studies varies; they have inevitably identified similar issues and barriers preventing the assessment of sustainability in commercial property valuation. The uniformity of the issues for the valuation profession across multiple countries clearly identifies the needs of the industry to progress. In order to clarify whether sustainability has an effect on market value a number of solutions have been suggested.

SUSTAINABILITY AND MEASUREMENT

The world has changed over the past couple of decades with an ever increasing recognition that we can no longer continue to use natural resources without facing environmental consequences. Business and the property industry have been slow to react to this changing view of the world, even though there has been awareness of the growing environmental consequences of our actions since the Industrial Revolution. As Engles (1876, 5) at the time pointed out; *‘Let us not, however, flatter ourselves overmuch on account of our human victories over nature. For each such victory nature takes its revenge on us. Each victory, it is true, in the first place brings about the results we expected, but in the second and third places it has quite different, unforeseen effects which only too often cancel the first.’* So in the twenty first century we must address the consequences of our past actions. We face a world in which the potential effects of climate change are very significant: *‘The future of our economy and way of life, the future of our farmlands, our rich tourist areas, from our cities to*

Australia's Antarctic Territory, are at risk, for simply put, the consequences of climate change inaction are potentially devastating' (Garrett, 2008).

The single minded pursuit of short term profitability by business and the development industry especially in the context of the buy-and-sell-strategies, with a 'couldn't care less' approach to the environment, can no longer be justified, the cancer-like ideology of unlimited and unending growth can no longer be sustained (Dunphy et al., 2007, 5). Governments can no longer maintain a Laissez-faire attitude and must intervene in the market to promote sustainable building practices. The property industry has reacted to the changing environment with a rapid growth in the recognition that as stewards of the built environment environmentally sustainable development must be embraced. Although government support and non-profit organizations like the Green Building Councils of the world have enabled sustainable assessment tools to encourage the industry; the solution to ensuring that the built environment improves its sustainability over time is threatened by the varying measurement of sustainability evident in these tools.

There has been much debate as to what the word 'sustainability' actually means with, at last count, over 500 definitions which has led to much confusion (Phillips, 2003). The widely accepted definition of sustainability is that proffered in the Brundtland Report which states; *'Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.'* (Brundtland Commission, 1987). This simple shortened definition taken from a wide ranging report has in some authors' view has been unhelpful, leading to vagueness about the concept of sustainable development. Indeed the all encompassing character of the word has rendered 'it virtually ineffectual as its meaning has seemingly grown to include almost everything' (Phillips, 2003). Consequently environmental rating tools have been developed and applied in addressing varying aspects of 'sustainability' focusing on the three pillars of sustainability which means the ecological, economical and social dimension

As a starting point it can be argued that a sustainable building is not simply a recipe or kit home since there is no standard pro-forma from which all sustainable buildings can be built and managed. Every building is unique as the design, development and management rely heavily upon the environment around it and also housed within the building. *'The objective of the concept of sustainability in property is that throughout its lifecycle, design, construction, operation and disposal the building itself uses as little natural resources as possible, reduces the production of CO₂ emissions, waste and environmental footprint whilst at the same time providing an enhanced building environment for occupants and the greater community'* (Warren-Myers and Reed, 2009, 2). The unique aspect of sustainability as well as the attributes of each building makes it inherently difficult to compare the level of sustainability in different buildings.

To help solve this issue in the property industry, different rating tools have been developed by various organizations to quantify sustainability in commercial buildings. Globally there are more than 100 different types of environmental rating tools, however the well known tools include: LEED (USA and Canada), Energy Star (USA), BREEAM (United Kingdom), CASBEE (Japan), Green Star (Australia) and NABERS (Australia) just to name a few. Furthermore there are tools or concepts that focus on a specific aspect of sustainability like energy efficiency within the European Energy Certificates (ECPs). Many of these rating tools share similar intellectual property (IP) and intent,

with the majority of these tools rating a building through its design and construction phase; only Energy Star, NABERS and ABGR (NABERS and ABGR are now known collectively as NABERS) examine a building in operation. It is obvious that from the perspective of a Valuer the integration of these tools or better the results into property valuation practice is not an easy task. Taking as an example the European EPCs with different rating systems in every country and just a result for energy and no other green features.

