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The Potential Impacts of the “Green” Building Movement on Commercial Property Valuation and Associated University Curricula

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ABSTRACT
The development and investment sectors of the commercial property market presently struggle to validate higher development costs for “Green” Buildings. New dimensions in property market dynamics surround the measurement of green building returns. These are likely to result in some fundamental changes to the enquiries and perhaps rationale used to determine relevant valuations. This paper explores the new and evolving factors becoming increasingly relevant in the valuation of green and non-green commercial building stock as a response to sustainable performance measurement and attempts to identify the gaps in training for property valuers.

KEYWORDS
green buildings, sustainability, valuation, education, commercial property, retrofitting, energy efficiency

INTRODUCTION
International concerns over global warming and degradation of the environment generally have given rise to the “green building” phenomenon. Green Building is defined as:

The practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's life-cycle from siting to design, construction, operation, maintenance, renovation and deconstruction. Green buildings are designed to reduce the overall impact of the built environment on human health and the natural environment by:

• Efficiently using energy, water, and other resources
• Protecting occupant health and improving employee productivity
• Reducing waste, pollution and environmental degradation”
(United States Environmental Protection Agency and adopted by Green Building Council of Australia)
Buildings designed to meet performance benchmarks orientated around the above-mentioned “green” criteria are the standard for new commercial buildings globally. A parallel strategy in achieving positive environmental outcomes in the sector is the process of “greening” existing “brown” commercial buildings. This process primarily involves “retro-fitting” existing buildings to achieve energy and water usage savings however may involve additional works such as improving indoor air quality, workplace environment or installation of carbon efficient electricity generation plant.

In Australia new premium grade commercial buildings constructed in recent years have been conceived, designed, constructed and are ultimately operated to meet high “green” performance criteria. Anecdotal evidence suggests that the additional costs involved in incorporating “green” criteria into these new buildings increases development costs by approximately 5-7% for a new building.

Minimal retro-fitting work to achieve improved energy efficient performance in a range of existing commercial buildings in Sydney was recently reported to cost from about $60 - $160 per square metre NLA. More comprehensive “exemplar project” retro-fitting costs were reported at up to $550 per square metre NLA (Churchill 2010).

Whilst there is no doubt that building or retro-fitting for improved energy efficient and other “green” performance standards adds cost, evidence that the rental and investment markets add value for “green” performance is not as apparent. The absence of transparent market data clearly demonstrating rental or capital value price differentiation between green and non-green (brown) commercial buildings based solely on “green” performance characteristics has been and remains the subject of much research and conjecture within industry.

Academic studies seeking to quantify the same, have until recently failed to produce convincing evidence of market discrimination between prime green vs. brown commercial buildings. Whilst more recent academic studies present evidence of positive price discrimination, (Eichholtz, Kok & Quigley 2009), valuers have not relied on the results of these studies to quantitatively apply within valuations, but rather look for direct transaction based evidence sourced from recent property transactions.

This direct evidence is elusive, possibly because the sustainable characteristics of a building are intertwined with many other aspects of value reflected in transaction price / yield points. This is exacerbated by a shortage of relevant transactions in the market place for analysis. Nevertheless, many participants of the investment and development sector hold the view that valuers are not properly accounting for what should be an inherent price difference.

In part as a response to the current situation, RICS and UTS successfully applied for a grant from the NSW Department of Energy Climate Change & Water, awarded in June
2010, to develop a training program entitled “The Value of Green, Energy Efficient Buildings”. The stated aim of the training program was to educate building owners, property, asset and facility managers, investors, valuers, property lawyers, leasing and sales agents and others on the value (in financial and other terms) of implementing energy efficient practices to commercial buildings.

Whilst the grant was issued primarily in relation to improving Energy Efficient practices in the commercial property sector, in a practical sense it was difficult to isolate this aspect of commercial building operation / value from more holistic “green” building performance and issues relevant to green building values in general. Through a series of interviews, discussions and focus group studies of industry stakeholders the need for additional education for practising valuers was one factor identified as a matter for the attention of relevant professional associations and educators. This paper outlines and discusses the identified gaps in knowledge relevant to valuation practice and education.

