The Value in Sustainability

Where are we now?

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40 per cent Symposium
23rd November 2011
There is an undisputed desire to find the proof that ‘green’ or ‘sustainable’ buildings command a higher value (or others should be discounted?)

- To underpin a business case
- we need to (must?) reduce energy/ carbon consumption
- We wish to mitigate – in preference to adapt to – climate change
- To fulfil our public interest responsibilities
- We have a belief in and preference for *markets* to lead change

**The Ambition**
**MARKET VALUE**
Market value is the estimated amount for which an asset **should exchange** on the date of valuation between a willing buyer and a willing seller in an **arm's length transaction** after proper marketing wherein the parties had each **acted knowledgeably, prudently** and without compulsion.

**WORTH OR INVESTMENT VALUE**
Worth or Investment Value is: The **value** of property to a **particular owner**, investor, or class of investors for **identified investment** or operational objectives.

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**Market Value & investment worth**
Valuers primarily reflect the behaviour of the markets...

...how far can it be assumed that a knowledgeable and prudent purchaser would account for sustainability issues in any assessment of prices, rents and yields now and moving forward?

Key questions for sustainability and Market Value
“Worth is the stuff of decisions”
Mallinson, 1994

...how far in respect of sustainability issues can it be assumed that a knowledgeable and prudent investor would act ahead of the market?

Where worth leads – market value may follow

Key Questions for Sustainability & Investment
Worth
• The role of the valuer is primarily to reflect markets
• They work on data and evidence
• If there is a lack of evidence then the valuer cannot factor them in to their Market Values – but may need to advise on investment worth

“When calculating a property’s worth, the market doesn’t currently take the issue of sustainability into account, but this could also have been said for central heating way back in the 1970s when people weren’t convinced it was going to have a market impact”.

Ben Elder RICS Global Valuation Director, September 2011
The Theoretical Position

Sustainability Criteria met

- Investment worth higher than market value
  - Sustainability aware investor exploits mis-pricing to purchase or retain asset
  - As sustainability bites, asset performs better than market norm
  - Market identifies mis-pricing and adjusts

Sustainability Criteria not met

- Investment worth lower than market value
  - Sustainability aware investor exploits mis-pricing to sell asset
  - As sustainability bites, asset performs worse than market norm
  - Market identifies mis-pricing and adjusts
Sustainable Buildings: just what are they .......?
Attributes Investigated in Research


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**Green Gauge Survey**

Kingston University London

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[Image of the Green Gauge Survey chart]
- Energy source, usage and management
- Carbon emissions
- Occupant comfort, barrier-free accessibility
- Flexibility and adaptability of the building solution / floor plan
- Durability
- Environmental- and health-friendliness of building products and components
- Water usage and management
- Proximity to facilities such as education, retail and leisure destinations
- Proximity to public transport systems and nodes
- Risk of flooding and other natural or man-made hazards

Source: Draft listing for discussion at RICS Seminar „Finding the links - Sustainability performance measurement, property valuation and asset management, ExpoReal, 5 October 2011, Munich, Germany

The Latest List – to what extent is this synonymous with Certificates?
“despite the publicity and promotion, the voluntary certificated section is miniscule in terms of the current commercial real estate stock” 
(Fuerst & McAllister, 2011)

Valuers work throughout the building life cycle - there are still insufficient certificated buildings to provide good data for comparability..
EPCs are more universal in application – but only measure one dimension..
And sustainability is a moving target

Are Certificated Buildings a good Measure?
Surveys have long shown that many people say they might pay up to 10% premium for LEED/BREEAM (CoreNet/JLL, 2008).

But interviews show that whilst sustainability is desired, traditional selection criteria dominate (Dixon et al; 2009; Cushman & Wakefield; 2011).