The interpretation of various definitions of sustainability and its application to the built environment is evident in the broad range of rating tools for the built environment that apply to the various life cycles stages of buildings. Rating tools worldwide vary in the manner in which they have been developed, their objectives, implementation in the built environment and the compulsory or voluntary nature of the rating tools. Some of the key environmental rating tools namely LEED, BREAM and Green Star use a similar format and methodology to assess sustainability in property focusing on the design of the buildings; with a particular focus on new development. Whereas other tools Energy Star, NABERS and the compulsory energy certification required in the EU focus upon the operational nature of the buildings and using historical building data to assess the sustainability of the building. Looking ahead the good news is that in the future we will likely see more harmonization concerning the measurement and the content of the various tools – for example LEED, BREAM and GREEN STAR are currently working together on a standard set for the integration of CO2 measurement.

VALUATION

Conventional office buildings are currently appraised through conventional proven valuation approaches. To prove the financial benefits of a sustainable building are maximized, investors need to be able to compare valuation appraisals of sustainable buildings to that of conventional buildings in order to identify the financial viability and to correctly make economic investment decisions (Myers, 2008). More precisely one needs to identify the investment premium granted when developing sustainable. This premium is often referred to as the “Green Value”.

The concept of Market Value is an international concept upon which the global property market relies on. The concept and methodologies used to assess the Market Value of a commercial property is set down by the International Valuation Standards Committee and regulated by country specific Institutes or legislation. **Market Value** is defined as: ‘the estimated amount for which a property should exchange on the date of valuation between a willing buyer and a willing seller in an arms’ length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently and without compulsion’ (IVSC, 2008). In other words, as defined initially in an Australian landmark case *Spencer v. The Commonwealth* (1907) 5 CLR 418, p. 44, the judgment of ‘value’ would be arrived at by voluntary bargaining between two astute parties (i.e. a vendor and purchaser), both being fully knowledgeable of the property being transacted (i.e. its beneficial and detrimental features) and of all the factors that influence its market value.

A **Green Building** is a property “that uses resources efficiently, reduce waste and provide superior indoor air and other qualities.” A **Green Value** is the net additional value obtainable by a green

building in the market” compared to a non-green peer group. Therefore the Green value is an integral part of the overall market value. Both parts can only theoretically be separated (RICS, 2005, p.2). The assessment of market value in commercial property is primarily reliant upon two approaches with the utilization of a third method in order to assess the comparability of the assessments undertaken. To determine the market value of a commercial property of an income producing nature is commonly undertaken through the Income approach that utilizes both the Capitalization of Income approach and Discounted Cashflow approach (DCF). These approaches in their assessment are dependent upon the current attributes and financial aspects of the property in particular the income and expenses attributed to the building which allow the net operating income to be ascertained. However, in order to assess the market value the property needs to be assessed in the market. As a result to assess the market value of a subject property requires an analysis of comparable properties.

The determination of market value, whether using the capitalisation or DCF approaches, relies on the current market rents and yields of comparable properties. A Valuer undertakes a range of comparative analyses of other properties when identifying market rents and yields for the subject property. Thus key determinants of market value depend greatly upon past transactions and the current property market climate. However the valuation community rely heavily upon comparable transacted evidence to determine the market rents and consequently identify market value (Myers, 2008).

The **income approach** is applicable to properties for which an active rental market exists. To value an income-producing property, an appraiser or Valuer estimates the net rental income the property is expected to generate and converts this income into an indication of value by applying a rent multiplier.

Of course this very basic explanation might get much more complex in practical work when it comes to Discounted-Cash-Flow models or Term-and-Reversion method, but the underlying fundamentals remain the same: One must convert income expected in the future into a present value. The rate at which the income is capitalized (the all risk yield) or discounted (discount rate) is derived from market analysis and reflects all future systematic and unsystematic risks within the particular property sector. Income related approaches are applied for buildings like offices, shopping centres, and residential buildings.