LITERATURE

Literature reflecting the underlying difficulties for valuers in respect of green building valuation has been the subject of considerable research and discussion. This literature falls into two broad categories which follow:

Market demand

A recent study of important factors for office space decisions by tenants in Kuala Lumpur found that a survey of experts, comprising forty property consultants / leasing agents / property managers, ranked energy efficient / green buildings 60th (and last) from a list of important overall features relating to tenancy decisions and 38th (and last) from a list of important features relating to building features, services and management (Adnan 2010). Similarly, evidence that many tenants who claim to be prepared to pay more for green buildings actually act on this claim, is not apparent in the UK, Europe, USA or Australia (Sayce, Sundberg & Clements 2010).

Outside of government instrumentalities, in Australia, it has largely been tenants such as financial institutions and mining companies who have been taking up leases in energy efficient, green buildings to date. This is seen largely as a reflection of the desire to develop a greener image for the tenant entity in the marketplace (Kerrie 2010). Recent mandatory disclosure laws relating to energy efficient performance of commercial buildings are claimed as a strategy by the Australian federal government to make energy efficient performance a higher priority in property related transactions (Kerrie 2010).

The question of the depth of the tenancy and investment markets for green buildings, at a premium value to quality brown buildings, remains to be adequately identified by
transparent market data. (Lorenz & Lützkendorf 2008) suggest that inadequate description of property assets in transactional databases is contributing to difficulties in rationalising market data. (Myers, Reed & Robinson 2007) suggest that the development of tools to measure the impact of green building attributes on values as a matter for attention in identifying broad market green building value trends. Further to this, (Sayce, Sundberg & Clements 2010) and (Myers, Reed & Robinson 2007) concluded that whilst theoretically a strong link exists between value and sustainable attributes of commercial buildings, tangible supporting evidence in the marketplace is limited in nature.

Recent international research suggests a high proportion of property investors are yet to comprehensively develop sustainable corporate management policies and implementation plans. A significant proportion of investors who have do not sufficiently act on the same (Kok 2010; Kok et al. 2010). This would suggest that many in the investment market for commercial buildings do not adequately factor sustainability related building attributes into acquisition or tenancy decisions.

**Incentives, policies and penalties**

Approximately 2 percent (maximum) of new commercial building stock is created each year. Typically new stock is designed and built to relatively high-energy efficient and other related “green building” performance standards. Whilst the value debate largely surrounds validating a premium value for these new buildings, ultimately a greater impact of sustainability policy will be how it impacts the value of existing brown buildings.

Logically the greatest savings in energy use in the sector will come from retrofitting existing stock to energy efficient performance standards. Stimulating retrofitting activity in the sector is a presently a challenge for policy makers.

Various incentive schemes have been implemented to date in an attempt to start the ball rolling. Setting the policy balance between the use of incentives and penalties to successfully trigger substantial retrofitting activity is a central issue within the current policy debate (Manning 2010).

Practicality in carrying out retrofitting activities to occupied premises, financing related capital cost and apportioning benefits from subsequent energy savings are emerging issues for property owners and tenants. Pivo (2010) suggests that progress on sustainability in real estate will require new social capacity to better facilitate cooperation between owners and tenants.

Sustainable performance measurement, primarily the Green Star and Nabers rating systems whilst presently definitive for commercial buildings, remain to some degree in a process of evolution (Aitken 2010; Davis 2010).
Projects involving primarily energy efficient performance upgrading of older commercial buildings have been showcased by individual owners and technical consultants. Reduced outgoings, reduced vacancy, shorter letting up periods, improved rental rates and tenant retention outcomes are presented as positive outcomes. Government financial subsidies have featured in these case studies of retrofitting viability (Churchill 2010).

A range of new energy efficient building management strategies, technologies and products are also in rapid evolution (Churchill 2010). A variety of new finance initiatives designed to support owners of commercial buildings to carry out retrofitting works are being implemented and tested in the market. These include private funds as well as government related initiatives (Bockskay 2010; Frith 2010).

The Australian Carbon Trust was recently established by the Commonwealth government to assist private owners of commercial buildings with finance and advice for energy efficiency retrofitting. The trust reportedly has received $100m in seed funding from the Commonwealth Government and is in the process of assessing initial proposals from private owners (Hill 2010).

