RICS Climate Change Series: Getting all the Green Ducks in a row
Energy performance, value and green homes
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Sustainability & Property Value
A brief international overview

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Why is property valuation critical?

- Valuations are carried out in almost any phase of the building life cycle.
- Valuers are the “independent axis around which property information flows”.
- Valuers act as “information managers” in often highly intransparent property markets.
- While valuation professionals do not “make the market”, they do have an influence since the arguments used in negotiations between the parties in a transaction process are usually based on advice given by valuation professionals acting on both sides.
- Poor property valuation leads to the misallocation of capital.
Integration of sustainability issues into the valuation process

The methodological and conceptual basics were developed between 2000 and 2007 with key contributions coming from:

- Australia
- Austria
- Canada
- Germany
- Japan
- Norway
- Switzerland
- UK
- USA

(29 publications including journal papers, conference proceedings, special reports, presentations and published speeches – a full list of references is available on request)
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From 2008 onwards the topic went “mainstream”, culminating in the:

- Publication of the RICS Valuation Information Paper No. 13
- First educational course on the valuation of green buildings offered by the Appraisal Institute in the USA
## On-Topic research projects and initiatives

<table>
<thead>
<tr>
<th>Country</th>
<th>Authors / Contributors</th>
<th>Project Title</th>
<th>Source / Website</th>
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</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Richard Bowman, John Wills, and others</td>
<td>Valuing Green – How green buildings affect property values and getting the valuation method right</td>
<td><a href="http://www.gbca.org.au/resources/valuing-green/1466.htm">http://www.gbca.org.au/resources/valuing-green/1466.htm</a></td>
</tr>
<tr>
<td>Japan</td>
<td>Masato Ito, Tomonari Yashiro, and others</td>
<td>Environmental Added Value of Real Estate</td>
<td><a href="http://www.sumitomotrust.co.jp/csr/innovation/real-estate/01english.html">http://www.sumitomotrust.co.jp/csr/innovation/real-estate/01english.html</a></td>
</tr>
<tr>
<td>Switzerland</td>
<td>Erika Meins, Hans-Peter Burkhard, Peter Christen, Regina Hardziewski, Niels Holthausen, Silvia Makowski, and others</td>
<td>Economic Sustainability Indicator (ESI) – ESI-Immobilienbewertung</td>
<td><a href="http://www.ccrs.uzh.ch/">http://www.ccrs.uzh.ch/</a></td>
</tr>
<tr>
<td>USA</td>
<td>Scott Muldavin, Andy Fusscas, John J. D'Andrea, Sue Ragen, Geoffrey Lewis, Maureen Muldavin, Theddi Wright Chappell, Tim Lowe, Brian Gross, Molly McCabe, Peter Morris, Stuart Brodsky, and others</td>
<td>Green Building Finance Consortium (GBFC) - Value Beyond Cost Savings</td>
<td><a href="http://www.greenbuildingfc.com">http://www.greenbuildingfc.com</a></td>
</tr>
<tr>
<td>UK</td>
<td>Sarah Sayce, Louise Ellison, Judy Smith</td>
<td>The Sustainable Property Appraisal Project</td>
<td><a href="http://www.sustainableproperty.ac.uk/sri-index.htm">http://www.sustainableproperty.ac.uk/sri-index.htm</a></td>
</tr>
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</table>

1. Transactions observed in the market place as well as already foreseeable market developments (such as rising energy costs, changing and differentiated user requirements, environmental legislation and sustainability reporting liabilities, etc.) require it.

2. The professional ethics of the valuation profession and the resulting responsibility towards society imply that valuation professionals take action to further advance sustainable development within the property and construction sector.