The DCF approach provides a value estimate by discounting future income and outgoings per period and adds to this figure a terminal value after determination of the holding period, which is typically 10 years. The method is seen by some as more accurate and transparent because it reveals all assumptions regarding the various input parameters explicitly like:¹

- Renewal probability and timing;
- Different growth factors for income and non-recoverable costs;
- Vacancies;
- Capital expenditure; and

¹ Myers/Reed, 2008, p.304

- Market rents among others.

We assume this approach is more precise when looking at potentially just marginal changes of the various input parameters due to a “green impact” which might be otherwise be hard to identify and allocate in a transparent and correct manner. In practice the assessment of a commercial office property traditionally is undertaken utilizing *both* the Capitalisation of Income Approach as well as the DCF Approach. In order to ensure the correct assumptions and assessment comparable sales, rental and other building information is used to assess the property’s attributes and consequently the assumptions and inputs required for these methodologies and determination of market value.

It is important to remember when considering the values attributed to buildings that it is not the Valuer that ‘makes the market’. Valuers reflect market evidence. It is not the Valuers role to speculate on what a value should be and to speculate on what the future might or might not hold for any particular asset (Bienert et al., 2009). That said Valuers are cognizant of the need to reflect a wide range of changing factors when arriving at their valuation and will consider all of the risk factors attributable to the asset. As noted above however, Valuers need some measure of what a sustainable building is in order to be able to evaluate the risk factors (Warren, 2009). Already at this stage we can also assume that green attributes are associated with a high degree of inherent risk since only few aspects of market evidence are available, the whole sustainable movement might be to some extent be left behind in the context of the current economic crises and so on. The uncertainty coming along with the impact of sustainability on current values makes it even harder for the Valuer to perform the task.

ISSUES IDENTIFIED IN ASSESSING SUSTAINABILITY IN VALUATION

Investors² view sustainability as either an opportunity (i.e. it will make a lot of money or will it pay off) or a threat (it will cost a lot of money and potentially not pay off within the holding period), or both. The uptake of sustainability and sustainable practices in buildings would be accelerated if investors understood the direct impact on the value of their property and portfolios. There is much documented research on the costs of sustainability, and many of these studies are proving that the additional cost is minimal, if any (DavisLangdonConsultancy, 2004, Matthiessen and Morris, 2004, Suttell, 2006). In other words many of the benefits of sustainability can be analyzed back to tangible financial elements. Table 1 addresses the commonly discussed financial benefits for Investors (Paumgarten, 2003, JLL, 2007, Bowman and Wills, 2008, Kats, 2003, Madew, 2006).

Table 1 Potential Benefits for Investors

- Improved tenant retention
- Shorter letting-up periods
- Enhanced brand and marketing edge
- Mitigation against future regulatory impacts

² Investors are identified as major investment funds, REITS, unlisted trusts, major companies focused on property investment

- Increased market share
- Reduced vacancies
- Higher net revenue return
- Higher rents
- Reduced operating costs
- Potential for reduced depreciation and obsolescence
- Efficient reporting to stakeholders
- Corporate Social Responsibility (CSR)

However there is a large proportion of intangible value and externalities associated with sustainability which might until today not be reflected totally within the market value. It must be stressed that only aspects that have an impact on prices are reflected. Therefore if there are no penalties for higher CO2 emission there will be no impact on values (unless this aspect is likely to arise in the future and is therefore reflected in the (higher) yield applied). Also for example a higher tenant productivity is only incorporated in higher values if the corporate user reveals this productivity in a higher willingness to pay and therefore higher rents.