The current Gillard Government remains committed to introducing a carbon tax in 2011. This tax will be specifically designed to alter the financial status quo so that investing in energy efficient strategies will make business sense. The same government has released a consultation paper and is presently seeking submissions concerning a proposed accelerated depreciation allowance for capital costs involved with energy efficient retrofitting of commercial properties (Perinotto 2011).

The growing embracement of sustainability policy in both the government and private sector, on-going evolution in related legislation, rating systems, green lease provisions, building management and energy efficient technologies, financial incentives and finance initiatives were considered as factors likely to be contributing to a deficiency in knowledge amongst valuation practitioners, property investors and other commercial property stakeholders.

**RESEARCH METHODOLOGY AND PURPOSE**

A project team was formed and sought to confirm with stakeholders perceptions regarding the nature of shortfalls in current industry knowledge prior to framing final professional development course structures and specific content.

In order to achieve this outcome a three-step process was adopted. The sequence determined was:

1) *Initial industry research* – comprising informal telephone and face to face interviews with selected senior industry stakeholders
2) *Preliminary focus group study* – relatively informal and seeking to verifying Step 1 outcomes

3) *Formal focus group study* – formal and involved wider cross section of stakeholders intended to further identify the appropriate context, structure and content of proposed courses

A project team review followed each step with re-definition of proposed course structures as indicated by the feedback. Presently pilot course structures and content have been defined and are in the process of preparation. This paper addresses only those matters identified within the study considered relevant to education in the valuation profession.

**INITIAL INDUSTRY RESEARCH**

These discussions were relatively informal and undocumented. Feedback was that the proposed course framework was largely in line with industry’s perceived training needs. As such wider-scope evidence of the need for the professional development courses in the general area’s proposed were somewhat confirmed (Smith 1991, pp. 71-72).

**PRELIMINARY FOCUS GROUP STUDY**

The preliminary focus group meeting comprised a round table discussion between senior professionals thought to have sound insights into relevant issues surrounding the proposed course topic areas. The group was made up of two senior commercial valuers, two sustainability managers, two acquisition managers and one tenancy representative and the RICS / UTS project team.

Reflections on the focus group discussions were recorded by the project team and classified by key stakeholder groupings.

Broad themes that emerged from the discussions were:

1) Valuers are not necessarily well informed about sustainability related issues

2) Cash flow / share price risk management is a significant driving factor in investment decisions relating to developing / retro-fitting for sustainable building performance in the LPT commercial property sector

3) The underlying investment / tenancy market for a specific existing commercial building will presently impact investment decisions related to sustainable building performance

4) Valuers understanding of the commercial tenancy market may be inadequate

5) Corporate Social Responsibility (CSR) branding is a significant driver of tenancy demand for green buildings

6) Institutional investment demand for LPT shares are impacted by “green building” holdings
FORMAL FOCUS GROUP STUDY

Following the initial discussions and preliminary focus group study, a series of round table discussions with the RICS / UTS project team developed a framework for a larger formal focus group study.

A focus group is a planned series of discussions designed to obtain the perceptions of participants who have been selected due to a common interest and knowledge that relates to the topic. Whilst there is no requirement for participants to reach a consensus, analysis of the discussions provides better insights to the issue at hand. (Krueger & Casey 2009)

Focus group participants were enlisted through RICS from their membership ranks via personal invitations to participate in the study. Participants were approached based on their role in the industry and allocated to one of three groups, which broadly reflected their role. Each group had approximately 8 members and had an appointed group leader.

Groups were categorised as:

G 1 - Valuers, fund managers, owners, buyers
G 2 - Asset managers, building upgraders
G 3 - Property managers, agents, property lawyers, green building performance managers

The group study involved three question rounds. Each round required the individual group to reflect on the question posed from the perspective of their professional role and record key points raised within the group.

Following each round, the each group leader presented the matters identified by their group to all participants.

The themes of each round were:

1. To clarify the extent to which energy efficiency / sustainability are presently impacting members of the focus group in their professional roles
2. To identify concerns about the future risks that energy efficiency / sustainability may present
3. To identify the “tools” required to assist in decision making going forward

FINDINGS

Using a thematic analysis, raw data from the group study was categorised into seven themes reflected in the data (Grbich 2007). Table 1 measures the incidence of the themes identified.