3. Lack of knowledge of certain market participants leads to a situation where single property assets are mispriced (hypothesis: conventional properties can be sold “overpriced”; sustainable buildings are offered “too cheap”) which results in investment opportunities for “enlightened” investors.
## Widened understanding of the concept of value

<table>
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<th>Categories of Value</th>
<th>Owner-occupier</th>
<th>Investor (direct and indirect)</th>
<th>Developer / Constructor</th>
<th>Bank</th>
<th>Insurance company</th>
<th>Tenant</th>
<th>User / Inhabitant / Visitor</th>
<th>Government</th>
<th>Society / Community</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Value (embodied energy and resources)</td>
<td>○</td>
<td>○</td>
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<td>Market Value / Exchange value (most likely sale price)</td>
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<tr>
<td>Worth / Value in Use (value for an individual)</td>
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<tr>
<td>Social Value (interaction, inclusion, prosperity, health, safety)</td>
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<tr>
<td>Cultural Value (tradition, arts, aesthetics, inspiration, lifestyle)</td>
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<tr>
<td>Emotional Value (feelings, positive experiences, wellbeing)</td>
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<tr>
<td>Image / Sign Value (social status, reputation, prestige, identity)</td>
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<tr>
<td>Environmental Value (biodiversity, healthy ecosystems)</td>
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Source: Lorenz, D., 2010
Property performance affects value in many different ways

It’s all about Value:

“The value of goods arises from their relationship to our needs, and is not inherent in the goods themselves. With changes in this relationship, value arises and disappears.”

Carl Menger, 1871, Principles of Economics
General approaches for an integration of sustainability issues into the valuation process

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<td>Determination of valuation method / calculation model</td>
<td>Determination of single valuation input parameters without consideration of sustainability issues</td>
<td>Determination of valuation method / calculation model</td>
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<tr>
<td>Determination of single valuation input parameters with consideration of sustainability issues</td>
<td>Preliminary valuation result</td>
<td>Preliminary valuation result</td>
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<td></td>
<td>Adjustments (+/-; lump sum) to account for sustainability issues</td>
<td>Tools: Sustainability scoring model, comparable transactions</td>
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<td>Value judgement / Valuation result</td>
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Source: Lorenz, D., 2010
General approaches for an integration of sustainability issues into the valuation process

**Approach 1**
- Valuation assignment
  - Determination of valuation method / calculation model
    - Determination of single valuation input parameters with consideration of sustainability issues
    - Tools & Resources: Comparable sales, risk analyses, ecological rental indexes, EPCs, LCC, Cost-Benefit-Analyses, Certification & Labelling, Performance measurement, etc.
  - Value judgement / Valuation result

**Approach 2**
- Valuation assignment
  - Determination of valuation method / calculation model
    - Determination of single valuation input parameters without consideration of sustainability issues
  - Preliminary valuation result
  - Adjustments (+/-; lump sum) to account for sustainability issues
  - Value judgement / Valuation result

**Approach 3**
- Valuation assignment
  - Determination of valuation method / calculation model
    - Determination of single valuation input parameters without consideration of sustainability issues
  - Preliminary valuation result
  - Tools: Sustainability scoring model, comparable transactions
  - Sustainability Correction Factor
  - Value judgement / Valuation result

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**Sensitivity Analysis / Monte Carlo Simulation:** to account for uncertainties and to show the impact of likely developments and changing conditions

**Risk Documentation:** to show sustainability related risks and revenues and to enhance the understanding of the valuation result

**Separate Chapter on Sustainability within the Valuation Report:** to explain the basic relationships between sustainability and value as well as the adjustments made to account for sustainability in determining the value of the property under investigation

Source: Lorenz, D., 2010
Key conclusions from an international literature review

- No straightforward or automated formula to account for sustainability issues exists.
- The extent and approach of reflecting sustainability in value estimates strongly depends on regional and local market conditions, property type, conventions, etc.
- Existing property valuation methods are capable of accounting for sustainability issues; no new valuation methods are needed.
- Instead, new ways of gathering, processing and presenting property related information are required.
- The integration of sustainability into the valuation process is also an issue of increasing valuation transparency: the client needs to understand the valuer’s thought process.
The Role of the Valuer:

- is to reflect the market, and nothing else.
- is also to inform the client on the benefits of sustainable building practices and the likely implications this could have on the value stability and value development of the building under investigation, even if sustainability considerations are not yet fully reflected in today’s market prices.

**Do valuers have an informational duty (or moral responsibility) regarding the issue of sustainability?**
Thank you very much for your attention!

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