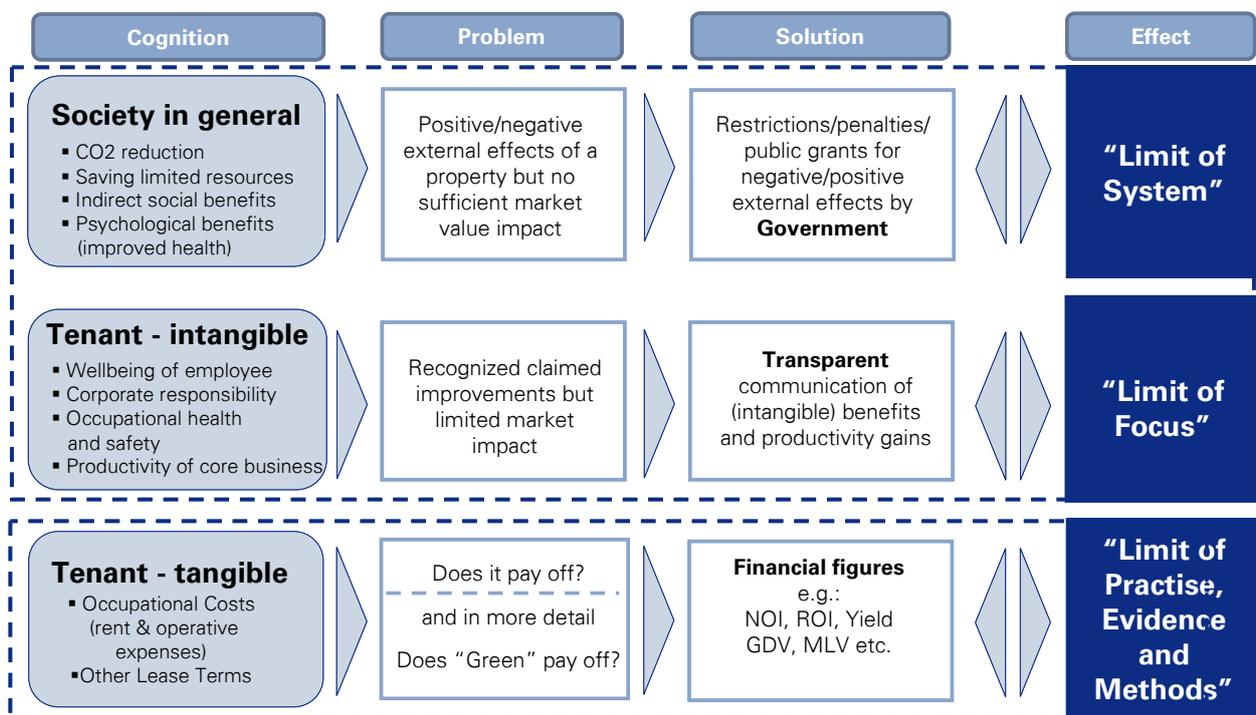


Figure 1: Obstacles for a full integration of green features

In the end we must be aware that only tangible aspects are reflected in valuation and can be addressed within the context of this paper.

The research that is collated here has been undertaken by three different researchers in different regions from Australasia and Europe. The research undertaken has focused upon similar objectives although implemented in different processes however have found recurring themes in the valuation communities. These issues are addressed hereafter and present unified need to identify solutions in order to progress.

Myers (2008) in her research has investigated the issues concerning the market value of commercial property that demonstrate sustainability and consequently has identified key issues and barriers in the practice of valuing sustainability in commercial property. Myers research undertook Investor focused perception surveys and Valuer surveys across Australia and New Zealand; investigating the various relationships and attitudes towards sustainability in commercial property. The Investor survey received 30 responses of the 50 Investment focused Investment Institutions, Real Estate Trusts and companies; whilst the Valuer survey of commercial property Valuers in Australia (focused on Victoria) and New Zealand totaled 244 responses.