Whilst there is some room for re-definition of the individual themes (refer annexure 1 for raw data), there seems ample evidence that themes 1, 2 & 4 are of primary concern for value related decision makers in the commercial property industry.
Table 1 – Thematic analysis of focus group data

<table>
<thead>
<tr>
<th>Theme</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Confusion over what new information should be applied to the valuation process and how it should be applied</td>
</tr>
<tr>
<td>2</td>
<td>Confusion over details and impacts of relevant current legislative / market framework</td>
</tr>
<tr>
<td>3</td>
<td>Underpinning financial performance drives value / valuation decisions / present lack of evidence of green value premium</td>
</tr>
<tr>
<td>4</td>
<td>Medium / long term risks / benefits are presently somewhat uncertain</td>
</tr>
<tr>
<td>5</td>
<td>Benefits of building / retro-fitting for green building performance is largely a risk management strategy from a financial perspective</td>
</tr>
<tr>
<td>6</td>
<td>Green building market is currently impacted by Corporate Social Responsibility policies, corporate branding and other less quantifiable benefits to valuers</td>
</tr>
<tr>
<td>7</td>
<td>Sudden change in market forces may create opportunities for skilled professionals</td>
</tr>
</tbody>
</table>

The author of this paper also claims theme 3 as a predominant view held by the focus group members. Theme 3 was a central issue extracted from the preliminary discussion group meeting/s and the subject of significant non-recorded discussions within the formal focus group sessions. Ultimately this assertion is further evidenced by long-standing, well tested, valuation theory & practice and the current academic, government & industry based interest in creating a green value argument. Themes 5 & 6 were also identified within the preliminary discussion group meeting/s and confirmed formally by the focus group sessions. Theme 7 emerged within the formal focus group sessions.

CONCLUSIONS

A market valuation is a prediction of the amount a property will achieve for sale or lease at a given point in time. Valuations and valuation methodology reflects the way in which property market participants think about value. The framework of buyer and tenant decisions moves logically in line with market forces. Normally some lag time transpires between a new force and the resulting market reaction as evidenced in transactions. New underlying criteria likely to impact buyer and tenant decisions, and therefore market values, include:

1) Underlying tenant / investor demand for sustainable attributes in commercial buildings
2) Energy and sustainable performance measurement and reporting systems
3) Government subsidies available to developers and retrofitters
4) Finance initiatives available to retrofitters
5) Accelerated depreciation provisions for capital costs involved in retrofitting
6) Carbon tax pricing regimes and how these are reflected in outgoing / outgoing recoveries
7) Physical characteristics determining the suitability of existing buildings for retrofitting
8) Costs and technologies involved in retrofitting existing buildings

There seems little doubt that government policy is directed towards engineering a strong financial case for energy efficient and other “green” attributes in commercial buildings. Remaining current with the myriad of related legislation, policy, incentives, finance initiatives, building technologies and management practices presents a challenge for industry and educators.

This paper has identified some factors likely to impact the value of “green” and “brown” commercial buildings, perhaps presently and certainly into the future. These evolving factors are unlikely to be adequately addressed within current valuation curricula. More research needs to be conducted as these and other related forces shape investor and tenant decisions to ensure that valuation curricula remains current.