"the trouble is that to calculate you need a sizeable benchmark and we don’t have that"

So what have researchers done? Don’t get too excited – yet!
<table>
<thead>
<tr>
<th>Study/Authors</th>
<th>Country</th>
<th>Property Type</th>
<th>Sustainable Credentials</th>
<th>Observed impact on</th>
<th>+/-</th>
<th>Magnitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian Department of the Environment, Water,</td>
<td>Australia</td>
<td>Residential Homes</td>
<td>Energy Efficiency Rating, EER, (0 to 10 stars in 0.5 star increment)</td>
<td>Selling Price</td>
<td>+</td>
<td>1.23 % – 1.91 % for each 0.5 EER star</td>
</tr>
<tr>
<td>Heritage and the Arts, 2008</td>
<td></td>
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<tr>
<td>Brounen and Kok, 2010</td>
<td>The Netherlands</td>
<td>Residential Homes</td>
<td>Energy Performance Certificate (Class A, B, C)</td>
<td>Selling Price</td>
<td>+</td>
<td>2.8 %</td>
</tr>
<tr>
<td>City of Darmstadt, Rental Index, 2010</td>
<td>Germany</td>
<td>Residential multi-family houses</td>
<td>Primary energy value below 250 kWh/m²a</td>
<td>Selling Price</td>
<td>+</td>
<td>0.38 €/m²</td>
</tr>
<tr>
<td></td>
<td>(Darmstadt)</td>
<td></td>
<td>Primary energy value below 175 kWh/m²a</td>
<td>Rental Price</td>
<td>+</td>
<td>0.50 €/m²</td>
</tr>
<tr>
<td>Eichholtz, Kok and Quigley, 2010</td>
<td>USA</td>
<td>Office Buildings</td>
<td>LEED</td>
<td>Selling Price</td>
<td>+</td>
<td>11.1 %</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Energy Star</td>
<td>Rental Price</td>
<td>+</td>
<td>5.9 %</td>
</tr>
<tr>
<td>Fuerst and McAllister, 2010</td>
<td>USA</td>
<td>Office Buildings</td>
<td>LEED</td>
<td>Selling Price</td>
<td>+</td>
<td>3 %</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Energy Star</td>
<td>Rental Price</td>
<td>+</td>
<td>6 %</td>
</tr>
<tr>
<td>Fuerst and McAllister, 2008</td>
<td>USA</td>
<td>Office Buildings</td>
<td>LEED, Energy Star</td>
<td>Selling Price</td>
<td>+</td>
<td>31 % - 35 %</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Rental Price</td>
<td>+</td>
<td>6 %</td>
</tr>
<tr>
<td>Griffin et. al, 2009</td>
<td>USA</td>
<td>Residential Homes</td>
<td>Built Green, Earth Advantage, Energy Star, or LEED</td>
<td>Selling Price</td>
<td>+</td>
<td>3 % - 9.6 %</td>
</tr>
<tr>
<td></td>
<td>(Portland / Seattle)</td>
<td></td>
<td></td>
<td>Selling / Marketing Time</td>
<td>-</td>
<td>18 days</td>
</tr>
<tr>
<td>Pivo and Fischer, 2010</td>
<td>USA</td>
<td>Office Buildings</td>
<td>Energy Star, close distance to transit, location in redevelopment areas</td>
<td>Net Operating Income (NOI)</td>
<td>+</td>
<td>2.7 % - 8.2 %</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Rental Price</td>
<td>+</td>
<td>4.8 % - 5.2 %</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Occupancy Rates</td>
<td>+</td>
<td>0.2 % - 1.3 %</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Market Value</td>
<td>+</td>
<td>6.7 % - 10.6 %</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Income Returns / Cap Rates</td>
<td>-</td>
<td>0.4 % - 1.5 %</td>
</tr>
<tr>
<td>Study/Authors</td>
<td>Country</td>
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<td>Observed impact on</td>
<td>+/-</td>
<td>Magnitude</td>
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</tr>
<tr>
<td>Pivo and Fischer, 2011</td>
<td>USA</td>
<td>Office, retail, industrial and apartment properties</td>
<td>Walkability (distance to educational, retail, food, recreational and entertainment destinations), measured as a Walk Score from 0 to 100</td>
<td>Market Value (office, retail)</td>
<td>+</td>
<td>0.9 % for each unit increase in Walk Score</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Market Value (apartment)</td>
<td>+</td>
<td>0.1 % for each unit increase in Walk Score</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Net Operating Income (office, retail)</td>
<td>+</td>
<td>0.7 % for each unit increase in Walk Score</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Income Returns / Cap Rates</td>
<td>-</td>
<td>0.007 % for each unit increase in Walk Score</td>
</tr>
<tr>
<td>Salvi et. al, 2008</td>
<td>Switzerland</td>
<td>Residential Homes, Residential Flats</td>
<td>MINERGIE Label</td>
<td>Selling Price</td>
<td>+</td>
<td>7 %</td>
</tr>
<tr>
<td>Salvi et. al, 2010</td>
<td>Switzerland</td>
<td>Residential Flats</td>
<td>MINERGIE Label</td>
<td>Rental Price</td>
<td>+</td>
<td>6 %</td>
</tr>
<tr>
<td>Wameling, 2010</td>
<td>Germany (Nienburg)</td>
<td>Residential Homes</td>
<td>Primary energy demand per m² and year (kWh/m²a)</td>
<td>Selling Price</td>
<td>+</td>
<td>Ca. 1.40 €/m² per reduced kWh/m²a</td>
</tr>
<tr>
<td>Wiley, Benefield and Johnson, 2008</td>
<td>USA</td>
<td>Office Buildings</td>
<td>LEED, Energy Star</td>
<td>Rental Price</td>
<td>+</td>
<td>7 % - 17 %</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Occupancy Rates</td>
<td>+</td>
<td>10 % - 18 %</td>
</tr>
<tr>
<td>Yoshida and Sugiura, 2010</td>
<td>Japan (Tokyo)</td>
<td>Large residential condominiums</td>
<td>Tokyo Green Labeling System</td>
<td>Selling Price</td>
<td>-</td>
<td>6 % - 11 %</td>
</tr>
<tr>
<td>Newell, MacFarlane and Kok, 2011</td>
<td>Australia</td>
<td>Office</td>
<td>NABERS Label</td>
<td>Rents</td>
<td>+ and -</td>
<td>Up to 9% for high rated and discount emerging for low ratings</td>
</tr>
</tbody>
</table>
• In Switzerland, sustainable / energy efficient building practices are becoming the norm in new construction
• This will lead to price erosion for non-compliant stock
• The same is happening in SE Asia