Bienert (2009) in his research funded by the EU (project IMMOVALUE) has investigated issues to secure and intensify the market impact of energy performance certificates/energy efficiency and life-cycle cost (LCC) approaches by strengthening the link between energy performance of buildings and property valuation. Methodologies and useful guidelines for the daily property valuation business have been developed to assure that energy efficiency and LCC aspects are properly included in the calculations carried out to derive market values. Studies include advanced hedonic pricing models as well as hands-on templates for daily valuation business. Different approaches for developed and in more transparent markets were developed by his European research team consisting of experts from various European countries. The drafted methods will be tested soon. The project was started in October 2008 and will be terminated in Spring 2010.

Warren (2009) focused on the Australian market and the growth of sustainable building evaluation tools. This research drew on the market evidence presented by both the Green Building Council of Australia and the NABERS rating scheme. It showed that while the uptake of rating systems in the Australian market is growing there is still a relatively small percentage of the building stock that possesses sustainable attributes. The research also revealed the growing problem which Valuers face in utilizing these rating tools as a proxy for sustainability of the building in that many buildings are rated at the design stage only and may not necessarily be constructed according to the accredited design. Secondly as rating tools evolve to meet changing technology it becomes increasingly important from a valuation perspective to ascertain which version of the rating tool the building was assessed under and more specifically which individual credit points were used in arriving at an overall score. Thus Valuers and those seeking to measure the financial attributes of sustainable buildings will need to be very cautious when relying on third party rating systems.

The three studies have found corroborating responses and evidence of particular aspects relating to the valuation of sustainability in commercial property. Ranging from issues related to the nature of the industry to the knowledge level of Valuers. These issues are discussed briefly and are identified as being key barriers to the progress of the valuation fraternity to understand and assess sustainability in commercial property and incorporate this into valuation practice.

It is not only the secretive nature of the property industry that has prevented details of market transactions of sustainable buildings becoming widespread knowledge, but also the lack of sustainable buildings in any one market (Warren, 2009). Other compromising issues also relates to the sustainable buildings themselves, since these buildings are essentially unique to each other as different aspects of sustainability have been achieved in each building. This in turn makes it increasingly difficult for a valuation professional to understand the differences between the buildings and thus also understand and analyse comparable variables.

However, the evidence to demonstrate the aforementioned benefits has not been presented, nor has this been researched to a level that can definitively demonstrate to the industry that these benefits are able to be achieved. This is a result of a number of factors including market maturity, market secrecy and the inability of tools to accurately assess the impact upon market value.

The challenge for Valuers is to appraise a new factor like the introduction of compulsory energy certificates or environmental rating certification in an appropriate way. Even if the consequences of the introduction itself are not fully quantifiable at the moment, the integration of this new factor must follow a methodologically sound valuation practice (Bienert et al., 2009). The introduction of sustainability and what it means to the property market is still developing, however this can be likened to the technological advances made in the 20th century of; lifts, air conditioning and IT. Buildings have continued to adapt and incorporate these advances and consequently the market has driven how these influence and affect the market and the market value of property. However, in order to start addressing the effect of sustainability upon commercial property, and property in general there are a number of issues that are acting as barriers to enable Valuers and Appraisers to better assess sustainability in commercial property and its effect on market value.

The inability to compare *all* buildings (i.e. new and existing) under a single rating system and be able to analyze whether the performance of the building matches its certification has created considerable confusion and a failure to accurately identify the market value of sustainability. Even so, the current industry rating tools are not at a point where all the building stock can be compared or analyzed throughout its lifecycle holistically and on performance. This makes it inherently difficult for Valuers to identify whether there is a differentiation in the market value of buildings with a higher level of sustainability (Warren-Myers and Reed, 2009).

Within the rating tools, particularly design orientated tools like LEED, Green Star and BREEAM where the certification is assessed over a number of environmental categories. The ability to compare properties is inherently difficult; as the achievement of certification can be accomplished through various pathways and often these are not openly addressed or advertised in the market place. Therefore the lack of transparency in how buildings achieve their certification levels

prevents Valuers and Appraisers from being able to compare properties on a 'like for like' basis as required by valuation statute.