REFERENCES
### APPENDIX 1

*Formal Focus Group RAW DATA*

<table>
<thead>
<tr>
<th>SESSION 1</th>
<th>THEME IDENTIFIED</th>
<th>QUESTION – Where are we now?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Focus Group 1 - Participant Profile</strong></td>
<td>1</td>
<td>- Where does the information for valuers come from?</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>- What should valuers look at?</td>
</tr>
<tr>
<td></td>
<td>1/2</td>
<td>- What have the big firms done in introducing new approaches to valuation</td>
</tr>
<tr>
<td>Valuers</td>
<td>1/2</td>
<td>- Case studies would be helpful</td>
</tr>
<tr>
<td></td>
<td>1/2</td>
<td>- There is a lack of benchmarks</td>
</tr>
<tr>
<td>Fund Managers</td>
<td>1/2</td>
<td>- Confusion re Nabers vs. Green Star and also mandatory Disclosure</td>
</tr>
<tr>
<td></td>
<td>1/2</td>
<td>- Confusion regarding who administers the schemes</td>
</tr>
<tr>
<td>Owners</td>
<td>2</td>
<td>- Green Star and NABERS seem disjointed</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>- Developers need a very strong bottom line (financial) case to build green buildings</td>
</tr>
<tr>
<td>Property Buyers</td>
<td>3</td>
<td>- Currently there is little or no perceived benefit to the value / valuer in green buildings</td>
</tr>
<tr>
<td></td>
<td>1/2/6</td>
<td>- Should a valuer measure social or environmental benefits? – Is this a valuer’s role?</td>
</tr>
<tr>
<td></td>
<td>1/2</td>
<td>- Is valuing poorer assets (with less green credentials) harder than valuing highly rated assets?</td>
</tr>
<tr>
<td></td>
<td>1/5/6</td>
<td>- Are there other benefits the valuer should take into account from either workers productivity gains or corporate / owner / tenant branding gains?</td>
</tr>
<tr>
<td></td>
<td>1/2</td>
<td>- Valuer reporting needs to be more specific on green issues (in particular what are the benefits and penalties in a building due to green / lack of green issues)</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>- Can governments speed up DA’s for green projects?</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>- Will green depreciation policies add value?</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>- Valuers issues are tangible other issues are intangible</td>
</tr>
</tbody>
</table>
### SESSION 2

<table>
<thead>
<tr>
<th>THEME IDENTIFIED</th>
<th>QUESTION – What are the future risks?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Focus Group 1 - Participant Profile</strong></td>
<td>- Is Insurance a risk – a possible withdrawal of cover?</td>
</tr>
<tr>
<td>Valuers</td>
<td>- The future risk of the introduction of a price on carbon</td>
</tr>
<tr>
<td>Fund Managers</td>
<td>- The risk is really the poorer quality property</td>
</tr>
<tr>
<td>Owners</td>
<td>- Joint RICS/API valuation standards would be helpful</td>
</tr>
<tr>
<td>Property Buyers</td>
<td>- A risk to valuers is the move from banks to personal appointments of valuers (rather than firms)</td>
</tr>
<tr>
<td></td>
<td>- Mandatory disclosure is a big future risk – for a number of players including banks</td>
</tr>
<tr>
<td></td>
<td>- We need to define what a sustainable asset is</td>
</tr>
<tr>
<td></td>
<td>- Risk of further regulation</td>
</tr>
<tr>
<td></td>
<td>- There is a risk of over-valuing non-green/undervaluing green assets</td>
</tr>
<tr>
<td></td>
<td>- Design based ratings are risky</td>
</tr>
</tbody>
</table>

### SESSION 3

<table>
<thead>
<tr>
<th>THEME IDENTIFIED</th>
<th>QUESTION – What tools do you need?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Focus Group 1 – Participant Profile</strong></td>
<td>- A sustainable property Guide exists (DECWW) but it is 500 pages long</td>
</tr>
<tr>
<td>Valuers</td>
<td>- Existing guides are seen as separate and separated from doing the normal job</td>
</tr>
<tr>
<td>Fund Managers</td>
<td>- A portal for all sustainable information would be useful (Govt requirements, BCA issues etc)</td>
</tr>
<tr>
<td>Owners</td>
<td>- A Uniform Interpretation of green attributes in needed</td>
</tr>
<tr>
<td>Property Buyers</td>
<td>- It would be helpful to define what information valuers need from other stakeholders. Including:</td>
</tr>
<tr>
<td></td>
<td>From owners, banks and tenants – including Downturn / Churn, occupancy rates, OPEX/CAPEX, CAPEX forecasts and history</td>
</tr>
<tr>
<td></td>
<td>- There needs to be a change of mind set amongst valuers</td>
</tr>
<tr>
<td></td>
<td>- Consultancy reports</td>
</tr>
<tr>
<td></td>
<td>- Training on ratings tools and building systems should be targeted</td>
</tr>
<tr>
<td></td>
<td>- Training should be focused for particular stakeholders</td>
</tr>
</tbody>
</table>