Again a link to Energy enabled by Data
• In the city of Nienburg selling prices for single family houses increase by circa 1.40 €/m² per reduced kWh/m²pa.
• This is unique fine graining ... 
• Over time – if EPCs are reliable data will improve.. 
• Residential markets respond differently to commercial

Again a link to Energy enabled by Data

• Green labeled buildings may also trade at a discount; in this case between 6% and 11%.

• May be due to buyers’ skepticism of non-familiar technologies and limited knowledge of future performance.

<table>
<thead>
<tr>
<th></th>
<th>Median Score</th>
<th>(1) OLS</th>
<th>(2) LAD</th>
<th>(3) Quadratic Size &amp; Age</th>
<th>(4) Green x Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Reduction of thermal loads</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Renewable energy</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Energy saving</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4. Eco-friendly materials</td>
<td>0.5</td>
<td>-0.0393</td>
<td>-0.0287</td>
<td>-0.0286</td>
<td>-0.0319</td>
</tr>
<tr>
<td>5. Longer life of building</td>
<td>0.67</td>
<td>0.0869</td>
<td></td>
<td></td>
<td>0.1005</td>
</tr>
<tr>
<td>6. Water circulation</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Greening</td>
<td>0.33</td>
<td>-0.0469</td>
<td>-0.0296</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Mitigation of heat island (A)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(A) Sum of itemized scores</td>
<td></td>
<td>0.0476</td>
<td>-0.0756</td>
<td>0.088</td>
<td>0.078</td>
</tr>
<tr>
<td>(B) Baseline effect</td>
<td>-0.1125</td>
<td>-0.1966</td>
<td>-0.1888</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total effect (A+B)</td>
<td>-0.0649</td>
<td>-0.0756</td>
<td>-0.1086</td>
<td>-0.1108</td>
<td></td>
</tr>
</tbody>
</table>
• London is one of the most ‘at risk’ cities internationally due to the economic importance
• Flood is as much about SUDS as coast of rivers
• Research found that whilst taken into account on purchases it is not adequately accounted for subsequently
• Too little recognition of impact of Flood & Water Management Act 2010
• Flood risk insurance is a ‘live issue