It is also clear that Valuers and investors need a clear demonstration of the sustainability credentials of a building before they are willing to reflect this in an increased market value for that asset. The analysis of the buildings currently certified shows that this is still a relatively small proportion of the market from which to draw evidence. Add to this the distinct uncertainty perceived by many that just because a building has a Green Star design certification that it was actually built to that design standard, then how is the investor and Valuer to decide on the added value to that building of its sustainable attributes? Is it left to the Valuer to then verify each of the design elements, even if the building was built to the certified design? Occupiers want to know that the sustainability attributes of the building are being delivered both from a design perspective and from an 'as built' and ongoing operation perspective. The rise of so called green leases is testament to this growing trend and an area which requires considerable further research.

The secretive nature of the property market has caused considerable issues and prevented the assessment and analysis of commercial property transactions. Therefore the utilization of the comparison of transactions for sales and leaseings has been inherently difficult for Valuers; thus preventing the industry to accept or identify whether a differential is noted in the buildings that demonstrate an increased level of sustainability.

The need for further education of the valuation profession in sustainability in property and the industry rating tools is necessary so that sustainability assessment can be incorporated within valuation practice and consequently it can become clearer as to the effects of sustainability on market value. There is also the potential need for the development of a matrix by which Valuers are able to use in order to accurately assess the sustainability attributes in a building. However, in order for this to be implemented successfully the valuation profession would require considerable up-skilling in understanding the elements which make a building more sustainable. Although this research has not identified whether rating tools have an impact on the market value of commercial property, it has clearly identified a number of key barriers that need to be solved before it is possible to accurately determine the impact of sustainability on the market value of commercial property.

A commonly stated financial benefit that has been considerably researched is tenants willingness to pay more to be in a sustainable building (JLL, 2006, Madew, 2006). If tenants will have to pay a lower energy and water bill and receive the positive benefits of employee productivity and health they might be willing to spend more on the rent (here the potential gross income). However one might argue that tenants will potentially bargain that the reduction will just lead to reduced overall occupancy cost for the tenant but not necessarily to a higher rent for the landlord depending upon the lease structure. Still latest regression results from the US and Europe indicate that a positive effect on rental income is indeed the case - The impact is of course market dependant but a 10 % lower energy bill is likely to stimulate a 30 to 70 BP higher potential gross income. A higher demand for buildings with increased sustainability levels might lead to a tenants' willingness to pay just because these buildings are more "prestigious/desirable", while rents for buildings of a poor thermal quality tend to decrease. Again this aspect could also be criticized since first the question

needs to be answered for how long the tenant might want to pay this premium, since every new product or idea will lose its ‘bonus’ over time.

To what extent the net rental income will rise compared to non-green comparable properties is not predictable on a general level. The market will set “new” prices for energy efficient buildings or more sustainable buildings and those that are inefficient or less sustainable buildings, respectively. Yet another fact is that there is not general rule for every submarket and also no constant relationship between higher costs and higher values. Furthermore, a number of different factors must be considered, e.g. the location of the building: Retail units in top-locations tend to be leased at a higher price and show lower vacancy rates, no matter if they offer is a good or poor thermal quality. On the other hand in times of oversupply, for “standard” buildings energy efficiency and sustainability will play a crucial role for their marketability. Both arguments reflect the fact that the relevance of sustainability and energy efficiency must be dependent on different factors, like market state, vacancies, location, use etc.

However, since most markets until today do not reflect comprehensive results concerning sustainability levels or energy savings in the sense of higher revenues, Valuers should not estimate this fact pro-actively by pricing in assumed reactions of the market. A fundamental principle behind this is that an appraiser must reflect the market reaction and current state but may not influence it. A pro active estimation of the effects might influence the market in an endogenous way. As long as nobody knows how the new transparency achieved by sustainability ratings or energy certificates will affect the market, Valuers must observe and analyze market behavior and derive persistently attainable rents for each property individually. To a certain extent the rental income reflected in the valuation process today must also account for future rental growth which might be linked to sustainability and energy efficiency. This leads us to the next possible adjustment, the yield, since rental growth within the income approach (except DCF-Models) is incorporated in the yield applied. It is often stated that green-buildings are to a greater extent “future-proof” meaning that their inherent risk for a likely more restrictive legislative environment for not sustainable properties should be reflected within the yield applied. Also aspects like the expected future fluctuation of energy prices have an impact on energy costs and therefore rental growth paths which should also be incorporated within the yield applied.

In general the lease agreement should be discussed in connection with the rental income that results based on these agreements. However the simple direct capitalization approach may fail to reflect certain lease terms in the valuation process. Since these might be positively influenced by green building features this is indeed a strong argument for the application of like DCF when it comes to assessing the assumptions required in terms of:

- Capitalisation rate
- Discount rate
- Shorter lease up periods
- Tenant retention
- Lease terms

Long rentals are in some cases – for the government or big corporates – a substitute for higher rents they can avoid when leasing energy efficient buildings. However the evidence to support longer lease terms, shorter lease up periods and tenant retention is limited; as the majority of green or sustainable buildings have been built within the last 5-10 years and in the majority of cases there has not yet been an option to renew or witness the shortened lease up periods. Those sustainable rated buildings that have been designed are not necessarily built as designed or continue to be operated to gain benefit from the sustainable attributes designed into the building. Lease lengths are dependent upon the market in which they are struck and commonly will follow a market trend rather than whether a building has particular sustainable attributes. This is consequently linked to the claim of lower vacancy rates for commercial properties with sustainable attributes or energy efficiency.

The outgoings of a building demonstrating increased energy efficiency and sustainable attributes are said to be considerably lower than a conventional property. However, although their resource costs in particular energy and water may be lower; the cost to ensure that building maintains its sustainability and energy efficiency is questionable and requires further research. Maintenance and monitoring costs of a sustainable building or a highly efficient building may be considerably more to maintain that level of sustainability or efficiency. The concept of lower outgoings may in fact be a myth as the adjustment of the maintenance costs in the context of energy and water efficiency is that e.g. buildings in a good efficiency level are in top-condition and therefore cause lower maintenance costs. Or, as the other side of the coin, cause higher costs because of sophisticated technical equipment like heat pumps or solar heating systems.

The derivation of the yield is one of the most important parts when applying the standardized direct capitalization method as well as the discounted cash flow method. The idea of integrating the energy certification (in the EU) at this point of the appraisal process is as follows: the new transparency concerning energy efficiency will change the demand side of the market to some extent. Buildings of a good thermal quality will have a lower risk concerning marketability while buildings of a poor thermal quality will probably suffer from lower rents and higher vacancy rates resulting from lower demand and therefore a higher yield. The attribute “Future proofed” against rising energy costs results in a lower risk profile and therefore lower yields. This argument is not redundant to higher income, since the likelihood of a better growth prospective needs to be reflected in the yield even so if at present income must not have changed to a great extent. On the other hand the appraiser has of course to avoid redundancies in the valuation.

Finding the “right” yield is the crucial point for every valuation and at least in a lot of European countries the applied all risk, terminal, equated, equivalent and so on yields are potentially also the most vulnerable part for the Valuer – on the other hand it’s “his professional judgment” and therefore the explanation is just his “market feeling”. Bienert et al (2009) have analyzed valuations for assets worth more than 6 Billion Euro of various valuation companies and no matter how profound market research was for other parts, the best explanation for the yield is in most cases just the net initial yield for three comparables (without a proper definition for the NIY in most cases). The point is that there is already still a huge gap between theoretically profound calculations of yields and practical application as well as available market data. This leads to the fact that even if green-features should be priced in by adjusting the yield, we must be realistic

enough that for appraisers this will be a very hard task as there is a lack of transactional evidence to support such a move.

One fundamental basic of property valuation is finding comparable data – not just when applying the comparison approach – and analyze this data to derive input figures which could be used within the valuation process. The essential rule to ensure that the outcome is correct is therefore: to compare apples with apples! Comparables must have the same building characteristics in terms of location, technical equipment, condition, tenant profile among other attributes and also with respect to the green-features for example the energy efficiency level. With the introduction of yet another aspect which needs to be comparable the assessment of the subject and comparable properties will become far more complex.