“it is important for valuers to understand how to articulate flood risk when pricing property investment assets even though evidence of a measurable effect on investment yields of on property rents is not readily apparent”

CEM, 2011
• Examining the link with financial performance
• Analysis of 47 European Portfolios
• Very limited data series available
ISPI Monitor of Sustainable Properties in the UK
“One good return deserves another”

• Recognises that few properties have full data
• Based on weighted criteria:
  • Energy
  • Waste
  • Water
  • Flood
  • Accessibility or
  • BREEAM

• Now monitoring 1,200 properties across 100 portfolios

“Sustainability is not yet priced into commercial property valuations in the UK, but when it is, the ISPI Monitor should show sustainability impacts on returns”.

An important UK initiative ...
• It is all about energy ... where we have better metrics - mainly positive but..

• Offices in US – clear evidence to link energy certification (Energy Star) – some evidence re LEED

• Offices in Australia: discounts for low scores; impact return, yield and vacancy of CBD offices

• Broad brush – do not differentiate grades

• Relationship between rent/energy costs very variable

• In Europe fewer studies and extend to residential more than offices
• A large scale survey of German valuation expert bodies
• But intention v action...

Are you planning to extend the scope of your database by using information from energy performance certificates?

- 37% yes, preparations have been / are being made
- 55% in principle yes, but without precise preparations
- 8% no, not planned in the near future

Source: Kertes, J., Lützkendorf, T. and Lorenz, D., 2008, German Property Transaction Data Survey, Universität Karlsruhe
• “it is increasingly important that the valuer is aware and can reflect (moves to sustainability) in the advice given.”
• Valuers should collect data – even if it is not apparently reflected in MV

Change on the Way? Guidance to Valuers
Clients are changing: Responsible Investors Agenda

"Good" buildings

- Occupier benefits
  - Increased productivity of workforce
  - CSR image
  - Reduced operating costs
  - Reduced risk of legislative compliance costs
  - Reduced risk from energy price shocks
  - Improved company image with SRI investors

- Investor/owner benefits
  - CSR image
  - "Landlord of choice"
  - More "future proofed"
  - Easier route through planning system
  - Reduced impact on asset value

- Sustainability benefits
  - Environmental/social issues (e.g. climate change)
  - Quality of life (moral case for responsible property investment)
• A different Metric
• From cost to risk reduction

Buying into sustainability
*Harms performance*

Buying into sustainability
*Has no effect on performance*

Buying into sustainability
*Enhances performance*

The business/investment argument develops
Global Reporting Initiative
• provides guidance on how organizations can disclose their sustainability performance
• Construction and Real Estate Sector Supplement (CRESS – a sector supplement- September 2011)
• RICS and United Nations Environment Programme – Finance Initiative (UNEP-FI) statement of intent to
  – Increase market transparency
  – Gain insight into performance
  – Integrate sustainability within the ‘everyday’
  – And all within 5 years

• Recognition that it is a challenge in terms of skills, working with clients and with other professionals

RICS/ UNEP-FI a major step forward
• A lack of market response at the pace required:
  • Energy targets not being met - legislation may increase
  • Challenge to create economic case to retro-fit stock – losing stock should not be the only answer
  • The pre-occupation with energy may have clouded other issues
  • Ratings and value too blunt a tool – and concern about accuracy

• Changing corporate & societal environment
  – The growth of GRI may prove more important..

Why more change is needed
• CBRE initiative:
• 6 point sustainability checklist (based on ISPI)
  – quality,
  – accessibility,
  – energy efficiency,
  – flooding,
  – waste and
  – water efficiency

other organisations may follow...

The Need for Data continues – but the will is now there!
A schematic of where value and sustainability meet
• Results are coming through but the pace is still slow
• Certification is not the only answer
• Guidance is improving
• Data is a continuing issue – consistency and accuracy require cooperation and management records
• Government agendas and grants may help/require step change
• There is a danger of thinking just energy

Conclusion
The development of ‘sustainable value’ methodologies will take time and commitment and will reveal a skills gap that will require address.

But on the positive side it presents opportunities for those ready to rise to the challenge.

We must learn to measure that which we should value instead of only valuing that which we can measure.

Conclusion