SUGGESTIONS AND CONCLUSIONS

The identification of the key barriers in the three studies that are preventing the valuation community from progressing in the ability to assess and incorporate the effects of sustainability in the assessment of market value for commercial property requires solutions. Therefore a series of solutions are suggested in order to increase the understanding and assessment of sustainability in valuation practice.

Firstly; Valuers need to understand what sustainability means in commercial property. Not only the concept of sustainability but also have an in-depth understanding of the industry rating tools and certifications. Particularly how these assessments are undertaken and be aware of the ramifications that these tools may affect the assumptions and assessment of the property (Warren-Myers and Reed, 2009). The need for more information and impartial research to help the valuation community understand the relationship between sustainability and market value is required.

The incorporation of sustainability in valuation is going to require at the outset the incorporation and assessment of sustainability in the property as an element of the property described and detailed within the report. By identifying the sustainable attributes of the building; both design and operational a database will enable better comparative analysis and also begin identifying whether sustainability is having an effect upon various elements in the assessment of market value. Jones Lang LaSalle Advisory (Australia) has already begun taking this step by creating a proforma in order to help Valuers identify the particular attributes of sustainability in commercial property and the objectives of the management to achieve increasing levels of sustainability. This information is now being incorporated into reports for commercial properties to assess the level of sustainability in the property. At the same time Jones Lang LaSalle is also tracking certification of buildings and transactions happening within these buildings creating a significant database of property information and transactions that will provide detailed evidence in years to come of the effects of sustainability on commercial property.

The number of certified buildings in comparison to the broader commercial office stock is limited, with a very small number of certified buildings in some markets(Warren, 2009). Consequently the current numbers of certified buildings highlights that there is limited evidence and transactions. In valuation practice the need to use comparable evidence to identify market rents and assumptions

used to assess market value for a subject property is hindered. This is further stalled by the variability in the rating tools and systems used in the markets and the inability to easily compare the sustainable attributes of the properties. The secretive nature of the industry needs to be improved in order to progress; Valuers need to share information and transactional information as well as experience and assessment techniques (Bienert et al., 2009).

The language and assessment of sustainability through labels, certification and rating systems need to clearly address the language of the appraisal community to be understood and transferred into monetary measures. In order for this to be done a collaborative approach is required for the Valuations standards to address the new topic of sustainable issues directly and help appraisers to process the information gathered correctly. This will only be achieved by significant impartial research into the parameters of sustainability and the understanding of the effects on property. This research does not just need to be done using advanced valuation techniques and methodologies but also involve intimately the practicing Valuers and their ability to assess sustainability within their practice.

The need for Appraisers and Valuers to gather more impartial evidence of how green features contribute to the overall value is required for them to assess the impact, if any on the market value of property. There needs to be greater support for research to isolate the value drivers of sustainability for ALL stakeholders; because the more transparent this relationship becomes the more confident market stakeholders will be in making financial decisions relating to sustainability, consequently creating evidence to demonstrate the value impact of sustainability. 'In general we all must work as real estate professionals hard to tear down the barriers "green" sometime still faces in our industry' (Bienert et al., 2009).

The accuracy of the valuation will depend upon the skills and market knowledge of the appraiser and his understanding of the fundamental context of green features and how they contribute to the overall market value. Therefore this paper can only support the understanding of basic fundamentals referring to green values – the answer for a specific property in a specific market will differ a lot and it is the appraisers' task to transparently reveal the market behavior in "his" submarket concerning certain features.

We are sure that time will heal most of the open issues since market evidence will become eventually better and Valuers will automatically be in a more favorable situation once market data can be stated. Still finding comparable evidence is the cornerstone of valuation and with yet another attribute (sustainability) makes the property market even more heterogeneous and this means that skills and education must be further supported in order for the valuation profession to be able to accurately assess the market value of property now and into the future.

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